

ISSN: 1889-1861

***THE EUROPEAN JOURNAL
OF
PSYCHOLOGY APPLIED
TO
LEGAL CONTEXT***



Volume 3, Number 1, January 2011

The official Journal of the
SOCIEDAD ESPAÑOLA DE PSICOLOGÍA JURÍDICA Y FORENSE
Website: <http://www.usc.es/sepjf>

Editor

Ramón Arce, University of Santiago de Compostela (Spain).

Associate Editors

Gualberto Buéla-Casal, University of Granada (Spain).

Francisca Fariña, University of Vigo (Spain).

Editorial Board

Rui Abrunhosa, University of O Miño (Portugal).

Ray Bull, University of Leicester (UK).

Thomas Bliesener, University of Kiel (Germany).

Fernando Chacón, Complutense University of Madrid (Spain).

Ángel Egido, University of Angers (France).

Antonio Godino, University of Lecce (Italy).

Günter Köhnken, University of Kiel (Germany).

Friedrich Lösel, University of Cambridge (UK).

María Ángeles Luengo, University of Santiago de Compostela (Spain).

Eduardo Osuna, University of Murcia (Spain).

Ronald Roesch, Simon Fraser University (Canada).

Francisco Santolaya, President of the Spanish Psychological Association (Spain).

Juan Carlos Sierra, University of Granada (Spain).

Jorge Sobral, University of Santiago de Compostela (Spain).

Max Steller, Free University of Berlin, (Germany).

Francisco Tortosa, University of Valencia (Spain).

Peter J. Van Koppen, Maastricht University (The Netherlands).

Official Journal of the *Sociedad Española de Psicología Jurídica y Forense*
(www.usc.es/sepjf)

Published By: SEPJF.

Volume 3, Number, 1.

Order Form: see www.usc.es/sepjf

Frequency: 2 issues per year.

ISSN: 1889-1861.

D.L.: C-4376-2008

CONTENTS

Articles

- Anger and self-reported delinquency in university students
Clive R. Hollin, Christopher Marsh, and Claire A. J. Bloxson 1
- The conditions of respect of rules in young and elderly drivers:
An exploratory study
Sandrine Gaymard, Philippe Allain, François Osiurak, and Didier Le-Gall 11
- Magistrates' beliefs concerning verbal and non-verbal
behaviours as indicators of deception
Andrew Brownsell and Ray Bull 29
- Child court hearings in family cases: Assessment questionnaire
of child needs during pre-trial proceedings
*Joan Guàrdia, Maribel Però, Sònia Benítez, Adolfo Jarne,
Mercedes Caso, Mila Arch, Asunción Molina, and Álvaro Aliaga* 47
- In search of psychosocial variables linked
to the recidivism in young offenders
Lourdes Contreras, Virginia Molina, and María del Carmen Cano 77

ANGER AND SELF-REPORTED DELINQUENCY IN UNIVERSITY STUDENTS

Clive R. Hollin, Christopher Marsh, and Claire A. J. Bloxson
School of Psychology. University of Leicester (UK)

(Received 27 July 2009; revised: 6 May 2010; accepted 10 May 2010)

Abstract

The association between anger and criminal, particularly violent, behaviour is firmly established in the literature. However, most of the extant research has been conducted with clinical and legally sanctioned forensic populations. The present study sought to examine anger in a non forensic population using a self-report measure of delinquency. The Novaco Anger Scale and Provocation Inventory (NAS-PI; Novaco, 2003) and the Self-Report Delinquency Questionnaire (Elliot & Ageton, 1980) were completed by male and female university students. The total anger score was associated with overall delinquency and specifically with crimes against the person and against property. Males reported higher levels of anger and a greater involvement in criminal acts. The practical implications of the findings within a legal context are discussed.

Keywords: Anger, Delinquency, Student population.

Resumen

La literatura ha sido establecido firmemente una asociación entre ira y comportamiento criminal, específicamente el violento. Sin embargo, la mayoría de la investigación existente se ha llevado a cabo con poblaciones clínico-forenses. El presente estudio tiene por objeto examinar la ira en una población no forense por medio de una medida de autoinforme de la delincuencia. La Novaco Anger Scale y el Provocation Inventory (NAS-PI; Novaco, 2003) y el Self-Report Delinquency Questionnaire (Elliot y Ageton, 1980) fueron cumplimentados por estudiantes universitarios. Los resultados mostraron que la ira se relacionaba con la delincuencia y, específicamente, con delitos contra las personas y contra la propiedad. Los varones informaban de mayores niveles de ira y de una mayor implicación en actos criminales. Se discuten las implicaciones prácticas de estos hallazgos para el contexto legal.

Palabras clave: Ira, Delincuencia, Población estudiantil.

Introduction

There is a longstanding association between anger and violent criminal behaviour (Tsytsarev & Grodnitzky, 1995; Zamble & Quinsey, 1997) that includes violent acts by young people (Colder & Stice, 1997; Sigfusdottir, Farkas, & Silva, 2004; Swaffer & Hollin, 1997) and offences, such as arson, against property (Kolko & Ammerman, 1988). In theoretical accounts of anger, Novaco's (1975, 1994, 2006) model is predominant and has informed a great deal of contemporary research and practice. In Novaco's model anger is seen as a subjective emotional state that culminates from perceptual and other cognitive processes reciprocally interacting with physiological arousal in response to environmental cues. Thus, the psychological and physiological processes lead to "angry" behaviour that impacts upon other people's behaviour. The individual's perception of the effect of their behaviour on others may assuage or intensify their angry state.

With respect to the cognitive aspect of the model, Novaco (2003) described four discrete cognitive processes: these are justification of angry responses, suspicion of other people and their intentions, rumination over anger provoking situations, and a hostile attitude to other people. Novaco's model also includes provocation and regulation: provocation concerns the nature of the situations associated with anger; regulation refers to the degree of control an individual has over their anger.

The majority of the extant research concerning anger and violent criminal behaviour has been carried out with clinical and forensic populations. These are singular populations in that they may be at the high extreme of the distribution of anger and violent behaviour across the general population. It is evident that violent behaviour of varying degrees of severity can be found in other parts of the population. Tremblay, Graham, and Wells (2008) reported that about one in four university students, particularly male students, reported involvement in an incident where physical aggression, including physical force, took place. In terms of a potential link with anger, Anestis, Anthesis, Selby, and Joiner (2009) reported that anger rumination plays an important role in aggressive behaviour amongst university students. It is likely that not all of the violent incidents involving university students will have led to an appearance in court. Thus, on those occasions when practitioners encounter violent offenders from non forensic populations and are engaged in tasks such as writing court reports and

making recommendations to the court they will have limited information to assist their work.

With a student population a self-report methodology offers an efficient means by which to gather information about delinquent behaviour. Elliot and Ageton (1980) devised a measure of self-reported delinquency (SRD) that consists of six categories of delinquent act, including both crimes against the person and crimes against property. This scale has been used with a variety of populations, including university students (e.g., Palmer & Hollin, 1997; 2001a, b). While there are obvious issues of veracity and completeness with self-report (Farrington et al., 2003), self-reported delinquency can be reasonably accurate (Connell & Farrington, 1996; Huizinga & Elliott, 1986).

A further point of interest lies in the possibility of a gender difference in the anger-delinquency relationship. Traditionally, males are seen as more delinquent (Moffitt, Caspi, Rutter, & Silva, 2001), although not necessarily more angry (Broidy & Agnew, 1997; Sigfusdottir et al., 2004).

The aim of the current study was to consider, for a student population, the relationship between anger and self-reported delinquency, particularly acts of violence. There was additional interest in the comparison of the anger reported by males and females, in terms of both level of anger and the predominance of the various subcomponents and their relationship with self-reported delinquency.

Method

Participants

The participants were 90 male (mean age 20.02 years, SD = 1.45) and 95 female (mean age 19.43 years, SD = 2.28) undergraduate students from the University of Leicester.

Measures

Anger

The Novaco Anger Scale and Provocation Inventory (NAS-PI; Novaco, 2003) consists of two parts: (1) the 60-item NAS contains 16 items for each of the cognitive, arousal and behavioural domains of anger, and 12 items for the regulation domain: it uses a

3-point Likert-type scale and has a minimum of score of 60 and a maximum of 180; (2) the PI consists of 25-items assessing provocation to anger: it uses a 4-point Likert-type scale giving a minimum score of 25 score and a maximum of 100. The NAS total score consists of the combination of the scores for the anger cognition, anger arousal, and anger behaviour subscales; anger regulation and anger provocation are considered separately (Novaco, 2003). The NAS-PI has strong reliability and validity.

Self-reported delinquency

Following Palmer and Hollin's (1998, 2001a, b) research with a student population, Elliot and Ageton's (1980) self-report measure of delinquency (SRD) was used. Given the nature of the sample two items -- having sexual intercourse with a person other than your husband/wife and under-age consumption of alcoholic beverages -- were omitted from the original scale. The SRD measure gathers information on the frequency of six types of delinquency which might have been committed over the past 12 months: (i) crimes against the person (9 items), e.g. aggravated assault, robbery; (ii) crimes against property (14), e.g. fraud, vandalism; (iii) illegal service crimes (4), e.g. prostitution, buying alcohol for a minor; (iv) public disorder (8), e.g. carrying a concealed weapon, disorderly conduct; (v) status offences (5), e.g. truancy, alcohol use; and (vi) hard drug use (5), e.g. using amphetamines or heroin. The 45 items use an 8-point Likert scale response format (1 = never, 2 = 2-3 times a year, 3 = once a month, 4 = 2-3 times a month, 5 = once a week, 6 = 2-3 times a week, 7 = once a day, 8 = 2-3 times a day) to give a minimum total score of 45 and a maximum total of 360. The SRD contains a final, single item question: "Do you have a criminal record?" which requires a yes/no response. This measure has high test-retest reliability and the data it produces compare favourably with interview data (Hindelang, Hirschi, & Weis, 1981).

Design and Procedure

Ethical approval for the study was obtained through formal university procedures. The participants completed the questionnaires in paper-based format in their own time: the questionnaires took approximately 20 minutes to complete. To control for potential order effects the order of presentation of the questionnaires was randomised.

Results

Data Inspection

As recommended by Novaco (2003), the data were examined for inconsistent responding: the Inconsistent Responding Index on the NAS-PI identified 18 such cases (10 males and 8 females) which were subsequently removed along with another case where the NAS-PI had not been completed. Following Pallant (2005), box plots were then inspected to identify any outliers. The distribution of NAS-PI scores contained 14 outliers but no extreme outliers and so the outliers were retained to preserve the sample size; the SRD scale contained six extreme outliers and these were removed. Thus, the final sample was 161 participants with 75 males, mean age 19.96 years ($SD = 1.44$), and 86 females, mean age 19.24 years ($SD = 1.25$). There was reliable internal consistency for the SRD measure ($\alpha = 0.72$).

Data Analysis

The mean scores and standard deviations for the anger and self-reported delinquency measures are shown in Table 1. As the analysis used multiple tests across the same data set a Bonferroni correction was applied as appropriate to adjust the significance level.

Table 1. Anger and Delinquency Scores ($N = 161$).

	Mean	SD
<i>Anger</i>		
NAS Subcomponents		
Cognitive Domain	29.34	4.58
Arousal Domain	27.75	5.65
Behavioural Domain	24.89	5.11
Total NAS*	81.98	13.37
Anger Regulation	25.67	3.44
Anger Provocation	63.68	12.44
<i>Delinquency</i>		
Against Person	9.44	0.93
Against Property	16.53	2.96
Services Crimes	4.50	0.81
Public Disorder	12.07	2.95
Status Crimes	7.93	2.01
Hard Drug Use	5.09	0.45
Total Delinquency	55.21	6.99

Note. *The total NAS score is the sum of the scores for anger arousal, cognition, and behaviour.

Across the sample, total NAS score correlated significantly with total SRD score, $r_s(161) = .14, p < .05$; with crimes against the person, $r_s(161) = .22, p < .01$; and with crimes against property, $r_s(161) = .15, p < .05$. For the NAS subscales, there were significant correlations between the cognitive domain and crimes against the person, $r_s(161) = .23, p < .01$, and crimes against property, $r_s(161) = .18, p < .05$; the behavioural domain correlated significantly with crimes against the person, $r_s(161) = .27, p < .01$, and crimes against property, $r_s(161) = .17, p < .05$; and anger regulation correlated significantly with hard drug use, $r_s(161) = .13, p < .05$.

There was no significant difference in the total NAS scores of males and females, $t(159) \leq 1$. A 2 (gender) x 5 (NAS-PI subscales) between-groups MANOVA was conducted to examine gender differences on the NAS subscales. As the correlations between NAS total score and the sub-scales were greater than .70, NAS total was not entered into this analysis as, following Pallant (2005), this would have violated multicollinearity. The sample size allows confidence in the robustness of the MANOVA (Tabachnick & Fidell, 2007).

The MANOVA revealed a significant main effect for gender across the NAS subscales, $F(5, 154) = 5.53, p < .001, Wilks' \Lambda = .85, \eta^2 = .15$. The univariate between-subjects effects from the MANOVA showed: (i) males ($M = 26.53, SD = 3.36$) had significantly higher anger regulation scores ($M = 24.92, SD = 3.34$), $F(1, 159) = 9.29, p < .01, \eta^2 = .06$; (ii) females ($M = 65.12, SD = 12.47$) had significantly higher provocation scores ($M = 60.73, SD = 11.73$), $F(1, 159) = 5.01, p < .05$; (iii) females ($M = 28.74, SD = 6.06$) had significantly higher arousal scores ($M = 26.60, SD = 4.94$), $F(1, 159) = 7.01, p < .001$.

As several assumptions for the use of a MANOVA were violated with the SRD scores, a series of Mann Whitney- U tests were conducted to test for gender differences. Males gave a significantly higher total score, $U = 2182.00, p < .05$, and higher scores for crimes against the person, $U = 2330.50, p < .05$, crimes against property, $U = 2335.00, p < .05$, and public disorder crimes, $U = 2335.00, p < .05$.

The correlation between total SRD and total NAS was not significant for females, $r_s(86) = .08, p > .05$; but was highly significant for males $r_s(75) = .36, p < .001$.

Discussion

The young people did report their involvement in the full range of types of crime, although none had been convicted. This finding reinforces the point that students are not a section of the population that practitioners will be familiar with when such a case arises. The assessment of anger in populations such as university students is dependent upon on a valid means of assessment. The current finding of significant relationships between anger and self-reported acts of violence against people and property, together with the absence of an association between anger and non violent forms of delinquency, are in keeping with the literature (Colder & Stice, 1997; Heaven, 1993; Novaco, 1994; Sigfusdottir et al., 2004; Tsytsarev & Grodnitzky, 1995; Zamble & Quinsey, 1977). Further, the cognitive and behavioural aspects of anger were associated with violent acts against the person and against property.

In Novaco's theory the cognitive domain plays a central role in the experience of anger so its prominence here is fully in accord with both the theory and research into aggression generally (Gannon, Ward, Beech, & Fisher, 2007). Unlike Anestis et al. (2009), there was no indication of an association specifically between rumination and violent behaviour. This disparity may be due to the different measures used in the two studies.

With respect to gender, there was no difference in total anger score, which is again consistent with the literature (Broidy & Agnew, 1997; Heaven, 1993; Novaco, 2003; Sigfusdottir et al., 2004). Males reported a greater likelihood of being provoked to anger; which was balanced by their greater anger control. The males also reported significantly more delinquency overall and also for several types of crime, including crimes against the person. This pattern of findings is in keeping with the traditional view that males are more delinquent than females (Moffitt et al., 2001). There was a highly significant association between total delinquency and anger for the males but not for females, supporting Sigfusdottir et al. (2004).

The pattern of findings strongly suggests that for a student sample anger and delinquency are associated in a similar way as seen with clinical and forensic populations. This study therefore implies that the assessment for legal purposes of educated young people who are involved in acts of violence may proceed on this understanding. Further, recommendations for court mandated treatment may be made

with confidence that traditional methods of anger management are appropriate for this population.

References

- Anestis, M. D., Anthesis, J. C., Selby, E. A., & Joiner, T. E. (2009). Anger rumination across forms of aggression. *Personality and Individual Differences, 46*, 192-196.
- Broidy, L., & Agnew, R. (1997). Gender and crime: A general strain theory perspective. *Journal of Research in Crime and Delinquency, 34*, 275–306.
- Colder, C. R., & Stice, E. (1997). A longitudinal study of the interactive effects of impulsivity and anger on adolescent problem behaviour. *Journal of Youth and Adolescence, 27*, 255–274.
- Connell, A., & Farrington, D. P. (1996). Bullying among incarcerated offenders: Developing an interview schedule and some preliminary results. *Journal of Adolescence, 19*, 75-93.
- Elliot, D. S., & Ageton, S. S. (1980). Reconciling race and class differences in self-reported and official estimates of delinquency. *American Sociological Review, 45*, 95–110.
- Farrington, D. P., Jolliffe, D., Hawkins, J. D., Catalano, R. F., Hill, K. G., & Kosterman, R. (2003). Comparing delinquency careers in court records and self-reports. *Criminology, 41*, 933–958.
- Gannon, T. A., Ward, T., Beech, A. R., & Fisher, D. (Eds.). (2007). *Aggressive offenders' cognition: Theory, research and practice*. Chichester: Wiley.
- Heaven, P. C. L. (1993). Personality predictors of self-reported delinquency. *Personality & Individual Differences, 14*, 67-76.
- Hindelang, M. J., Hirschi, T., & Weis, J. G. (1981). *Measuring delinquency*. Thousand Oaks, CA: Sage.
- Huizinga, D., & Elliott, D. S. (1986). Reassessing the reliability and validity of self-report delinquency measures. *Journal of Quantitative Criminology, 2*, 293-327.
- Kolko, D. J., & Ammerman, R. T. (1988). Firesetting. In M. Hersen & C. G. Last (Eds.), *Child behavior therapy casebook* (pp. 243-262). New York: Plenum Press.

- Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behaviour: Conduct disorder, delinquency, and violence in the Dunedin longitudinal study*. Cambridge: Cambridge University Press.
- Novaco, R. W. (1975). *Anger control: The development and evaluation of an experimental treatment*. Lexington, MA: D. C. Heath.
- Novaco, R. W. (1994). Anger as a risk factor for violence among the mentally disordered. In J. Monahan & H. J. Steadman (Eds.), *Violence and mental disorder: Developments in risk assessment* (pp. 21–59). Chicago, IL: University of Chicago Press.
- Novaco, R. W. (2003). *The Novaco Anger Scale and Provocation Inventory: NA–PI*. Los Angeles, CA: Western Psychological Services.
- Novaco, R. W. (2006). Anger dysregulation: Its assessment and treatment. In T. A. Cavell & K. T. Malcolm (Eds.), *Anger, aggression, and interventions for interpersonal violence* (pp. 3–54). Mahwah, NJ: Erlbaum.
- Pallant, J. (2005). *SPSS survival manual* (2nd ed.). Berkshire, UK: Open University Press.
- Palmer, E. J., & Hollin, C. R. (1997). The influence of perceptions of own parenting on sociomoral reasoning, attributions for criminal behaviour, and self-reported delinquency. *Personality and Individual Differences, 23*, 193–197.
- Palmer, E. J., & Hollin, C. R. (2001a). Sociomoral reasoning, perceptions of parenting and self-reported delinquency in adolescents. *Applied Cognitive Psychology, 15*, 85–100.
- Palmer, E. J., & Hollin, C. R. (2001b). Self-reported delinquency in persistent young offenders. *Pakistan Journal of Psychological Research, 16*, 67–83.
- Sigfusdottir, I. D., Farkas, G., & Silva, E. (2004). The role of depressed mood and anger in the relationship between family conflict and delinquent behaviour. *Journal of Youth and Adolescence, 33*, 509–522.
- Swaffer, T., & Hollin, C. R. (1997). Adolescents' experiences of anger in a residential setting. *Journal of Adolescence, 20*, 567–575.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, NE: Allyn & Bacon.
- Tremblay, P. F., Graham, K., & Wells, S. (2008). Severity of physical aggression reported by university students: A test of the interaction between trait aggression and alcohol consumption. *Personality and Individual Differences, 45*, 3–9.

Tsytsarev, S. V., & Grodnitzky, G. R. (1995). Anger and criminality. In H. Kassinove (Ed.) *Anger disorders: Definition, diagnosis and treatment* (pp. 91–108). Philadelphia, PA: Taylor & Francis.

Zamble, E., & Quinsey, V. L. (1997). *The criminal recidivism process*. Cambridge: Cambridge University Press.

THE CONDITIONS OF RESPECT OF RULES IN YOUNG AND ELDERLY DRIVERS: AN EXPLORATORY STUDY

Sandrine Gaymard*, Philippe Allain*, François Osiurak* and Didier Le-Gall*

* Université d'Angers (France)

Centre Mémoire de Ressources et de Recherche, Angers (France)

(Received 20 October 2009; revised: 6 June 2010; accepted 8 June 2010)

Abstract

This study is concerned with the theoretical field of social representations and conditionality of norms. The aim is to study the perception of driving norms by structuring them around individual and group behaviours. We propose to evaluate driving conditionality with the questionnaire based on conditional scenarios. The tool has been proposed to 40 young drivers and 48 elderly drivers. Results show that the driving representation is conditional for the 2 groups, except with the scenario of wearing seat belt. The more conditional scenarios are the same for the 2 groups (scenarios of speed limit and amber light), with higher scores of conditionality for young drivers. The representation of the driving shows that with the system of legal norms (Highway Code), there is a system of social norms related to the actual practices of the users. This study illustrates an important aspect of road safety: the social perception of rules and its impact on driver behaviour.

Keywords: Social representations; Individual and group behaviours; Conditionality; Models of legitimate transgressions; Social norms; Driving.

Resumen

Este estudio se inscribe en el campo teórico de las representaciones sociales y de la condicionalidad de las normas. Se ocupa de la articulación de las prácticas individuales y grupales en la percepción de las normas de conducir, evaluando la condicionalidad vial por medio de un cuestionario basado en escenarios condicionales. El instrumento se ha distribuido entre 40 conductores jóvenes y 48 de tercera edad. Los resultados muestran que la representación de la conducta al volante es condicional en los dos grupos, con la excepción del escenario correspondiente al uso del cinturón de seguridad. Los escenarios más condicionales son los mismos para los dos grupos (escenarios ligados a la transgresión del límite de velocidad y del semáforo naranja), encontrándose las puntuaciones de condicionalidad más elevadas en el grupo de los sujetos jóvenes. La representación de la conducta al volante muestra al lado del sistema de normas legales (código de la circulación), la existencia de un sistema de normas sociales relacionado con las actuales prácticas de los usuarios. Este estudio ilustra un importante aspecto de la seguridad vial: la percepción social de las normas y su impacto en las prácticas del conductor.

Palabras clave: Representaciones sociales; Prácticas individuales y grupales; Condicionalidad; Modelos de transgresión legítimos; Normas sociales; Conducta al volante.

Introduction

Following the works of Moscovici (1976), several approaches of the social representations have been developed in social psychology. According to the central nucleus theory of social representations (Abric, 1976, 1987, 1994a, 1994b; Flament, 1987, 1989, 1994a, 1994b), social representation is organized around a system which includes a central nucleus and a periphery. The central nucleus of the representation is consensual and "no-negotiable" according to the terminology proposed by Moscovici (1993). The periphery of the representation is defined as being conditional, diversified and connected to the individual practices. The problematic of the social representations and norms is at the origin of the conditionality theory proposed by Flament (1989, 1994a, 1994b, 1999a, 1999b). This theory is concerned with the peripheral elements, which are defined as "schemas" (Flament, 1987), then as "prescribers" (Flament, 1994a) and finally as "norms" (Flament, 1997). In this study, we also use the term "rules" in the sense of "norms". In fact, the definitions of these two terms are very similar in French dictionaries. For example, in the "Littré" dictionary, the notion of norms refers to "Sometimes said for rule, law, according to which we have to guide". In the Larousse dictionary, this notion refers to "Rules for which we have to conform" (Larousse dictionary). In these dictionaries, the notion of rule refers to "prescription by virtue of the law, custom..." (Littré dictionary) or to "prescription which imposes itself on somebody in a given case; principle of behaviour, law" (Larousse dictionary). Some authors also speak of rules referring to the social rules they differentiate from the formal rules or legal rules (Verkuyten, Rood-Pijpers, Elffers, & Hessing, 1994).

The conditionality theory articulates the notion of prescription and the notion of condition: "generally we have to do this, but in certain cases (more or less clearly identified), we chose to do something else» (Flament, 1994a, p. 91). This theory can explain normative variations considered as legitimate transgressions because interpreted in the system itself (Flament, 1999a). This approach has important implications at the behavioural level since individual can adopt a particular behaviour which does not correspond to the generality of the observed behaviours, as soon as the conditional system justifies it. In this case, this behaviour is considered as a legitimate transgression in the social representation (Flament, 1994a, 1994b). Focusing on the legitimate transgressions of the traffic rules, Flament (1994b) showed nuances of the conditional

system. The results of his survey, with 36 young drivers aged from 22 to 45 years, revealed that the refusal to commit violations was rare and a large number of violations were associated with *pre-identified* conditions (e.g., "I take a one-way street if it is the night". According to Flament (p. 96): "this is not the badness of individual, but legitimate social situations, each time according to a very specific conditional system". Moreover, these studies showed that, from the discursive level, the prescriptions tend to emerge as "no-negotiable" or unconditional, the subjects referring to the general case "we must stop at a stop sign" and not individual cases related to the conditional system (Flament, 1994a). Hoping to reveal this conditionality, Gaymard (2006, 2007) has developed a questionnaire with different road scenarios and different road conditions that can "legitimize" the no respect of these scenarios. This questionnaire was given to 43 young drivers (mean age: 20 years). The results showed that the representation of the driving was highly conditional. Another main finding was that we can apprehend through the status of the scenarios a more or less "absolute" characteristic. For example, we observed an absolute respect of the rule for the scenario "selt belt wearing" (in the front seats of the car); all other scenarios were conditional in varied degrees. For example, we found that the "speed limit" scenario was the most conditional scenario. This finding corroborates previous studies showing a rejection of speed limitations by young drivers (Barjonet & Saad, 1986). The research presented here focuses on two normative systems, the system of legal norms (the Highway Code) and the system of social norms. This duality is also present in the works of Verkuyten et al. (1994) discussing rules (social) to break the formal rules (legal). They explored the usefulness of the concept of social representations to explore the beliefs and perceptions shared by law students. The authors observed an important consensus on the rules that must be obeyed and those which are acceptable to break. For example, respect the red light is not as appropriate at night when there is nobody and it is totally acceptable to break in case of emergency. Based on this work, Gaymard (2009) showed that the conditional transgressions of the traffic rules through individual practices refer to what the drivers find acceptable to transgress. For example, they further violate the speed limit because they think more acceptable to do it under certain conditions. Thus, there are shared beliefs regarding specific rules, depending on circumstances, that may be transgressed. These various studies show that the complexity of the normative aspects exceeds the dichotomy: central/consensus/unconditional and peripheral/heterogeneous/conditional. Indeed the status of the "prescriptions" can't be analysed "in an exclusive way".

Researches on the normative system of social representations reflect the existence of different models (Flament, 1999b) which may explain this complexity. The conditional variations may also respond to compensatory strategies. The use of Boolean algebra show that subjects can be “cons-normative” and minority on one aspect of the rule and compensate this behaviour as being “pros-normative” and therefore majority on another aspect (Flament, 2001; Gaymard, 2002).

Outside the domain of social representations, other works in the field of the driving have focused on the problem of young drivers greatly involved in road crashes (Sécurité Routière, 2006). This over-risk of mortality among young drivers is observed in all industrialized countries and the two factors usually cited to explain this over-risk of mortality are the age and inexperience. However, these two variables remain difficult to separate (Groeger, 2006; Groeger & Chapman, 1996). We can understand now that the over-exposure of young drivers with little experience results from the interaction of multiple factors among which we find -risk-taking (e.g., relation with psychotropics, danger, group, the organizing of parties, etc.) - lifestyle, and -the problem of aggressiveness (Assailly, 1997, 2001; Chliaoutakis et al., 2002; Finn & Bragg, 1986; Gregersen & Berg, 1994; Jessor, 1998; Lajunen & Parker, 2001).

Another group of drivers increasingly targeted is that of the elderly. The elderly have more serious accidents but less frequently and they don't use so often the means of rapid transportation (Sécurité Routière, 2006). Older drivers are overrepresented in certain types of accidents such as accidents at intersections (De Raedt & Ponjaert-Kristoffersen, 2001). According Pauzié (2003, p. 204): "older drivers are a population high-risk, for reasons mainly related to functional ability specific to this population ". The studies highlight the reduction and/or slowing of perceptual abilities, cognitive and motor skills related to age (Case, Hulbert, & Beers, 1970) to justify the high-risk status of elderly drivers.

The objective of this study is to articulate individual and group practices to the prescriptions of Highway Code, comparing young and old drivers. Starting from practices, we want to update the phenomena more or less consensual and more or less conditional at the representational level. We believe that conditionality may be one factor as well as risk taking or lifestyle among young drivers, or reduction of cognitive and sensory impairment in older drivers. In this theoretical field, previous research has shown the importance of conditional variations in young drivers (Gaymard, 2007,

2009). We hypothesize that these variations also exist among old drivers. Furthermore, the excessive mortality on roads among young motorists leads us to the hypothesis that younger people have a more conditional representation than the elderly.

Method

Measurement instrument

To analyze the road conditionality, we used a questionnaire based on conditional scenarios (Gaymard, 2007, 2009). It is a tool designed to identify situations that could justify non-compliance with Highway Code. The questionnaire consists of 8 conditional scenarios related to driving (e.g., “You sometimes take a one-way street if you live nearby”). The first 7 are specific (red light, amber light, speed limit, seatbelt, stop sign, one-way street and continuous white line). The latter is general and related to compliance with the rules of the road (“You comply with the Highway Code if...”). Each scenario includes between 12 to 22 conditional situations that must be evaluated on a Likert-type ordinal scale with 6 steps from full compliance or absolute respect (absolutely never) until the absolute transgression (absolutely all the time) through 4 intermediate steps (see appendix 1 for a more specific example). The different situations based on various circumstances such as infrastructure (e.g., you’re in town), time (e.g., It was late evening or at night, etc.). The questionnaire also allows the collection of demographic data (gender, age, education level) and related to driving (years of driving, accidents as driver) useful for intergroup comparisons.

Participants

The study population consists of 40 young subjects recruited among students of the University of Angers and 48 seniors enrolled in associations of older persons. The young subjects had a mean age of 20.43 years ($SD = 1.65$) and were holding the licence for 22.85 months ($SD = 20.05$). Elderly subjects had a mean age of 71.32 years ($SD = 7.43$) and were holding the licence for 41.73 years ($SD = 9.36$). People with neurological and/or psychiatric problem,¹ and occasional drivers were excluded from the study. The average number of reported crashes for the young subjects was 0.35 (SD

= 0.67). The average number of reported crashes for the elderly was 0.42 ($SD = 0.65$). Regarding the level of education, the responses were categorized on a scale² ranging from 0 (no diploma) to 6 (> second-year university level). The average youth group was 4.87 ($SD = 0.88$), the group's "old" was 2.77 ($SD = 1.69$).

Analysis strategies

These variables have been used for intra- and intergroup comparisons without taking into account gender issues since the behaviour of men was strictly comparable to women whatever the age group; results already observed in young people (Gaymard, 2007).

Results

Analysis with young drivers.

To test the effect of the type of scenario on the level of conditionality, an ANOVA using the mean score of conditionality as the dependent variable and the type of scenario as the independent intra-individual variable (red light, amber light, speed limit, stop, one-way street, continuous line, respect) was conducted. The "seatbelt" scenario was excluded from the analysis, given the lack of variability observed. This effect was significant, $F(6, 234) = 32.61, p < .0001$. We have broken this effect through a series of post hoc comparisons (t test for paired samples) with Bonferroni correction (.05/21; $p = .003$). These comparisons show that amber light scenario ($M = 2.84$) and speed limit scenario ($M = 2.91$) were significantly more conditional than all other scenarios.

Analysis with elderly drivers

The effect of type of scenario on the level of conditionality in the elderly has been tested with the same statistical procedure as used for young subjects. This effect is also highly significant, $F(6, 282) = 18.92, p < .0001$. The post hoc comparisons showed

¹ All the drivers had a neuropsychological assessment mainly focusing on general intellectual functioning and executive skills.

² Nomenclature proposed by the INSEE (National institute for Statistic and Economic Studies).

again that the amber light scenario ($M = 1.97$) and speed limit ($M = 2.09$) scenario were significantly more conditional than all other scenarios.

Comparison between young and elderly drivers

Comparisons of the 2 groups showed significant differences for 6 scenarios, the conditionality being higher among young drivers. The scenarios less conditional in the 2 groups (red light and seat belt) are not discriminatory (see Table 1).

Table 1. Comparisons (means and standard deviation) between young and elderly drivers on the eight scenarios.

Scenario	Young Mean/S.D.	Elderly Mean/S.D.	t(86)	p
Red light	1,57/0,60	1,57/0,52	0,009	ns
amber light	2,84/0,81	1,97/0,59	-5,827	.000
Speed limit	2,91/0,71	2,09/0,68	-5,497	.000
Seat belt wearing	1,06/0,30	1,15/0,48	1,060	ns
Stop sign	1,91/0,81	1,53/0,59	-2,524	.013
One-way street	1,74/0,77	1,44/0,52	-2,128	.040
Continuous line	2,06/0,86	1,58/0,56	-3,136	.002
Respect	1,99/0,57	1,53/0,56	-3,798	.000

Relations between demographic and accidentology variables, and scores of conditionality

We first analyzed the correlations between the average score of conditionality and demographic and accidentology variables of the questionnaire. Then we conducted an analysis of multiple linear regression step backward to isolate the demographic and accidentology factors that best explain the variance of conditionality scores. These tests were conducted on all the 2 groups. We seek more effective in clarifying the nature of possible links between these variables and the score of conditionality rather than show intergroup difference (difference already demonstrated in the analyses of variance). Moreover, the fact of considering the 2 groups together allowed us to strengthen the statistical power of our correlation analyses, especially given the few accidents reported

in the 2 groups. From the number of variables used in correlations analysis, we applied the Bonferroni correction.

Regarding the correlation analysis, it appears that especially the age and number of years of licence correlate negatively with most scores of conditionality, indicating that more the age and the number of years of licence increase, less the conditionality is important (see Table 2). We are seeing a significant influence of the number of years of education on the score of conditionality in the amber light and speed limit scenarios (more there is years of education, higher are the scores of conditionality).

Table 2. Significant correlations between demographic and accidentology variables, and conditionality scores.

Variables	Coefficient	p
Age/Amber light	-.523	.000
Age/Speed limit	-.530	.000
Age/Continuous line	-.309	.003
Age/Respect	-.355	.000
Level education/Amber light	+.322	.002
Level education/Speed limit	+.350	.000
Years of licence/ Amber light	-.502	.000
Years of licence/ Speed limit	-.492	.000
Years of licence/ Continuous line	-.309	.003
Years of licence/ Respect	-.420	.000

In regressions (multiple-step backward), the scores of conditionality of different scenarios were used as dependent variables and demographics and accidentology data were used as independent variables. The regressions confirm the impact of the age and number of years of licence on the variance of the scores of conditionality, these factors are often the only ones identified by the analysis to account for 6 to 28 % of the variance in scores of conditionality. The impact of the accidentology variable is very low (see Table 3).

Table 3. Significant results in regression analysis between demographic and accidentology variables and conditionality scores.

Dependant variable	Independent variable	R	B	R² (explained variance)	p
Amber light	Age	.52	-0.52	0.27	.000
Speed limit	Age	.53	-0.53	0.28	.000
Stop sign	Age	.25	-0,25	0.07	.01
	Accident	.34	-0,22	0.12	.006
One-way street	Years of licence	.24	-0.24	0.06	.030
Continuous line	Age	.31	-0.31	0.10	.003
Respect	Years of licence	.42	-0.42	0.18	.000

Discussion

The objective of this work was to study road conditionality among young and elderly drivers through the questionnaire based on conditional scenarios (Gaymard, 2007) involving different specific scenarios (red light, amber light, speed limit, seatbelt, stop, one-way street and continuous line) and a general scenario bounded to respect of the highway code. We were also interested in the relationship between conditionality and demographic or accidentology data involving drivers.

Starting from individual practices, we find that the perception of driving norms is highly conditional. As it has been demonstrated elsewhere in the field of study of social representations, the conditionality of the peripheral system promotes the expression of the normative aspects (Flament, 2001; Gaymard, 1999). Thus, the representation of the driving shows that with the system of legal norms (Highway Code), there is a system of social norms related to the actual practices of the users. The first established by the legislation may be conditional explicitly in the texts of law and the related social practices reflect the logic of users. According to C. Flament (personal communication, in September 17th, 2006), "social custom (more or less individualized) inform that, under certain conditions, the code is impractical". This research shows the stake in competition of two distinct normative systems in nature, but their understanding

requires the continual path from one to another. The legitimate transgressions appear as actual transgressions with the Highway Code, but at the same time, they refer to the legitimate behaviour in the field of social representations. Starting from practices and studying conditionality, we can access to the diversity but also to the consensus. Practices are linked to representations, the "unconditional" may highlight central aspects of representation. As already been observed in previous work (Gaymard, 2007), the scenario of seat belt wearing vouch for the integration of a formal rule in the representational system. We can say that in this case, there is no competition between the two normative systems. There are no circumstances justifying the no-wearing of seat belt. Therefore, this rule is no negotiable in the representation, but it concerns only the seatbelt in the front. Gaymard (2007) explains the absolute nature of this scenario by the fact that this rule is little restrictive and directly involves driver safety. All the transgressions proposed in this scenario, although varied (Gaymard, 2007), don't appear as legitimate in the representation.

Outside of this scenario, respect for other scenarios depends on circumstances more or less important which have an influence on the level of conditionality from one scenario to another. This variability is typical of the peripheral system of social representations. Thus, transgressions against the law are legitimate in the social representation although certain rules, such as the red light, seem less negotiable than others. These variations in the levels of conditionality are related to the fact that drivers find more circumstances to disregard the speed limit (e.g., to go to work, etc.) than the red light (Gaymard, 2007). We note, as well, that the status of some aspect in the representation is complex and ambiguous and does not allow adamant interpretation. There are no-negotiable and consensual prescriptions that could be central, but there are also prescriptions that may appear no-negotiable in a situation, and more or less conditional in another (Gaymard, 2007). In addition, we observe a consistence (to not say "consensus") in conditionality observed. Indeed, the young and elderly subjects evaluated in this study did not differ in the representation of the scenarios more conditional. For both groups the seat belt is the scenario most respected and the speed limit and the amber light, the scenarios the least respected. It seems so exist "models" of legitimate transgressions, that is to say that it is acceptable, under certain conditions, not stop at the amber light and not respect the speed limit. These results confirm the remarks of Verkuyten et al. (1994) who observed a consensus, not only on the rules that

must be obeyed, but also on those considered acceptable to transgress. Thus, the conditional system, beyond its variability, reflects a certain consistency that comes in our opinion, from the system and its contribution to overall performance.

These data are superimposed to those already obtained from young subjects (Gaymard, 2007). By cons, as expected, our results show that younger people are generally more conditional than the elderly because they have scores of conditionality significantly higher in six scenarios. We based this hypothesis on the existence of an over-representation with an over-mortality of younger people in road crashes. But in this work, the number of reported accidents is not higher with young compared to elderly drivers. On the other hand, the number of accidents seems little bounded to the scores of conditionality in our correlational and regression analysis. Conditionality in driving does not appear related to variables such as road crashes. However, in order to confirm this proposition, it should be important to use our tools with a population more involved in road crashes (habitual offenders, etc.).

Other explanations for these intergroup differences can be advanced and in particular the driving experience: the elderly are less conditional than young subjects because they have better integrated norms of the Highway Code. Correlation and regression results go in this right way. Age and years of licence are the most correlated or associated with scores of conditionality. Violations decrease when the age of driver increases, except perhaps in individuals whose educational level is higher because they are more conditional in amber light and speed limit scenarios. However, our population of elderly drivers is on average, less educated than the population of young drivers.

Another explanation may be proposed: the elderly, who feel themselves less efficient in driving due to a decrease of physical and cognitive abilities, could compensate the effect of age being more prescriptive with Highway Code, tending to absolute respect with regard to the Highway Code. Indeed, it is now well known that normal aging is accompanied by a number of declines changing driving ability, especially with a deterioration of vision and hearing, restrictions on movements head, neck and trunk, slower speed of information processing (Salthouse, 1996) and a decrease in attentional capacities (Gabaude, 2003; Marin-Lamellet et al., 2003). Following Lafont and Laumon (2003), all these declines are factors reducing the driving ability and increasing, correspondingly, the risk of accidents among the elderly. These authors have shown that the actual risk of accidents was significantly higher among the elderly compared with young subjects. Gruau, Pottier, Davenne, and Denise (2003)

have shown that sleepiness while driving is a current factor in car crashes and the primary cause of fatal accidents on French motorways, specially among the elderly. Several studies have also shown that healthy elderly subjects had a fairly good awareness of their perceptual and cognitive limitations and their impact on driving, which prompted them to restrict the use of their vehicle (Vance & al., 2006) to avoid certain driving situations considered more dangerous (driving on wet roads, driving in dense traffic, etc..) or perhaps more interesting in our problematic, they reduce their speed in traffic (Obriot-Claudel, Gabaude, & Marquié, 2005) or improve compliance with traffic rules (Yagil, 1998). Being more respectful with Highway Code, they could compensate their weakness or those of others. These «social self-regulation behaviours» should testify to the establishment, by the elderly themselves, of compensation mechanisms enabling them to preserve their independent mobility. In the same way, Marshall, Man-Son-Hing, Molnar, Wilson, and Blair (2007) have recently shown that the elderly were increasingly inclined to accept the same type of social regulation from outside (Ministry, Doctors, etc.), in the case of this idea was presented in a positive way. This idea of «preventing driving» has already been developed in work on the comprehensive study of road accidents in the elderly (Van Eslande, 2003). Nevertheless this interpretation would deserve to be confirmed by studying, for example, the variance of conditionality measures according to motor, sensory and/or cognitive performance (tests of processing speed, attention tests, executive tests, etc.), and/or the relation between two kind of measures: the awareness of physical disabilities or cognitive limitations (metacognition questionnaires, etc.) and the conditionality.

Works in the field of risk taking (Assailly, 1997, 2001; Byrnes, Miller, & Schafer, 1999) showed that males differentiate themselves significantly from girls in this area. The over-risk of young and adult male is present since many years (Assailly, 2001). In this study, we don't observe effect of the gender on the score of conditionality in both young and old groups. These results, already observed elsewhere, confirm the necessity to distinguish the conditionality from risk taking (Gaymard, 2007).

Beyond this discussion, it seems that eventually, an accurate identification of scenarios generating which generates conditionality and the impact of this conditionality on driving behaviours could help road safety professionals (representative of the law, trainers, etc.) to optimize their practices in the field of prevention. Furthermore a better understanding of «normative models» that govern road behaviour

could also facilitate the adjustment of the interventions from environmental and equipment specialists.

Acknowledgements

This research was supported by a grant of the Action Concertée Incitative (ACI) “Sécurité Routière et Société“, Ministère de la Jeunesse, de l’Education Nationale et de la Recherche, France.

References

- Abric, J. C. (1976). *Jeux, conflits et représentations sociales*. Doctoral Thesis. Université de Provence: Aix-en Provence, France.
- Abric, J.C. (1987). *Coopération, compétition et représentations sociales*. Cousset-Fribourg: DelVal.
- Abric, J. C. (1994a). Les représentations sociales: Aspects théoriques. In J. C. Abric, (Ed.), *Pratiques sociales et représentations* (pp. 11-35). Paris: Presses Universitaires de France.
- Abric, J. C. (1994b). L’organisation interne des représentations sociales: Système central et système périphérique. In C. Guimelli (Ed.), *Structures et transformations des représentations sociales* (pp.73-84). Lausanne: Delachaux & Niestlé.
- Assailly, J. P. (1997). *Les jeunes et le risque. Une approche psychologique de l’accident*. Paris: Vigot.
- Assailly, J. P. (2001). *La mortalité chez les jeunes*. Paris: Presses Universitaires de France.
- Barjonet, P. E., & Saad F. (1986). La vitesse: Son image et son usage. Le point de vue du psychologue. *Recherche Transports Sécurité, 9-10*, 27-32.
- Byrnes, J. P., Miller, D.-C., & Schafer, W.D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin, 125*, 367-383.

- Case, H.W., Hulbert, S., & Beers, T. (1970). *Driving ability as affected by age. Final report N° 70-17*. Los Angeles, CA: Institute of Transportation and Traffic Engineering.
- Chliaoutakis, J. E., Demakakos, P., Tzamalouka, G., Bakou, V., Koumaki, M., & Darviri, C. (2002). Aggressive behavior while driving as predictor of self-reported car crashes. *Journal of Safety Research*, 33, 431-443.
- De Raedt, R., & Ponjaert-Kristoffersen, I. (2001). Predicting at-fault car accidents of older drivers. *Accident analysis & prevention*, 33, 809-819.
- Finn, P., & Bragg, B. W. (1986). Perception of the risk of an accident by young and older drivers. *Accident Analysis and Prevention*, 18, 289-298.
- Flament, C. (1987). Pratiques et représentations sociales. In J. L. Beauvois, R. V. Joule & J. M. Monteil (Eds.), *Perspectives cognitives et conduites sociales. Tome 1: Théories implicites et conflits cognitifs* (pp.143-150). Cousset: DelVal.
- Flament, C. (1989). Structure et dynamique des représentations sociales. In D. Jodelet (Ed), *Les représentations sociales* (pp. 204-219). Paris: Presses Universitaires de France.
- Flament, C. (1994a). Structure, dynamique et transformation des représentations sociales. In J. C. Abric (Ed.), *Pratiques sociales et représentations* (pp. 37-57). Paris: Presses Universitaires de France.
- Flament, C. (1994b). Aspects périphériques des représentations sociales. In C. Guimelli (Ed.), *Structures et transformations des représentations sociales* (pp. 85-118). Lausanne: Delachaux et Niestlé.
- Flament, C. (1997). Structure, dynamique et transformation des représentations sociales. In J. C. Abric (Ed.), *Pratiques sociales et représentations* (2nd ed., pp. 37-57). Paris: Presses Universitaires de France.
- Flament, C. (1999a). Liberté d'opinion et limite normative dans une représentation sociale: Le développement de l'intelligence. *Swiss Journal of Psychology*, 58, 201-206.
- Flament, C. (1999b). La représentation sociale comme système normatif. *Psychologie et Société*, 1, 29-53.

- Flament, C. (2001). Représentation sociale et normativité: Quelques pistes. In F. Buschini & N. Kalampakis (Eds.), *Penser la vie, le social, la nature. Mélanges en l'honneur de Serge Moscovici* (pp. 257-261). Paris: Editions de la Maison des Sciences de l'Homme.
- Gabaude, C. (2003). Exploration des capacités attentionnelles des conducteurs âgés. Intérêts et techniques. *Recherche Transports Sécurité*, 81, 165-176.
- Gaymard, S. (1999). *Les études supérieures comme enjeu dans un contexte de négociation implicite entre les filles d'origine maghrébine et leurs parents: Aspects conditionnels et normatifs des représentations sociales dans une situation de biculturalisme*. Doctoral Thesis. Université de Provence: Aix-en-Provence, France.
- Gaymard, S. (2002). Représentation sociale et algèbre de boole: Une étude des modèles normatifs dans une situation de biculturalisme. *Revue Internationale de Psychologie Sociale*, 15, 163-184.
- Gaymard, S. (2006). La conditionnalité du respect de la règle. In Direction Générale des Routes (Ed.), *La route autrement. Concevoir des routes incitant à une conduite apaisée* (pp. 17-20 et 22-24). Paris: MTETM.
- Gaymard, S. (2007). La représentation de la conduite chez de jeunes conducteurs. Une étude de la conditionnalité routière. *Recherche Transports Sécurité*, 97, 339-359.
- Gaymard, S. (2009). Norms in social representations: Two studies with french young drivers. *The European Journal of Psychology Applied to Legal Context*, 1, 165-181.
- Gregersen, N. P., & Berg, H. Y. (1994). Lifestyle and accidents among young drivers. *Accident Analysis and Prevention*, 26, 297-303.
- Groeger, J. A. (2006). Youthfulness, inexperience and sleep loss: The problems young drivers face and those they pose for us. Retrieved April 15, 2008, from http://injuryprevention.bmj.com/cgi/content/full/12/suppl_1/i19
- Groeger, J. A., & Chapman, P. R. (1996). Judgement of traffic scenes: The role of danger and difficulty. *Applied Cognitive Psychology*, 10, 349-364.
- Gruau, S., Pottier, A., Davenne, D., & Denise P. (2003). Les facteurs d'accidents de la route par somnolence chez les conducteurs âgés: Prévention sur l'activité physique. *Recherche Transports Sécurité*, 79-80, 134-144.

- Jessor, R. (1998). *New perspectives on adolescent risk behavior*. Cambridge, UK: Cambridge University Press.
- Lafont, S., & Laumon, B. (2003). Vieillesse et gravité des atteintes lésionnelles des victimes d'accident de la circulation routière. *Recherche, Transports, Sécurité*, 79-80, 121-133.
- Lajunen, T., & Parker, D. (2001). Are aggressive people aggressive drivers? A study of the relationship between self-reported general aggressiveness, driver anger and aggressive driving. *Accident Analysis and Prevention*, 33, 243-255.
- Marin-Lamellet, C., Paire-Ficout, L., Lafont, S., Amieva, H., Laurent, B., Thomas-Antérion, et al. (2003). Mise en place d'un outil d'évaluation des déficits attentionnels affectant les capacités de conduite au cours du vieillissement normal et pathologique: L'étude SEROVIE. *Recherche Transports Sécurité*, 81, 177-189.
- Marshall, S. C., Man-Son-Hing, M., Molnar, F., Wilson, K. G., & Blair, R. (2007). The acceptability to older drivers of different types of licensing restriction. *Accident Analysis & Prevention*, 39, 776-793.
- Moscovici, S. (1976). *La psychanalyse, son image et son public* (2nd ed.) Paris: Presses Universitaires de France.
- Moscovici, S. (1993). Introductory address. *Papers on Social Representations*, 2, 160-170.
- Obriot-Claudiel, F., Gabaude, C. & Marquié, J. C. (2005). Vieillesse cognitive et conduite automobile: Prise de conscience des changements liés à l'âge et processus d'optimisation. Communication présentée au séminaire du sous-réseau Attention, Lyon, France.
- Pauzzié, A. (2003). Vieillesse de la population et ergonomie des innovations technologiques de communication dans la conduite automobile. *Recherche Transports Sécurité*, 81, 203-212.
- Salthouse, T. A. (1996). The processing-speed theory of adult age differences in cognition. *Psychological Review*, 103, 403-428.
- Sécurité Routière (2006). Les grandes données de l'accidentologie 2006. Retrieved March 10, 2008, from http://www2.securiteroutiere.gouv.fr/IMG/Synthese/SY_GDA.pdf

- Vance, D. E., Roenker, D. L., Cissel, G. M., Edwards, J. D., Wadley, V. G., & Ball K. K. (2006). Predictors of driving exposure and avoidance in a field study of drivers from the state of Maryland. *Accident Analysis & Prevention*, 38, 823-831.
- Van Elslande, P. (2003). Les erreurs des conducteurs âgés. *Recherche Transports Sécurité*, 81, 190-202.
- Verkuyten, M., Rood-Pijpers, E., Elffers, H., & Hessing, D J. (1994). Rules for breaking formal rules: Social representations and everyday rule-governed behavior. *The Journal of Psychology*, 128, 485-497.
- Yagil, D. (1998). Gender and age-related differences in attitudes toward traffic laws and traffic violations. *Transportation Research Part F: Traffic Psychology and Behaviour*, 1, 123-135.

Appendix 1 :**Questionnaire based on conditional scenarios.****Example of situations in red light scenario (Gaymard, 2007)**

You sometimes drive through a red light if :

- The red light is on a straight line and you have to turn to the right

1	2	3	4	5	6
Absolutely never	Never	Rather never	Rather all the time	All the time	Absolutely all the time

- You go on your workplace

1	2	3	4	5	6
Absolutely never	Never	Rather never	Rather all the time	All the time	Absolutely all the time

- You are alone

1	2	3	4	5	6
Absolutely never	Never	Rather never	Rather all the time	All the time	Absolutely all the time

- You arrive fast

1	2	3	4	5	6
Absolutely never	Never	Rather never	Rather all the time	All the time	Absolutely all the time

MAGISTRATES' BELIEFS CONCERNING VERBAL AND NON-VERBAL BEHAVIOURS AS INDICATORS OF DECEPTION

Andrew Brownsell and Ray Bull
School of Psychology
University of Leicester
United Kingdom

(Received 13 May 2010; revised: 9 August 2010; accepted 13 August 2010)

Abstract

This study examined 105 magistrates' beliefs about verbal and non-verbal behaviours as indicators of deception/truth-telling and whether their amount of courtroom experience was associated with their beliefs. Previous surveys (none have been on magistrates) suggest that people tend to associate others' deception with changes in a number of verbal and non-verbal behaviours (that research on actual lying has found not to be valid cues). Overall, the magistrates' beliefs were not similar to those found in previous surveys; for the majority of behaviours tested, the magisterial sample did not consensually consider that these were indicative of deception/truth-telling. Magisterial experience was related to only six of the 61 survey items, with less experienced magistrates tending to believe that four of the behaviours were possible indicators of deception. Given that the majority of magistrates did not share the common false beliefs found in other studies, the main implication of the present study is that they may well be less likely to incorrectly discriminate between witnesses/defendants who are telling the truth and those who are lying.

Keywords: Beliefs; Deception; Magistrates; Opinions; Credibility.

Resumen

Este estudio examinó las creencias de 105 magistrados sobre los comportamientos verbales y no verbales como indicadores de estar contando la verdad/mentira y si la experiencia en las Salas de Justicia está asociada con las creencias. Investigaciones previas (ninguna con magistrados) sugiere que tendemos a asociar la mentira en otros con cambios en comportamientos verbales y no verbales (que la investigación no ha hallado que sean indicadores válidos). En general, las creencias de los magistrados no eran similares a las encontradas en investigaciones previas. Los magistrados no consideraban que la mayoría de los comportamientos evaluados fueran indicativos de contar la verdad/mentira. La experiencia como jueces sólo estaba relacionada con seis de los 61 ítems, tendiendo los magistrados con menos experiencia a creer que 4 de los comportamientos eran propios de la mentira. Dado que la mayoría de los magistrados no comparten las falsas creencias encontradas en otras investigaciones, la principal implicación del presente estudio es que pueda que sea poco probable que discriminen incorrectamente entre testigos/acusados que están diciendo la verdad de aquellos que mienten.

Palabras clave: Creencias; Mentira; Magistrados; Opiniones; Credibilidad.

Introduction

The current study was designed to examine (i) the beliefs that magistrates hold concerning verbal and non-verbal behaviours as indicators of veracity in court, and (ii) whether magisterial experience has an influence on those beliefs. Being able to accurately distinguish between deceptive and truthful statements in a legal context such as in a magistrates' court is of vital importance to the administration of justice. Following a brief overview of the responsibilities that magistrates hold in the judiciary of England and Wales, this introduction will review previous research on people's beliefs about cues to deception/truth-telling. This will be followed by a review of previous research on the actual detection of deception, which has tended to show that people's ability to discriminate between deception and truth is only slightly better than chance, with some criminal justice professionals achieving increased success, under certain circumstances.

In England and Wales magistrates are unpaid, have no legal qualifications, and must make a commitment to sit for a minimum of 26 half-day court sessions each year, although Morgan and Russell (2000) found that on average magistrates sit for 41 half-day sittings per year, with some sitting more frequently. Morgan and Russell (2000) also noted that there is a risk that magistrates with extensive court experience could take on the qualities of a semi-professional, such as becoming case-hardened or overly sceptical, rather than retaining the qualities that the magistracy is founded upon, such as open-mindedness and objectivity. However, Vrij (1999) suggests that lies all too often go undetected as people are too trusting of others, implying that magistrates should indeed be suspicious of what people say in court, and that becoming sceptical is an essential quality for lie detectors such as members of the magistracy. The concerns postulated by Morgan and Russell (2000) and Vrij (1999) are pertinent to the current study, as some researchers such as Johnson, Grazioli, Jamel, and Berryman (2001), and Mann, Vrij, and Bull (2004) suggest that experience could effect decision-making and judgements of veracity.

There are many cognitive psychological theories regarding the structure and processes of human perception, attention, and memory in terms of problem-solving, judgement, and decision-making. In terms of mental representations, the limited capacity of working memory (Baddeley & Hitch, 1974, as cited in Eysenck & Keane,

2000) means that in order to transform problem states into solutions, cognitive strategies must often be employed that are quick mental shortcuts to an outcome. Regarding detecting deception, Vrij (2004a) suggests that people use cognitive heuristics as quick 'rule of thumb' problem-solving strategies with which to interpret others' behaviours, saving a lot of time and cognitive processing, although such strategies do not guarantee a solution to a problem. The representativeness heuristic (Eysenck & Keane, 2000) theorises that people can make judgement errors based on 'rules of thumb', as events or behaviours that are considered representative of a category are assigned a high probability of occurrence. This notion also contends that if individuals use stereotypes to inform their categorisation of events and behaviours, then their 'rule of thumb' judgements will be informed by such stereotypes. In the case of detecting deceit based on stereotypical yet incorrect verbal and non-verbal behaviours such as gaze aversion, shrugs, posture shifts, gesticulations, fidgeting, and speech pauses (Vrij, 2000), it is inevitable that the use of heuristics as cognitive-shortcuts can produce faulty assessments, systematic errors and biases in reasoning and deduction. The research undertaken by Mann et al. (2004) implies that professionals working within the criminal justice service, such as police officers who generally have more experience of working with liars than the general public, may use different heuristics to determine deceit than do members of the general population. However, Bull (2004) pointed to evidence that revealed many criminal justice professionals were rarely better than chance at detecting deceit.

Magistrates' courts in England and Wales are courts of summary justice and deal with more than 96 per cent of criminal cases to conclusion in the adult and youth courts (Morgan & Russell, 2000). Of the 1.3 million cases sentenced in the magistrates' courts each year, 91 per cent are adjudicated by magistrates, with the remainder being dealt with by district judges (Morgan & Russell, 2000). Therefore, one of the basic responsibilities of magistrates is that of making sound judgements in court. These considerations relate to such matters as decisions concerning the granting of adjournments, decisions about guilt and innocence, decisions about whether a defendant is remanded in custody or is bailed, decisions on sentencing, and decisions concerning the veracity of courtroom evidence. Sound judgement concerning such decision making within the magistracy is of vital importance to the integrity of, and public confidence in the judiciary, and is the cornerstone of the administration of justice in England and Wales.

Although magistrates use structured approaches in order to aid decision making, when evidence is conflicting or inconsistent there is no procedural tool to guide magistrates on how to distinguish reliable evidence from that which has been intentionally fabricated or manipulated. Indeed McKittrick and Callow's *handbook for magistrates* (1997) reminds magistrates that witnesses who appear calm, confident, consistent and articulate in court may not necessarily be telling the truth, and conversely that signs of nervousness in court may not necessarily indicate that someone is lying. Nevertheless, deliberate deceit by defendants and witnesses, motivated by a desire to deceive magistrates and pervert the course of justice, inevitably happens in the magistrates' courts, and it is these types of deliberate deceptions that the current study is interested in.

DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, and Cooper (2003) undertook a meta-analytic review of previous research studies to examine the different ways in which people may behave when they are lying compared to when they are telling the truth. They identified 158 different behaviours as potential cues to deception. Their research found that many commonly held beliefs concerning cues to deception may not necessarily reveal that someone is lying. DePaulo et al. (2003) found that liars tended to be less forthcoming than truth-tellers in terms of providing fewer details of an account, or providing less sensory information such as sounds and colours. Their findings also suggested that liars told less compelling accounts than truth-tellers, especially in terms of their accounts making less sense, they told their stories in less engaging ways, and they sounded less involved and more uncertain. DePaulo et al. (2003) also found that liars tended to be less positive and less cooperative than truth-tellers, and that liars tended to frown more than non-liars, although there was no difference in the rate of smiling or speed of speaking. Overall, DePaulo et al. (2003) found that liars were more tense than truth-tellers in terms of vocal tension and pitch, although blinking and fidgeting did not seem to indicate lying. Spontaneous corrections of accounts and admitting a lack of memory of events were both found to be indicative of truthful behaviour. Whilst DePaulo et al. (2003) identified a number of combinations of factors that might indicate deception, there were few (15% of the 158 potential cues) single statistically significant behaviours found that could be considered as indicative. Additionally, none of the behaviours commonly believed to be indicators of deception

(Vrij, 2000) such as facial expressiveness, eye contact, gaze aversion, eye shifts, shrugs, posture shifts, gesticulations, fidgeting hands and feet, shifting body weight, and speech pauses were found to be indicative by DePaulo et al. (2003).

A survey undertaken by Vrij, Akehurst, and Knight (2006) examined police officers', social workers', teachers' and the general public's beliefs concerning verbal and non-verbal cues to deception. The list of cues used in their survey was compiled from previous research findings where cues were found to be either valid indicators of deception or beliefs associated with deception. Tested cues related to speech behaviours (e.g. pauses, stutters and clichés), facial behaviours (e.g. eye contact, twitches and blinking), body behaviours (e.g. shifts, shaking and shrugs) and speech content (e.g. contradictions, details and quotes). It was found that of the 63 cues tested, participants associated the vast majority with deception. Moreover, an increase in a response/behaviour was generally believed to be associated with deception. Police officers made up 19 per cent of the sample and no major differences between the occupational groups emerged. Stromwall and Granhag (2003) also found police officers (and prosecutors and judges) to have beliefs that differ from what research tells us are somewhat valid cues to deception.

Colwell, Miller, Miller, and Lyons (2006) undertook a survey with US law enforcement officers concerning their beliefs regarding behaviours indicative of deception. The survey consisted of 30 behavioural cues collated from previous research. The participants reported that such behaviours tended to increase with deception; believing this to be especially true for non-verbal behaviours (e.g. postural shifts, posture and self-manipulations). The authors of that study acknowledged that the sample is unlikely to be representative as the response rate was less than ten per cent (109 participants) and likely to be comprised of officers interested in or concerned about deception. However, their findings are generally in line with previous research. (For research on liars' strategies see Hines, Colwell, Hiscock-Anisman, Garrett, Ansarra, and Montalvo, 2010).

Vrij (2004a) states that there is not a single non-verbal, verbal or physiological behaviour uniquely related to lying. Indeed, Buller and Burgoon (1996) suggested that there is no single profile of deceptive behaviours, as liars' patterns of behaviours are adaptive and contingent upon a number of factors such as their expectations, goals, motivations, relationships with their targets, and signs of suspiciousness from their targets.

In light of findings that suggest that everyday lying is prevalent and successful (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Kashy & DePaulo, 1996), and research that disputes many commonly held beliefs about lying behaviours such as gaze aversion, shrugs, posture shifts, gesticulations, fidgeting, and speech pauses, it is perhaps not unexpected that professional lie detectors find it difficult to detect deception by relying on verbal and non-verbal cues. Several studies have found that professional lie detectors such as police officers are generally poor at distinguishing between lies and truths (Ekman, O'Sullivan, & Frank, 1999), and have typically scored deceit detection rates similar to that of laypersons and at chance level (Köhnken, 1987; Vrij, 2004a; for a review see Vrij, 2008). Mann et al. (2004) suggest that this result could be explained by way of inadequate police training procedures. They noted that in some countries police guidance advises officers to look for behavioural cues to lying such as gaze aversion, nervousness and fidgeting (Gordon & Fleisher, 2002; Hess, 1997; Inbau, Reid, Buckley, & Jayne, 2001). It was noted by DePaulo et al. (2003) that these behaviours have not been found to be significant indicators of deception. Mann et al. (2004) in a study more ecologically valid than previous research found police performance to be significantly above chance level (but far from perfect). Garrido and Masip (1999) argue that due to a combination of police officers tending to rely upon stereotypes to inform their judgements and the lack of behavioural indicators of deceit, it might be difficult to effectively train such professionals to identify the subtleties, range and combination of behaviours that might indicate lying.

In terms of verbal behaviours, research has shown that liars make more negative statements, give more unconvincing or unbelievable answers, give shorter answers, make fewer self-references, give more irrelevant information, and over-generalise (Vrij, 2008). Statement Validity Assessment (SVA) is a technique that has been developed to assess the truthfulness of verbal statements, although it has been used mainly to test children's testimony rather than that of adults (Vrij, Akehurst, Soukara, & Bull, 2002). SVA is based upon the assumption that a statement derived from the memory of an actual event is superior in content and quality from a statement based on invention. Vrij et al. (2002) propose that these assumptions suggest that criteria such as unstructured production, contextual embedding, reproduction of speech and, unusual details are difficult for people to fabricate, thus lending support to the value of criteria-based content analysis (CBCA) in the detection of lies. SVA assessments are considered valid

evidence in some European and US courts of law (Vrij et al., 2002). However, Vrij (2004a) suggests that people typically tend to ignore such speech contents, predominantly relying on their beliefs concerning non-verbal cues to inform judgements about deception and truth-telling, especially when there is no corroborative information to check the truth of a statement. [Research undertaken by Ekman and O'Sullivan (1991), and Vrij, Evans, Akehurst, and Mann (2004) found that paying attention to a combination of behavioural and speech cues improved deceit detection accuracy.]

We are not aware of any studies that have examined the effect of magisterial experience on magistrates' beliefs concerning verbal and non-verbal cues to deception. The current study aims to identify any such effects. There is conflicting research evidence that criminal justice professionals' deceit detection rates are improved by experience, with researchers such as Johnson et al. (2001), and Mann et al. (2004) indicating to some extent that it improves, in contrast to others (Aamodt & Custer, 2006; Akehurst et al., 1996) whose findings suggest that it is not improved with experience. (Training has also been found to have very limited effects – Bull, 2004.) Therefore, the current study adopts a two-tailed hypothesis regarding the possible effects of relevant professional experience. In addition, the current study also aims to identify which verbal and non-verbal behaviours magistrates believe are indicative of telling lies/truths. The current research may be important in identifying factors which may help to reduce any potential misjudgements of veracity, and hence may help to reduce miscarriages of justice.

Method

Design

The research involved surveying the sample population as to the judgements they make concerning the verbal and non-verbal indicators that people may give when they are trying to deceive magistrates in court. The study adopted a between-participants design to examine the possible effect of relevant experience (low experience, experienced, and highly experienced). The dependent variables for this study were the verbal and non-verbal behaviours which the participants associated with deception.

Participants

The sample consisted of 105 magistrates from a magisterial area located in part of England. The whole of that magistracy was invited to participate, and of the population of 183, fifty-seven percent provided usable responses. Participants were allocated to the respective groups based upon their magisterial experience. Part one of the survey asked participants to indicate how many years' experience they had as a magistrate, and also, on average, how many half-day sessions they did each year. Those participants (20%) who had up to two years' experience, regardless of the number of sittings they did each year were allocated to the 'low experience' group. Participants (49.5%) with more than ten years' experience, regardless of the number of sittings they did each year, plus those with five to ten years' experience who sat more than 50 times each year were allocated to the 'highly experienced' group. The remaining participants (30.5%) were allocated to the 'experienced' group, which included all those with three to four years' experience, and those with five to ten years' experience who sat for less than 50 sessions each year.

Materials

This study used a survey to ascertain the participants' opinions about verbal and non-verbal cues to deception in court. The main part of this survey was developed from the 64-item questionnaire used by Akehurst, Köhnken, Vrij, and Bull (1996) in their research on criminal justice professionals' beliefs concerning deceptive behaviours. However, in order to reduce some ambiguity concerning the meanings and interpretations of certain behaviours detailed on that survey, three behaviours (response latency, reproduction of speech, and relating events to independent external context) were removed. Therefore, the survey used in the current study consisted of 61 behaviours, which participants were asked to consider in terms of cues to deceit or truth-telling. The 61 behaviours were classified into four categories; 17 speech behaviours such as 'stuttering' and 'shaky voice', 16 facial behaviours such as 'eye contact' and 'blushing', 13 body language behaviours such as 'shaking' and 'tense posture', and 15 statement contents such as 'plausible description of events' and 'superfluous details' (The full list of items can be seen at Appendix A). A seven-point Likert Scale (ranging from 'definitely lying' to 'definite truth') was used to indicate how strongly participants thought a particular behaviour was indicative of lying or truth-telling.

Procedure

Following constructive feedback from a small pilot study, the design of the survey was simplified to aid participant completion, thus optimising the chance of receiving more responses. For example, rather than asking respondents to indicate their responses regarding each survey item using a numerical grading system as Akehurst et al. (1996) had done, the current study asked the participants to tick the appropriate box (on the seven-point scale) relating to whether they thought each behaviour was indicative of someone lying or not. Each indication of 'definitely lying' was scored -3, each indication of 'probably lying' was awarded -2, for each 'possibly lying' -1 was scored, zero was awarded for an indication of 'indicates neither', +1 was given for an indication of 'possible truth', +2 for 'probable truth' and, +3 for each indication of 'definite truth'. If respondents indicated more than one preference for a specific behaviour (which rarely occurred), the more neutral preference was coded.

A covering letter explained to each of the potential 183 participants that the information that they provide would be treated confidentially, and that such information would not be identifiable as theirs in any publication. In terms of anonymity, the names/addresses of the participants were not required. Participants' informed consent to their data being used in the study would be by way of completing the questionnaire and returning it.

Results

Chi-square tests were conducted to identify which behaviours were considered (among all the participants) to be indicators of deception or of truth-telling. These sought to determine if for any of the 61 behaviours the distribution of the 105 magistrates' beliefs (on the seven point scale) differed from what may be expected by chance. Only for five behaviours was there any kind of 'significant' consensus. As 'probable' or 'possible' indicators of truth-telling (i) 'logical consistency of report' ($n=76$ of the 105 magistrates) and (ii) 'plausible description of events' ($n = 66$) had distributions different from chance. As 'probable' or 'possible' indicators of deceit so did (iii) 'evasive responses' ($n = 91$), (iv) 'contradictions' ($n = 79$), and (v) 'shrugs' ($n = 49$). The magistrates' beliefs were found to be different in some ways from the

previously surveyed groups of criminal justice professionals. For example, previous surveys have found that police officers tend to associate others' deception with changes (usually increases) in verbal and non-verbal behaviours (Akehurst et al., 1996; Colwell et al., 2006; Vrij et al., 2006). This is contrary to the current study's general findings that magistrates believe the vast majority of verbal and non-verbal behaviours not to be indicative of deception/truth-telling. However, the current results are somewhat comparable with those of previous surveys. For example, Akehurst et al. (1996) and Vrij et al. (2006) found that their samples considered that evasive responses, shrugs and contradictions would increase when lying; and that plausible description of events and logical consistency of report were associated with truth-telling. Colwell et al. (2006) did not test for plausible description of events or contradictions, but their findings in relation to evasive responses, shrugs, and logical consistency of report are also in line with the findings of the current study.

In order to determine whether magistrates with the three different levels of experience differed in their judgements of whether certain verbal and non-verbal behaviours were indicators of deception, the data were analysed using the Kruskal-Wallis test. Follow-up Mann-Whitney tests were conducted where appropriate. With regard to the possible effect of magisterial experience, as a first step a Kruskal-Wallis one-way analysis of variance was performed across the three groups of magistrates for each magistrate's total belief score for all 61 behaviours (combined). This test revealed that overall magistrates with low experience regarded cues to deception somewhat differently from the other two groups. (This Kruskal-Wallis test produced a χ^2 of 7.76 with an associated probability value of .02.)

This significant outcome justified carrying out a Kruskal-Wallis one-way analysis of variance on each of the 61 verbal and non-verbal cues (separately) in order to determine which particular behaviours showed differences between the three magisterial groups. Table 1 presents the Kruskal-Wallis test statistics and relative probability values for the verbal and non-verbal behaviours where a significant effect was found. The only statistically significant speech behaviour that was different across the three groups was faltering speech ($\chi^2 = 9.70$, $p < .05$). The only facial behaviours that were significant across groups were biting of lips ($\chi^2 = 6.52$, $p < .05$) and unfriendly facial expression ($\chi^2 = 10.45$, $p < .05$). In terms of body language behaviours, only self-manipulation/manipulation of objects ($\chi^2 = 7.70$, $p < .05$) and tense posture ($\chi^2 = 7.04$, p

< .05) were found to be significantly different. The only statement content cue that was found to show a statistically significant effect across the three groups was description of other people's feelings ($\chi^2 = 8.03, p < .05$).

Table 1. Kruskal-Wallis test statistics and p-values of differences across the three groups

Behaviour	χ^2	p-value
10 – Faltering speech	9.70	.01
25 - Biting of lips	6.52	.04
32 - Unfriendly facial expression	10.45	.01
36 - Self-manipulation/manipulation of objects	7.70	.02
44 - Tense posture	7.04	.03
54 - Description of other's feelings	8.03	.02

Mann-Whitney tests were then conducted in order to determine the nature of these six significant differences across the three groups. Table 2 presents the value of the Mann-Whitney U for each of the three comparisons (low experienced with experienced, low experienced with highly experienced, and experienced with highly experienced) for the verbal and non-verbal behaviours found to differ across the three groups (adjusted for running multiple comparisons).

Differences between the experienced group and the highly experienced group reveal that experienced magistrates more strongly believed that 'faltering speech' was indicative of deception and that 'descriptions of others' feelings' was indicative of truth-telling than were those who were highly experienced. Differences between the low experienced group and the highly experienced group revealed that low experienced magistrates more strongly believed that 'biting of lips' was indicative of deception. Differences between the low experienced and experienced groups revealed that those magistrates with low experience more strongly believed that an 'unfriendly facial expression' was indicative of lying. Differences between the low experienced and both the experienced and highly experienced groups reveal that those magistrates with low experience more strongly believed that a 'tense posture' and 'self-manipulations/manipulation of objects' was indicative of lying.

Table 2. Mann-Whitney test U statistics and p-values of differences between (pairs of) groups.

Behaviour	Comparisons between the	U	p-value
	magisterial groups		
Faltering speech	low experienced with experienced	308.5	.71
	low experienced with highly experienced	397	.23
	experienced with highly experienced	555	.01
Biting of lips	low experienced with experienced	250.5	.71
	low experienced with highly experienced	370.5	.01
	experienced with highly experienced	781.5	.67
Unfriendly facial expression	low experienced with experienced	191	.01
	low experienced with highly experienced	418	.09
	experienced with highly experienced	648.5	.05
Self manipulation or manipulation of others	low experienced with experienced	193.5	.01
	low experienced with highly experienced	378	.04
	experienced with highly experienced	724	.24
Tense posture	low experienced with experienced	233.5	.03
	low experienced with highly experienced	374.5	.01
	experienced with highly experienced	814	.80
Descriptions of others' feelings	low experienced with experienced	252	.26
	low experienced with highly experienced	406	.21
	experienced with highly experienced	554	.01

Discussion

This study found that for most of the cues included in this comprehensive survey magistrates did not consensually believe them to be valid cues to deception/truth-telling. This is contrary to the findings of previous studies of 'professional' groups' beliefs (as described in the introduction). Only for five behaviours was there any form of consensus among the magistrates. As indicators of truth-telling these were 'logical consistency of report' and 'plausible description of events' and as indicators of deceit were 'evasive responses', 'contradictions' and 'shrugs'. Three of these five 'behaviours' clearly relate to the content of what people say, as does 'evasive responses'. No facial

behaviours were consensually thought to be indicative and only one bodily behaviour was thought to be so.

Vrij (2004b) and Vrij, Mann, Fisher, Leal, Milne, and Bull (2008) have suggested that the complex cognitive processes of constructing a mental representation when lying, rather than recalling a memory when telling the truth, increases cognitive load, which may especially affect speech content.

The extent of magisterial experience was found to have a significant relationship with beliefs for the cues of faltering speech, biting of lips, unfriendly facial expression, self manipulation/manipulation of objects, tense posture, and descriptions of others' feelings. Mid-experienced magistrates believed that faltering speech was a possible indicator of deception, and that descriptions of others' feelings was a possible indicator of truth-telling. This is in comparison with the magistrates with low experience and those with high experience who tended to believe that such behaviours were not necessarily indicative of deception or truth-telling. In addition, the current research found that magistrates with low experience believed that biting of lips, unfriendly facial expressions, self manipulations and manipulations of objects, and a tense posture were indicators of possible deception. This is in contrast to experienced and highly experienced magistrates who believed that such behaviours were not necessarily indicative of deceit or truth-telling.

The findings of the current study that some magistrates believed that giving descriptions of others' feelings was indicative of possible truth-telling, and that faltering speech and an unfriendly facial expression was indicative of possible deception, are somewhat in concordance with the findings of DePaulo et al. (2003). However, behaviours such as biting of lips and a tense posture have not previously been found to be indicative of deception. In terms of manipulations, previous research has shown that this type of behaviour tends to decrease when someone is lying (DePaulo et al., 2003), in contrast to the beliefs of the magistrates with low experience in the current study.

The current study found that the majority of (possible) cues studied were, regardless of magisterial experience, considered *not* to be indicative of either lying or truth-telling. Its findings that plausible descriptions of events and logical consistency of report were considered to be indicative of truth-telling, and evasiveness and contradictions of deception are in concordance with the findings of DePaulo et al. (2003) who suggested truth-tellers tended to give more compelling, engaging, and accurate accounts. However, DePaulo et al. (2003) also found that liars actually tend to

provide fewer details, are less forthcoming with information, frown more, and have higher vocal tension and pitch, but the results of the current study do not concur with this. DePaulo et al. (2003) found that spontaneous corrections of accounts and admitting a lack of memory were indicative of truth-telling; however, many of the current study's participants believed these to be 'neutral' behaviours.

Although for a few 'behaviours' there was a degree of consensus across the magistrates, these could be affected by the taking of 'countermeasures'. For example, although the magistrates in the current study believed that a plausible description of events was indicative of truth-telling, some liars might be/become aware of such a belief, and adjust or modify his/her behaviour to be consistent with that belief. Caso, Vrij, Mann, and De Leo (2006) found that participants were able to adapt their verbal behaviours in such a way that they were less likely to be found out as liars. Although more difficult to employ than verbal countermeasures (Caso et al., 2006), non-verbal countermeasures can also be used. For example, if a liar was aware that the magistrate sample in the current study found shrugs to be possibly indicative of deceit, he/she may try to stop that behaviour in order to appear more credible.

The current study has shown that the majority of magistrates, regardless of experience or age, predominantly regarded verbal and non-verbal behaviours as not being indicators of deception/truth-telling. As the current study found relatively few effects of magisterial experience, it is proposed that current magisterial training may have had an influence. These magistrates may have become aware of the risks of being influenced by invalid, but commonly believed, cues. It is possible that either magistrates' heuristic strategies for determining such judgements are different from many of the sample populations studied in previous research, or that magistrates rely less on cognitive heuristics to inform their decisions, and more on problem-solving algorithms. This latter proposal is more consistent with the objectives of the magistracy, insofar that magistrates are members of the community who have personal integrity and hold respect for others, with responsibilities of open-mindedness and objectivity. These qualities ensure that judicial decisions are made free from improper influences, and that such decisions are based on the merits of each case. Magistrates are expected to listen to evidence and legal representation, hear the facts of a case, consider guidance, and adhere to a structured approach when deciding outcomes in court that may affect personal liberty, reputation and rights. An implication of this study is that magistrates

may, indeed, adhere to these expectations. It is observance of these practices and process that ensure the magistracy's integrity, and its place at the cornerstone of justice in England and Wales.

Acknowledgements

The researchers are grateful to Heidi Mace for her helpful advice during this study and to an anonymous reviewer for constructive comments.

References

- Aamodt, M. G., & Custer, H. (2006). Who can best catch a liar? A meta-analysis of individual differences in detecting deception. *Forensic Examiner, 15*, 6-11.
- Akehurst, L., Köhnken, G., Vrij, A., & Bull, R. (1996). Lay persons' and police officers' beliefs regarding deceptive behaviour. *Applied Cognitive Psychology, 10*, 461-471.
- Bull, R. (2004). Training to detect deception from behavioural cues: Attempts and problems. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 251-268). Cambridge: Cambridge University Press.
- Buller, D. B., & Burgoon, J. K. (1996). Interpersonal deception theory. *Communication Theory, 3*, 203-242.
- Caso, L., Vrij, A., Mann, S., & De Leo, G. (2006). Deceptive responses: The impact of verbal and non-verbal countermeasures. *Legal and Criminological Psychology, 11*, 99-111.
- Colwell, L. H., Miller, H. A., Miller, R. S., & Lyons, P. M. (2006). US police officers' knowledge regarding behaviours indicative of deception: Implications for eradicating erroneous beliefs through training. *Psychology, Crime & Law, 12*, 489-503.
- DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996). Lying in everyday life. *Journal of Personality and Social Psychology, 70*, 979-995.

- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, *129*, 74-118.
- Ekman, P., & O'Sullivan, M. (1991). Who can catch a liar? *American Psychologist*, *46*, 913-920.
- Ekman, P., O'Sullivan, M., & Frank, M. G. (1999). A few can catch a liar. *Psychological Science*, *10*, 263-266.
- Eysenck, M. W., & Keane, M. T. (2000). *Cognitive psychology: A student's handbook* (4th ed.). Hove: Psychology Press Ltd.
- Garrido, E., & Masip, J. (1999). How good are police officers at spotting lies? *Forensic Update*, *58*, 14-21.
- Gordon, N. J., & Fleisher, W. L. (2002). *Effective interviewing and interrogation techniques*. San Diego: Academic Press.
- Hess, J. E. (1997). *Interviewing and interrogation for law enforcement*. Reading: Anderson Publishing Co.
- Hines, A., Colwell, K., Hiscock-Anisman, C., Garrett, E., Ansarra, R., & Montalvo, L. (2010). Impression management strategies of deceivers and honest reporters in an investigative interview. *The European Journal of Psychology Applied to Legal Context*, *22*, 73-90.
- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2001). *Criminal interrogation and confessions* (4th ed.). Gaithersburg, MD: Aspen Publishers.
- Johnson, P. E., Grazioli, S., Jamel, K., & Berryman, R. G. (2001). Detecting deception: Adversarial problem solving in a low base-rate world. *Cognitive Psychology*, *25*, 355-392.
- Kashy, D. A., & DePaulo, B. M. (1996). Who lies? *Journal of Personality and Social Psychology*, *70*, 1037-1051.
- Köhnken, G. (1987). Training police officers to detect deceptive eyewitness statements: Does it work? *Social Behaviour*, *2*, 1-17.
- Lewis, M., Stanger, C., & Sullivan, M. W. (1989). Deception in 3-year-olds. *Developmental Psychology*, *25*, 439-443.
- McKittrick, N., & Callow, P. (1997). *Blackstone's handbook for magistrates*. London: Blackstone Press Limited.
- Mann, S., Vrij, A., & Bull, R. (2004). Detecting true lies: Police officers' ability to detect suspects' lies. *Journal of Applied Psychology*, *89*, 137-149.

- Morgan, R., & Russell, N. (2000). *The judiciary in the magistrates' courts*. London: The Home Office and The Lord Chancellor's Department.
- Stromwall, L., & Granhag, P. A. (2003). How to detect deception? Arresting the beliefs of police officers, prosecutors and judges. *Psychology, Crime, & Law*, 9, 19-36.
- Vrij, A. (1999). Interviewing to detect deception. In A. Memon & R. Bull (Eds.), *Handbook of the psychology of interviewing* (pp. 317-326). Chichester: John Wiley & Sons Ltd.
- Vrij, A. (2004a). Why professionals fail to catch liars and how they can improve. *Legal and Criminological Psychology*, 9, 159-181.
- Vrij, A. (2004b). Guidelines to catch a liar. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 287-314). Cambridge: Cambridge University Press.
- Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities* (2nd ed.). Chichester: John Wiley & Sons Ltd.
- Vrij, A., Akehurst, L., & Knight, S. (2006). Police officers', social workers', teachers' and the general public's beliefs about deception in children, adolescents and adults. *Legal and Criminological Psychology*, 11, 297-312.
- Vrij, A., Akehurst, L., Soukara, S., & Bull, R. (2002). Will the truth come out? The effect of deception, age, status, coaching, and social skills on CBCA scores. *Law and Human Behavior*, 26, 261-283.
- Vrij, A., Evans, H., Akehurst, L., & Mann, S. (2004). Rapid judgements in assessing verbal and nonverbal cues: Their potential for deception researchers and lie detection. *Applied Cognitive Psychology*, 18, 283-296.
- Vrij, A., Mann, S., Fisher, R., Leal, S., Milne, R., & Bull, R. (2008). Increasing cognitive load to facilitate lie detection. *Law and Human Behavior*, 28, 253-265.

APPENDIX A – Full list of behaviours used in the study.**SPEECH BEHAVIOURS**

- 1 Pauses
- 2 Stuttering
- 3 Clearing of throat
- 4 False starts
- 5 Grammatical errors
- 6 Repetitions
- 7 Clichés
- 8 Evasive responses
- 9 Hectic speech
- 10 Faltering speech
- 11 Voice pitch
- 12 Monotonous voice
- 13 Shaky voice
- 14 Soft voice
- 15 Range of vocabulary
- 16 Length/detail of answers
- 17 Short, simple sentences

BODY LANGUAGE

- 34 Postural shifts
- 35 Shaking
- 36 Manipulation of self or objects
- 37 Gesticulation
- 38 Shrugs
- 39 Arm movements
- 40 Hand and finger movements
- 41 Leg movements
- 42 Feet movements
- 43 Turning body toward interviewer
- 44 Tense posture
- 45 Reserved posture
- 46 Nervous bodily expression

FACIAL BEHAVIOURS

- 18 Changes in line of sight
- 19 Eye contact
- 20 Twitches
- 21 Eye blinks
- 22 Frowning
- 23 Wrinkling of nose
- 24 Smiling
- 25 Biting of lips
- 26 Swallowing
- 27 Head movements
- 28 Blushing
- 29 Turning pale
- 30 Variations in facial expression
- 31 Tense facial expression
- 32 Unfriendly facial expression
- 33 Nervous facial expression

CONTENTS OF STATEMENTS

- 47 Plausible description of events
- 48 Logical consistency of report
- 49 Unstructured report
- 50 Amount of detail
- 51 Unusual detail
- 52 Superfluous details
- 53 Description of own feelings
- 54 Description of others' feelings
- 55 Description of unexpected complications
- 56 Description of interactions
- 57 Spontaneous corrections/additions
- 58 Admitting lack of memory/knowledge
- 59 Raising doubt about own testimony
- 60 Self-deprecation
- 61 Contradictions

CHILD COURT HEARINGS IN FAMILY CASES: ASSESSMENT QUESTIONNAIRE OF CHILD NEEDS DURING PRE-TRIAL PROCEEDINGS

Joan Guàrdia*, Maribel Peró*, Sònia Benítez*, Adolfo Jarne*, Mercedes Caso**,
Mila Arch*, Asunción Molina*, and Álvaro Aliaga***

* Universitat de Barcelona (Spain).

** Escuela Judicial del Consejo General del Poder Judicial (Spain).

*** Servicio Médico Legal (Chile).

(Received 3 March 2010; revised: 21 September 2010; accepted 24 September 2010)

Abstract

The basis of family law is the child's interest. This is related to the right to be listened to, but not as an obligation. As a consequence, there is a necessity for the judge to conduct a judicial exploration of the child. But, in general, the judges are not trained in this type of explorations, and they may consequently obtain erroneous information in their exploration. Therefore, in this work, we present the generation of a questionnaire that explores the judicial agents' necessities during judicial exploration of children. Five expert researchers in the subject participated in creating the questionnaire; five family judges participated in the pilot test; and in the final study, 63 family judges answered the final questionnaire. Global reliability was adequate (.858), as was the reliability for interviewer's skills, but it was not for the other areas of the questionnaire. An exploratory factor analysis showed a factor structure consisting of 5 factors that accounted for 46.12% of the total variance, but these five factors don't correspond to the factors provided by experts. But construct validity validated the structure provided by the experts ($\chi^2/df = 1.35$; BBNNFI = .873; CFI = .879; IFI = .881; RMR = .139; SRMR = .153; RMSEA = .075). To sum up, we can say that the questionnaire could be improved, but the best areas are the stages of the interview and the interviewer's skills.

Keywords: Judicial exploration of the Child; Family Proceedings; Questionnaire; Forensic psychology; Psychometric study; Best interest of the child.

Resumen

El interés del menor se constituye en el eje principal en el derecho de familia. Uno de los aspectos en los que se traduce es en el derecho a ser escuchado, actividad judicial llevada a cabo por jueces o magistrados por medio de la exploración judicial. Ahora bien, los jueces no han recibido suficiente formación para la realización de este tipo de exploraciones, lo que puede llevar a la obtención de información errónea. Como consecuencia, nos planteamos un estudio con el objetivo de crear un cuestionario que permita a jueces y magistrados llevar a cabo una exploración adecuada de los menores. En la elaboración del cuestionario han participado 5 investigadores expertos en la materia; 5 jueces de familia en una prueba piloto; y en el estudio de validación 63 jueces de familia, el 68,48% del total. La fiabilidad del cuestionario a nivel global resultó adecuada (.858), pero no así en todas las áreas de medida hipotetizadas por los expertos. Así, ejecutamos un análisis factorial exploratorio que mostró una estructura factorial compuesta por 5 factores que explicaban el 46,12% de la varianza total, que tampoco se correspondían con los factores previstos por los expertos. No obstante, un análisis factorial confirmatorio validó la estructura factorial formulada por los expertos ($\chi^2/gl = 1.35$; BBNNFI = .873; CFI = .879; IFI = .881; RMR = .139; SRMR = .153; RMSEA = .075). En conclusión, el cuestionario es un buen instrumento para la exploración, por parte de jueces y magistrados, pero puede ser mejorado.

Palabras clave: Exploraciones judiciales de menores; Procedimientos de familia; Cuestionario; Psicología forense; Estudio psicométrico; El mejor interés del menor.

Introduction

The combined effort of different types of professionals—namely judges, tutors, psychologists, psychiatrists, researchers—is of great help in divorce proceedings (Hita, Braver, Sandler, Knox, & Strehle, 2009). In this situation, in family law, all court actions revolve around the child's interest. Closely related to this interest and to all the proceedings that involve the child is the right to be listened to, which is materialized in judicial explorations of children, an action carried out by judges. Through this channel, the national and international legal systems grant children the chance to be the interpreters of their own interest.

There is a general opinion that judicial exploration is not a proof through which judges obtain a series of facts on which to base their ruling, but it is a judicial diligence through which judges allow children to exercise a right. However, there is much controversy around this idea. There is no uniformity as to the form in which the different legal systems around us take this right into account, both as regards the obligation to apply it and the specific way to collect information, which involves a wide array of methods (the judge him/herself interviews the child, the judge collects the child's opinion through an *amicus curie*, through lawyers who represent the child, through specialized services, etc.). Neither is there an automatic link between the concept of the child's benefit and exercising their right to be listened to. Expert Paul Lagarde (1998) claimed in his explicative report of the 1996 Agreement that considering the child's opinion is not always in their interest. This is particularly so when their parents agree as to the action to take and this action is not detrimental for the child. In each case, the child's psychic condition must be analyzed, as well as their age and the circumstances around them in order to prevent the hearing from provoking greater damage than the one intended to prevent. Despite many authors advocating the need for judges to listen to children (McIntosh, Bryant, & Murray, 2008), some researchers highlight the fact that judicial exploration may be traumatic for children and defend that it be carried out by experts, such as psychologists (e.g., Budd, Felix, Sweet, Saul, & Carleton, 2006; Fitzgerald & Moltzen, 2004). Even in some works, strategies are presented to prepare the child when they must testify in court or before a judge (Ya-Hua, Chia-Lin, & Tsung-Chieh, 2009).

Spanish law also considers the child's right to be listened to in any judicial or administrative proceeding in which their interest is involved. Thus, article 9 of the 1/1996 organic law of Legal Protection of the Child establishes that:

1. Children have a right to be listened to, both within the family and in any judicial administrative proceeding in which they are directly involved and that leads to a decision that affects their personal, family, or social sphere.
2. In judicial proceedings, appearances will take place in accordance with the child's situation and their evolutionary development, trying to preserve their privacy.
3. Children will be able to exercise this right themselves or through the person they designate to represent them, when they have sufficient judgment.
4. However, when impossible or inappropriate for the children's interest, their opinion may be known through their legal representatives, provided they are not an interested part or have opposing interests to the children, or through other persons who can convey their opinion objectively due to their profession or special trusting relationship with them.
5. Children can request being listened to directly or through a person that represents them. Refusal of such hearing must be reasoned and it must be communicated to the Attorney General's Office and interested parties.

In addition, a reform operated by the 15/2005 law, July 8, affects three precepts: article 777 inserts in 770.4 and modifies article 92 of the Civil Code. Moreover, article 92 provides the following information:

1. When the judge must rule on child custody, care, and education, they will watch over the right to be listened to...
2. In any case, before ruling on the custody, the judge must bear in mind the Attorney General's Office's report and... listen to the children who have sufficient judgment—when deemed necessary... *ex officio*, by request of the Attorney General's Office, the parties, the technical team or the children themselves.

Thus, in Spanish law, children have a right to be listened to, but in no case can this right become an obligation.

In spite of this, in Spain, children involved in legal proceedings regarding a subject that affects them directly are very likely to be subjected to judicial exploration and judges are likely to conduct it.

Doubts exist as to whether, in general, judges receive sufficient specific training for this purpose and, consequently, whether both the way they interview the child and the way they interpret their language—verbal and non-verbal—is appropriate, therefore bearing consequences in relation to the quantity and quality of the information obtained by the judge.

If the interview is not conducted appropriately, the information obtained may be insufficient or erroneous. For instance, it is known that children tend to nod to a question by an adult invested with great authority if asked affirmatively and not in an open way (“Isn’t it true that your mom/dad...?”), independently from the answer’s truthfulness. Likewise, the exploration can be emotionally painful to the child/adolescent if conducted inappropriately. This can be the case when the children are given the impression that it is them who are choosing one parent over the other, thus creating an emotional conflict of interest difficult to solve for them.

This is why, in the present paper, we present the generation of a questionnaire to explore the judges’ needs when exploring children in order to identify them and program future training policies that may assist them in that task.

Method

Participants

Different samples of subjects have participated in the construction of the Questionnaire to Evaluate the Needs during Judicial Explorations of the Children. Firstly, we worked with a sample of five expert researchers in the field, in order to create the questionnaire’s items. Secondly, a sample of five family judges was used for the pilot study of the questionnaire. And finally, for the final psychometric study of the questionnaire, the instrument was administered to 63 judges from family-specific courtrooms. More specifically, the final questionnaire was sent to all the Family Court Judges in Spain. A total of 92 questionnaires were mailed out (total of judges in Spain that deals with family matters, excluding High Court and Supreme Court judges because in these instances the child is not heard). Therefore, the answer rate was 68.48%.

Measures

In order to construct the instrument, after consecutive meetings between the five expert researchers in the field and the research team members, it was decided that the questionnaire should evaluate five areas: a) the child's evolutionary maturity; b) the setting of the interview; c) the stages of the interview; d) the interviewer's skills; and e) procedural matters.

The first of these areas evaluated refers to the complex, continuous, irreversible process by which the child acquires a series of skills (cognitive, motor, linguistic, social, affective...) until reaching maturity in adulthood. This organized process involves a series of changes or qualitative and quantitative "leaps" that are grouped in different developmental stages (prenatal, infancy, childhood, adolescence, youth, adulthood, and old age) through which we acquire a series of such important functions as postural control, language acquisition, abstract reasoning, or social interaction. Exploring the child's evolutionary level will mainly involve assessing the following areas: cognitive capacity, linguistic skills, and social-emotional skills.

The second area refers to all the elements and norms that make up the environment where the interview of the child takes place. It involves assessing the physical space (decoration of the interview setting, luminosity, noise, privacy, and temperature), temporal variables (duration of the interview), and the interviewer's personal introduction (physical aspects such as apparel, etc.).

The stages of the interview refer to the basic structure that is recommended to follow during an exploration interview. Three stages have been defined: initial contact, central, and closing. It involves aspects such as context or role definition.

Communication skills are the conditions that allow an interviewer to conduct an interview appropriately. On the one hand, this implies that information is properly collected, that is to say, that it serves the interview's purposes; and on the other, that it is properly returned to the interviewee, that is, that they understand correctly what the interviewer is trying to convey. Some of these skills are based on personality traits rather on a molar or molecular level, such as the ability to sympathize or generate openness in the other. Some others, though, are based on the proper use of technology or interviewing techniques, such as asking questions adequately, paraphrasing, or reflecting feelings. It is to the latter that we refer to in this research.

Procedural matters refer to the series or succession of actions conducted while exercising a jurisdictional function derived from law, jurisprudence, or legal doctrine.

The final questionnaire can be seen in the annex.

Procedure

Delimitation and definition of the different areas that the questionnaire should evaluate took place between December 2008 and February 2009. In March 2009, the five expert researchers in the field composed items independently that would assess the possible needs of judges during interviews with children. The experts generated a total of 157 items that were reviewed by the remainder of the research team as regards their format, composition, and intelligibility.

Once this process had been analyzed, in order to assess the validity of their contents, the five expert researchers in the field were requested to assess each item independently. The assessment involved assigning the items to one of the five areas defined on the one hand, and on the other, defining each item's degree of importance (Likert scale from 0 to 3; 0: no important; 1: little important; 2: quite important; and 3: very important). The experts agreed in 71 out of the 157 items evaluated according to the area assessed (15 in the child's evolutionary maturity, 16 in setting of the interview, 2 in stages of the interview, 34 in interviewer's skills, and 10 in procedural matters). Given that the "stages of the interview" area remained underrepresented in this first selection, it was decided to recover the items on whose area four of the expert researchers in the field had agreed. On the other hand, four additional items were also recovered, since the experts had considered they were quite or very important. Thus, the pilot test questionnaire was formed by 88 items.

The pilot test was carried out in June 2009. Since few judges in Spain work in family courtrooms (92 in total), only five family judges were requested to collaborate in the pilot test in order to reserve the population for the final study. The task requested of the five family judges was to assess intelligibility in the 88 items, degree of importance to evaluate the needs during judicial exploration of children (Likert scale from 0 to 3; 0: no important; 1: little important; 2: quite important; and 3: very important) and, finally, to assess the degree of agreement with the statement or item (Likert scale from 0 to 4; 0: totally disagree; 1: disagree; 2: indifferent; 3: agree; and 4: totally agree).

The items of the final instrument were selected according to the answers provided by the pilot test's sample. The conditions the items must comply with in order to be selected were the following: total agreement regarding the item's intelligibility and a sum of assessments over 10 regarding each item's importance. Bearing these criteria in mind, the final instrument was formed by 55 items. It can be seen in the annex, and table 1 shows item distribution according to the five areas evaluated by the questionnaire.

Table 1. Distribution of the 55 items of the definitive questionnaire according to the five areas evaluated.

Area	Number of items per factor	Items
Child's evolutionary maturity	11	1, 3, 4, 8, 13, 25, 32, 46, 49, 50 and 55
Setting of the interview	9	7, 21, 27, 33, 34, 43, 44, 45 and 48
Stages of the interview	5	2, 9, 40, 52 and 53
Interviewer's skills	23	5, 6, 12, 14, 15, 16, 17, 19, 22, 23, 24, 25, 26, 28, 29, 30, 35, 36, 41, 42, 47, 51 and 54
Procedural matters	8	10, 11, 18, 20, 31, 37, 38 and 39

The final questionnaire was mailed out in July 2009. A total of 92 questionnaires were sent out, in addition to an introduction letter and a brief explanation of the study. It was requested that the questionnaire be returned by mail. The questionnaire collection phase lasted until October 2009. It should be noted that a reminder was sent in September 2009 to all the courtrooms that had not returned the questionnaire yet. A total of 63 questionnaires were returned.

Data Analysis

All the data analyses have been conducted with the SPSS statistical package, version 19.0 for Windows and the EQS software, version 6.1 for Windows.

The number of questionnaires with 55 items answered was 40. Therefore, given that 36.51% of the total questionnaires answered were missing, it was decided to substitute omissions for a possible value in the measurement scale. More specifically, a maximum likelihood imputation for missing data technique was selected and the EQS software, version 6.1 for Windows was used to apply it.

The data analysis conducted can be divided in two phases: on the one hand, the psychometric study of the questionnaire; and on the other, a descriptive analysis of the answers provided by the studied sample. The psychometric analysis involved obtaining Cronbach's α coefficient as internal consistency for the reliability study, the item's discrimination index study, and the construct validity study based on the factor analysis, both exploratory and confirmatory. It is worth mentioning that the sample size is small for an analysis like this, yet it is robust. Besides, the sample is 68.48% of the study population, and therefore, increasing its size is difficult. The descriptive analysis involved obtaining means, medians, and their confidence intervals for each item and for the global score in each area.

Results

Psychometric Analysis

The reliability coefficient has been obtained on the global scale and for each separate area evaluated by the questionnaire as internal consistency, based on Cronbach's α coefficient, where the values obtained were as follows: child's evolutionary maturity, .717; setting of the interview, .280; stages of the interview, .541; interviewer's skills, .815; procedural matters, .321; and global questionnaire, .858. It can therefore be considered that, globally, the questionnaire presents good reliability as internal consistency, as well as in the "interviewer's skills" area. The "child's evolutionary maturity" area presents adequate reliability, whereas the remaining areas present inadequate reliability (Muñiz, 2005).

The item's discrimination index has been obtained on a global scale and for each area separately, along with the influence of removing the item in Cronbach's α coefficient. These values are shown in table 2. Ebel (1965) claims that if the discrimination index is over .40, the item's discrimination power can be trusted; if it is between .30 and .39, the item can be trusted but it should be improved; if it is between .20 and .29, the item should be reviewed; and if it is below .20, the item should be removed or completely modified. According to this criterion, in the "child's evolutionary maturity" area, 4 out of the 11 items do not present an adequate discrimination index; in the "setting of the interview" area, it occurs in 7 out of the 9 items; as regards the

“stages of the interview”, it occurs in 2 out of the 5 items; while in the “interviewer’s skills”, that is the case in 3 out the 23 items. Finally, in the “procedural matters” area, it happens in 6 out of the 8 items. On the global scale, 15 items do not present an adequate discrimination index. In addition, they are items already detected in the analysis by areas.

As regards the items’ influence in Cronbach’s α coefficient, none of the items seems to have great influence, since the item’s possible removal does not greatly modify the value of this coefficient. That is the case both in the global analysis and in the analysis by areas (see Table 2).

Table 2. Item discrimination index and effect on Cronbach’s alpha coefficient if item is deleted, both in the global analysis of the questionnaire and in the analysis by areas.

Area	Item	Global analysis (55 items)		Analysis by areas	
		ID	Cronbach’s Alpha if item deleted	ID	Cronbach’s Alpha if item deleted
Child’s evolutionary maturity	1	.485	.854	.305	.707
	3	.331	.856	.453	.684
	4	.396	.855	.182	.719
	8	.434	.853	.548	.665
	13	.463	.852	.677	.640
	25	.538	.855	.399	.707
	32	.388	.854	.107	.729
	46	.377	.854	.547	.666
	49	.431	.853	.570	.661
	50	.524	.852	.294	.707
55	.049	.861	.006	.754	
Setting of the interview	7	.385	.854	.146	.235
	21	.123	.860	-.059	.382
	27	.161	.858	.197	.226
	33	.072	.861	.093	.269
	34	.525	.853	.468	.111
	43	.112	.858	.115	.257
	44	.110	.861	-.119	.430
	45	.500	.854	.290	.193
48	.336	.856	.354	.184	
Stages of the interview	2	-.009	.862	.010	.756
	9	.413	.854	.273	.504
	40	.486	.854	.451	.419
	52	.557	.854	.618	.339
	53	.552	.853	.508	.385

Table 2 (continued). Item discrimination index and effect on Cronbach's alpha coefficient if item is deleted, both in the global analysis of the questionnaire and in the analysis by areas.

Area	Item	Global analysis (55 items)		Analysis by areas	
		ID	Cronbach's Alpha if item deleted	ID	Cronbach's Alpha if item deleted
Interviewer's skills	5	.382	.855	.413	.807
	6	.311	.856	.315	.814
	12	.312	.856	.335	.811
	14	.430	.854	.510	.803
	15	.493	.854	.490	.806
	16	.521	.853	.521	.802
	17	.482	.854	.558	.802
	19	.051	.860	.096	.825
	22	.545	.852	.552	.800
	23	.018	.861	-.138	.843
	24	.399	.854	.425	.806
	25	.538	.855	.559	.807
	26	.354	.855	.340	.814
	28	.655	.854	.758	.801
	29	.344	.855	.066	.833
	30	.589	.854	.643	.803
	35	.469	.854	.488	.805
	36	.450	.855	.520	.805
	41	.427	.855	.478	.806
	42	.553	.854	.716	.798
Procedural matters	47	.408	.856	.538	.808
	51	.472	.854	.502	.805
	54	.454	.854	.411	.807
	10	.069	.862	-.073	.400
	11	.296	.857	.402	.116
	18	.243	.858	-.013	.369
	20	.316	.856	.377	.154
	31	.207	.859	.299	.189
	37	-.001	.863	-.160	.434
	38	.094	.861	.199	.252
39	.324	.855	.086	.313	

The study of validity has been conducted from the perspective of construct validity based on an exploratory factor analysis (table 3 and figure 1) and a

confirmatory factor analysis of the expert judges' classification of items by areas (see Tables 4, 5, and 6, and Figure 2).

As an extraction method to perform the exploratory factor analysis, principal components with oblimin rotation was used, which converged at iteration 33. This shows that it has been difficult to reach the factorial solution. As shown in table 3 or figure 1, the items can be clustered together into five factors or areas that would explain 46.118% of the total variability. The first factor explains 22.192% and is basically formed by 12 items from "interviewer's skills", 4 items from "child's evolutionary maturity", and 5 items from "setting of the interview", according to the expert judges' classification. The second factor explains 8.785% of the total variability and is formed by 4 items from "child's evolutionary maturity", 2 items from "interviewer's skills", and 1 item from "setting of the interview", according to the expert judges' classification. The third factor explains 5.943% of the total variability and it is constituted by 1 item from "child's evolutionary maturity", 1 item from "interviewer's skills", and 5 items from "procedural matters". The fourth factor explains 4.729% of the total variability and it is formed by 2 items from "interviewer's skills", 2 items from "procedural matters", 1 item from "stages of the interview", and 1 item from "setting of the interview", according to the expert judges' classification. Finally, the fifth factor explains 4.470% and it is formed by 3 items from "child's evolutionary maturity", 6 items from "interviewer's skills", 4 items from "stages of the interview", and 4 items from "procedural matters", according to the expert judges' classification. Despite that, based on the exploratory factor analysis' results, it can be claimed that the items can be grouped into five factors, they do not match the classification proposed by the expert judges. The first factor would group items that refer to aspects of general knowledge needed to examine a child (General Interviewing Skills, GIS), as well as training needs, just like the fifth factor, although the latter involves specific contents (Specific Interviewing Skills, SIS). The second factor would group items related to the tools and skills the judges have when conducting the child's exploration (Interviewing Resources, IR). The third factor would refer to the bureaucratic aspects of a child's exploration (Bureaucratic Elements, BE). Finally, the fourth factor would refer to conditions of different nature under which to conduct the exploration (Unspecific Resources, UR).

Table 3. Exploratory factor analysis structure matrix with oblimin rotation (convergency at iteration 33).

Item	F1(GIT)	F2(IR)	F3(BE)	F4(UR)	F5(SIT)
1	.480	-.012	.054	.147	.479
2	.155	-.284	-.114	.407	-.066
3	.279	.593	.164	-.260	-.092
4	.482	-.166	.376	-.006	.464
5	.555	.015	.282	.045	.093
6	.195	.214	.193	.481	.116
7	.611	.084	.073	-.146	.190
8	.094	.808	.230	.058	.083
9	.252	.135	.089	.183	.545
10	-.092	.143	.084	.486	-.063
11	.096	.144	.759	-.032	.221
12	.229	.049	.495	.339	.129
13	.087	.838	.060	.110	.094
14	.444	-.208	.417	.047	.553
15	.503	-.071	.213	-.040	.569
16	.616	.216	-.019	-.033	.251
17	.579	-.049	.254	.023	.426
18	.254	.225	-.047	-.565	.404
19	-.004	-.047	-.036	-.126	.299
20	.085	.196	.591	.111	.252
21	-.022	.181	.104	-.156	.122
22	.460	.096	.135	-.190	.753
23	-.252	.273	.064	.059	.013
24	.484	-.011	.338	.407	.151
25	.748	.022	-.122	.132	.362
26	.239	.227	-.082	.431	.215
27	.466	.057	-.269	-.223	-.073
28	.853	.080	.138	.084	.315
29	.049	.795	-.012	.069	-.109
30	.804	.028	.093	.080	.286
31	.038	.244	.461	-.132	.116
32	.356	-.196	.281	-.007	.629
33	.144	.331	-.274	.126	-.154
34	.570	.327	.046	.240	.155
35	.464	-.061	-.107	.078	.682
36	.718	.001	-.054	-.072	.240
37	-.019	.192	-.419	-.107	.090
38	-.085	.208	.503	.379	-.160
39	.092	.292	-.127	.079	.513
40	.480	-.159	.233	-.025	.672
41	.481	.160	-.200	.279	.341

Table 3 (continued). Exploratory factor analysis structure matrix with oblimin rotation (convergency at iteration 33).

Item	F1(GIT)	F2(IR)	F3(BE)	F4(UR)	F5(SIT)
42	.567	-.092	.158	.094	.645
43	-.040	.067	.023	.066	.274
44	-.070	.118	-.114	.565	.221
45	.684	.059	.061	.049	.274
46	-.088	.809	.001	.259	.168
47	.606	-.077	.013	.181	.317
48	.590	-.091	.104	.300	.056
49	.216	.724	-.078	.093	.000
50	.610	.060	.262	.102	.335
51	.609	.172	.094	-.012	.246
52	.594	-.165	.191	.060	.715
53	.482	-.012	.277	.041	.606
54	.386	.057	.161	-.027	.531
55	.042	.073	-.595	.279	.176
% of explained variability	22.192	8.785	5.943	4.729	4.470

Criteria of adequation:

Kaiser-Meyer-Olkin: .074

Mauchly sphericity test: $\chi^2 = 3149.166$, $df = 1485$, $p < .001$

GIT: General Interviewing Tools. IR: Interviewing Resources. BE: Bureaucratic Elements. UR: Unspecific Resources. SIT: Specific Interviewing Tools.

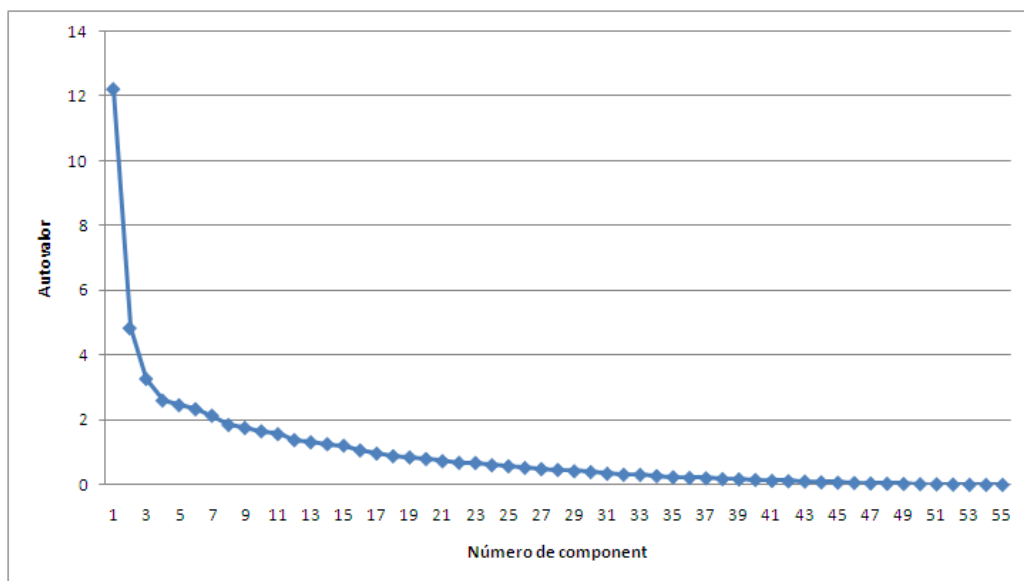


Figure 1. Scree plot obtained in the exploratory factor analysis.

As a parameter estimation method, Elliptical Reweighted Least Squares (ERLS) was used, due to the ordinal nature of the item measurement scale and the biased distribution of the answers given to some items (Bentler and Dijkstra, 1985). Moreover, the variance of the factors has been set to 1 in order to render the factor measurement scale. Finally, the analysis has been conducted under the assumption of correlated factors. This, the measurement model is an exogenous model with the following structure: $[X_i = \Lambda_x \xi_j + \epsilon_i]$ (Loehlin, 2004).

Table 4 shows the fit indexes obtained. As can be observed, the χ^2 statistic does not show good fit of the data to the proposed structure, since it is statistically significant. In any case, this is a very sensitive index to sample size (Bentler & Bonnet, 1980). For this reason, interpreting the quotient of χ^2 and their degrees of freedom is a better solution. In this case, it is 1.349, which indicates an adequate fit of the data to the structure evaluated according to Bentler (1989) and Bentler and Wu (1995), who consider that fit is adequate when this quotient is smaller than 5. On the other hand, BBNFI, CFI, and IFI tend to 1, which shows good fit (Schumacker & Lomax, 1996), and residual indicators (RMR, SRMS, RMSEA) tend to 0, which also shows a good fit of the model (Hu and Bentler, 1999).

Table 4. Fit indexes in the confirmatory factor analysis.

Fit Index	Value
Chi square	$\chi^2 = 1913.972$ $df = 1419$ $p < .001$ $\chi^2 / df = 1.349$
Bentler-Bonett Normed Fit Index (BBNFI)	.656
Bentler-Bonett Non-Normed Fit Index (BBNNFI)	.873
Comparative Fit Index (CFI)	.879
Bollen's Fit Index (BFI)	.881
McDonald's Fit Index (MFI)	.020
LISREL Goodness-of-Fit Index (GFI)	.474
LISREL Adjusted-Goodness-of-Fit Index (AGFI)	.429
Root Mean Squared Residual (RMR)	.139
Standardized Root Mean Squared Residual (SRMR)	.153
Root Mean Squared Error of Aproximation (RMSEA) with 90% confidence interval	.075 (.066 ÷ .083)

Table 5 shows the standardized factor loadings, which have been estimated based on the confirmatory factor analysis. As can be observed, in the “child’s evolutionary maturity” area, 6 out the 11 factor loadings estimated were not statistically significant; in the “setting of the interview” area, it occurs in 4 out of the 9 loadings estimated; in the “stages of the interview” area, in 1 out of the 5 loadings estimated; in the “interviewer’s skills” area, in 4 out of 23 loadings estimated; and finally, in the “procedural matters” area, it occurs in 4 out of the 8 loadings estimated.

Table 5. Standardized solution of factor loadings in the confirmatory factor analysis and proportions of variability explained by each item based on the factor solution (solution convergence at iteration 216).

Item	Child’s evolutionary maturity	Setting of the interview	Stages of the interview	Interviewer’s skills	Procedural matters	R ²
1	.102					.010
2			.110			.012
3	.602					.363
4	-.019					.000
5				.472		.222
6				.233		.054
7		.590				.348
8	.798					.636
9			.395			.156
10					-.009	.000
11					.721	.520
12				.278		.077
13	.852					.726
14				.594		.352
15				.640		.409
16				.557		.310
17				.639		.408
18					.129	.017
19				.129		.017
20					.674	.454
21		.024				.001
22				.669		.448
23				-.180		.032
24				.462		.213
25	.051			.703		.506
26				.279		.078
27		.346				.120
28				.797		.635
29				-.031		.001
30				.750		.563

Table 5 (continued). Standardized solution of factor loadings in the confirmatory factor analysis and proportions of variability explained by each item based on the factor solution (solution convergence at iteration 216).

Item	Child's evolutional maturity	Setting of the interview	Stages of the interview	Interviewer's skills	Procedural matters	R ²
31					.467	.218
32	-.089					.008
33		.130				.017
34		.591				.349
35				.625		.391
36				.630		.397
37					-.212	.045
38					.451	.204
39					.118	.014
40			.732			.535
41				.521		.271
42				.740		.548
43		.054				.003
44		.015				.000
45		.714				.510
46	.767					.589
47				.621		.385
48		.533				.284
49	.698					.487
50	.137					.019
51				.580		.337
52			.878			.771
53			.665			.443
54				.504		.254
55	.024					.001

Significant factor loadings are shown in bold.

Table 6. Matrix of correlations between the five areas.

	Child's evolutional maturity	Setting of the interview	Stages of the interview	Interviewer's skills
Setting of the interview	.280			
Stages of the interview	-.026	.636 *		
Interviewer's skills	.130	.905 *	.894 *	
Procedural matters	.356 *	.142	.379 *	.251

* Statistically significant correlation coefficients with $p < .05$.

Table 6 shows the correlation matrix between the five areas. Out of the 10 correlations estimated, five were statistically significant with a level of significance smaller than .05. More specifically, the following correlation coefficients were statistically significant: between “child’s evolutionary maturity” and “procedural matters” (.356); between “setting of the interview” and “interviewer’s skills” (.905); between “stages of the interview” and “setting” (.636); between “stages of the interview” and “interviewer’s skills” (.894); and between “stages of the interview” and “procedural matters” (.379).

Descriptive Study

The descriptive analysis of the answers given by the Family Court Judges involved obtaining the mean and median and their confidence intervals with a 95% level of confidence. The confidence interval of medians was obtained from the standard error method (Kendall, 1945; Mothes & Torrens-Ibern, 1970).

This analysis was conducted for each area’s total score and for each item. The total score was obtained in each area from the scores’ mean on the items that belong to the area (see Table 1). These confidence intervals are shown in Figures 2 to 7.

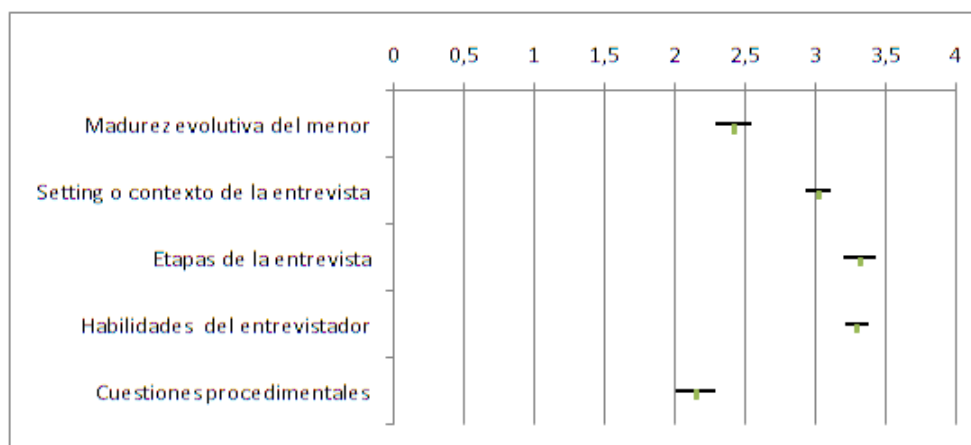


Figure 2. Confidence interval of means (upper graph) and medians (lower graph) for the scores on the five areas evaluated by the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

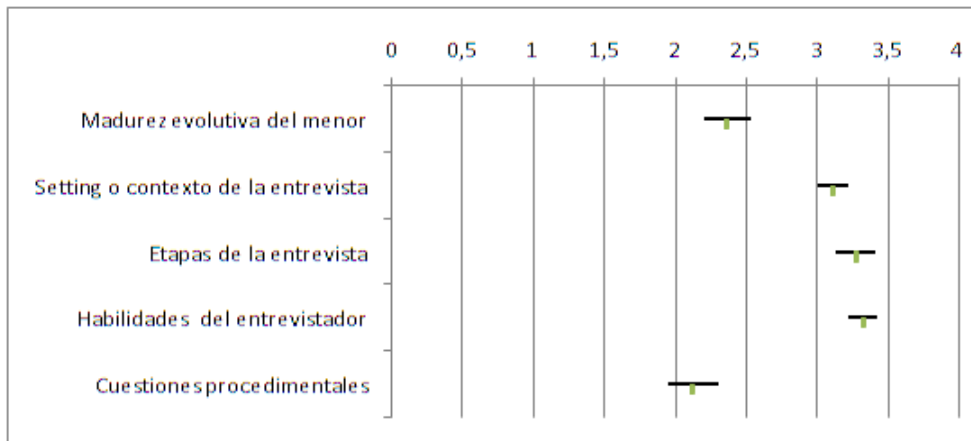


Figure 2 (continued). Confidence interval of means (upper graph) and medians (lower graph) for the scores on the five areas evaluated by the questionnaire to examine the judges' and magistrates' needs during judicial explorations of children.

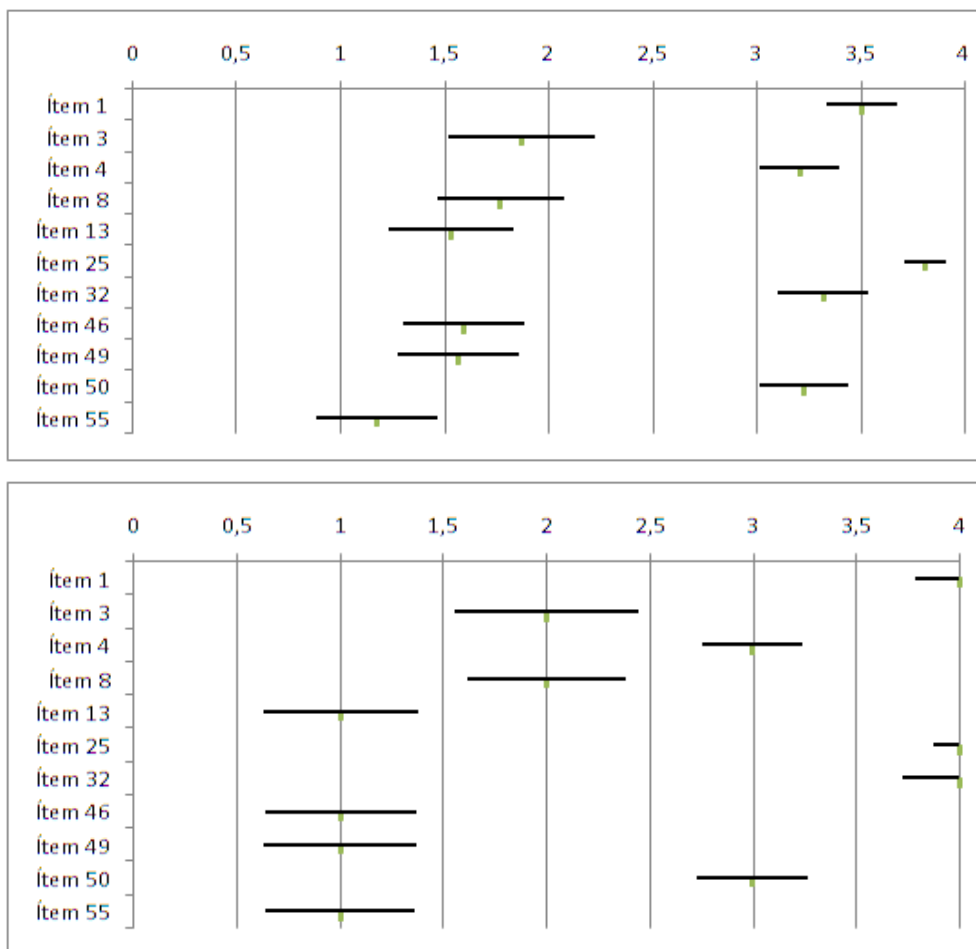


Figure 3. Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the "child's evolutionary maturity" area in the questionnaire to examine the judges' and magistrates' needs during judicial explorations of children.

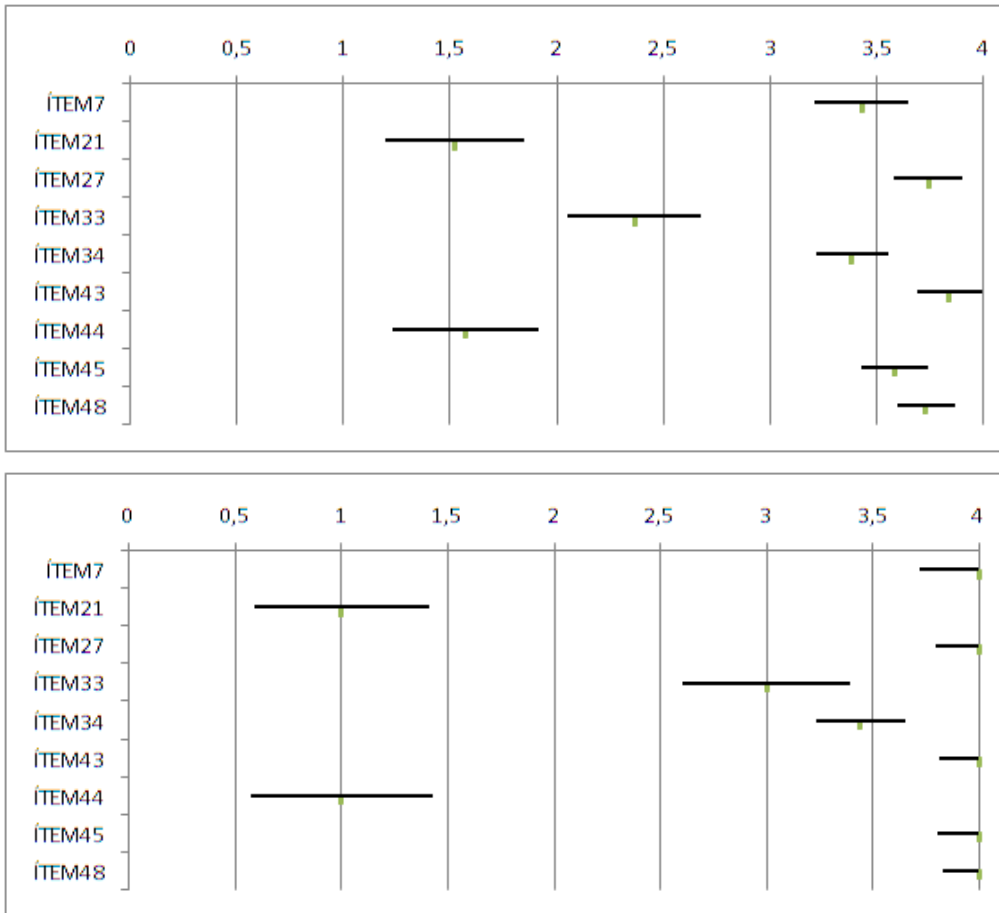


Figure 4. Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the “setting of the interview” area in the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

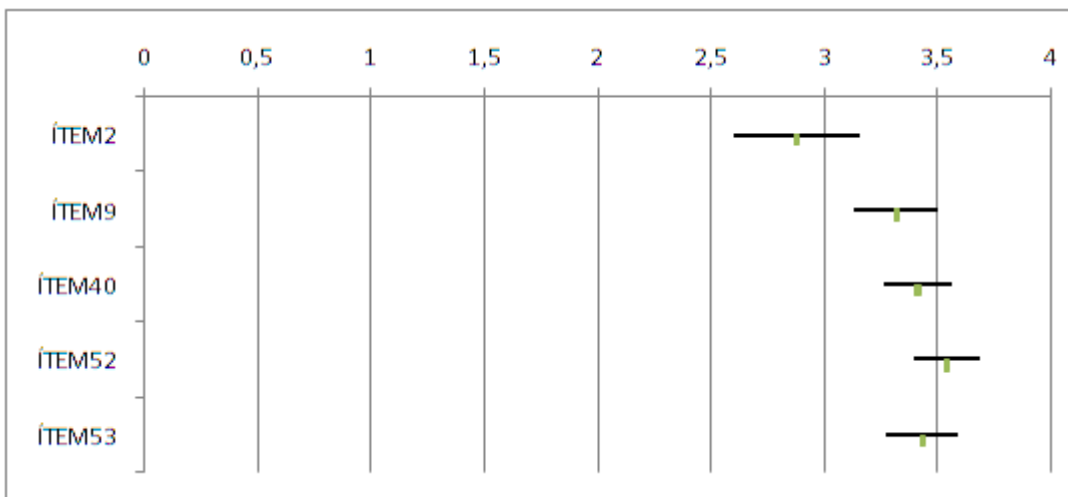


Figure 5. Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the “stages of the interview” area in the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

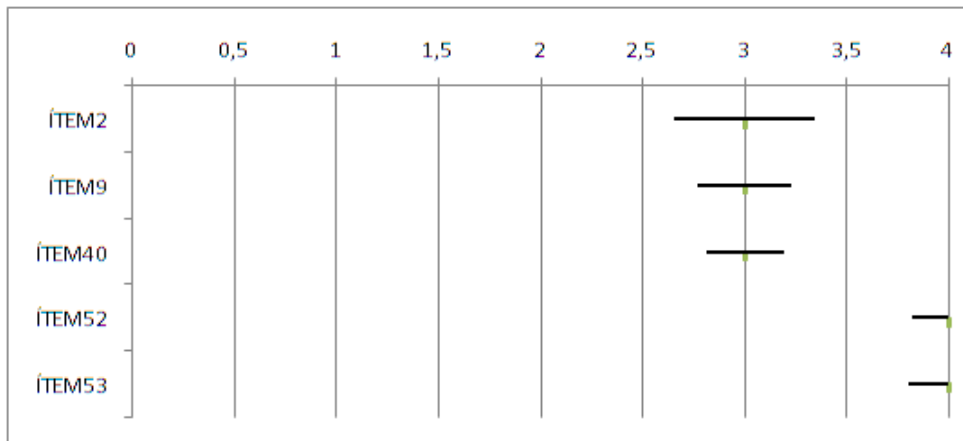


Figure 5 (continued). Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the “stages of the interview” area in the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

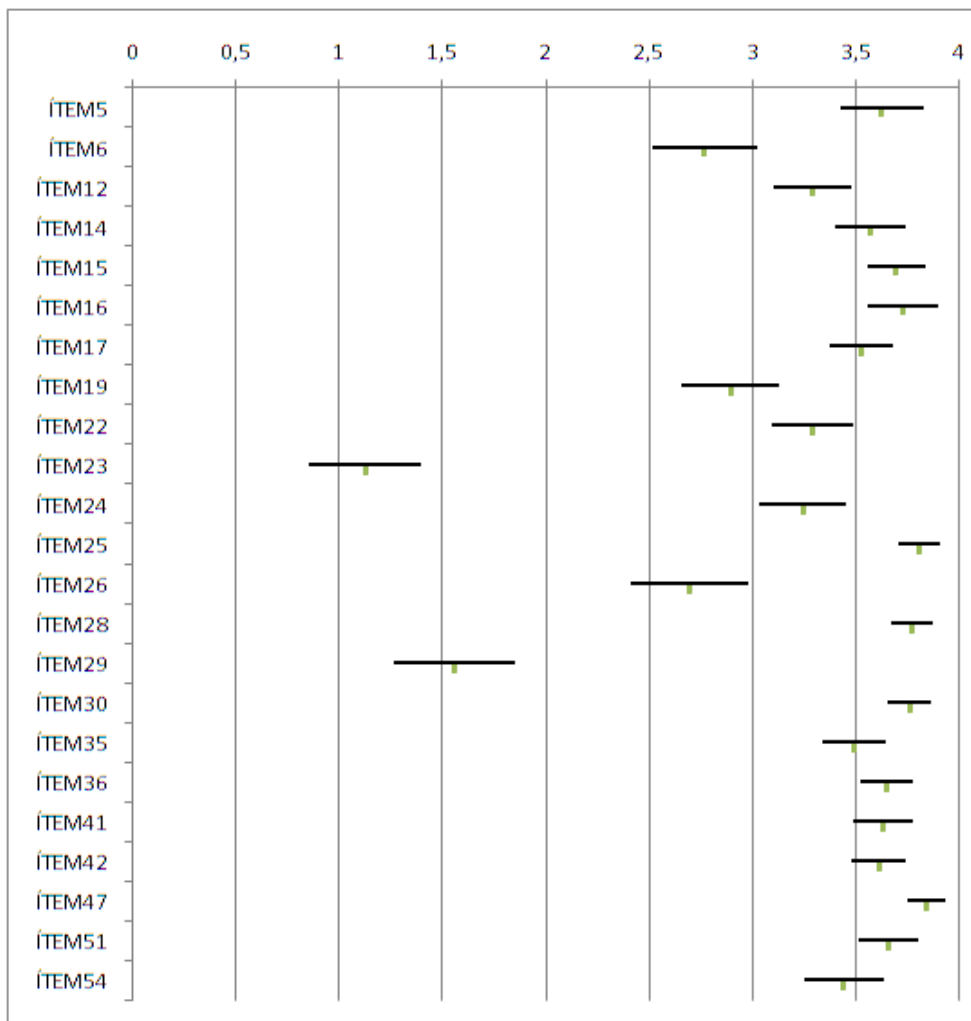


Figure 6. Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the “interviewer’s skills” area in the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

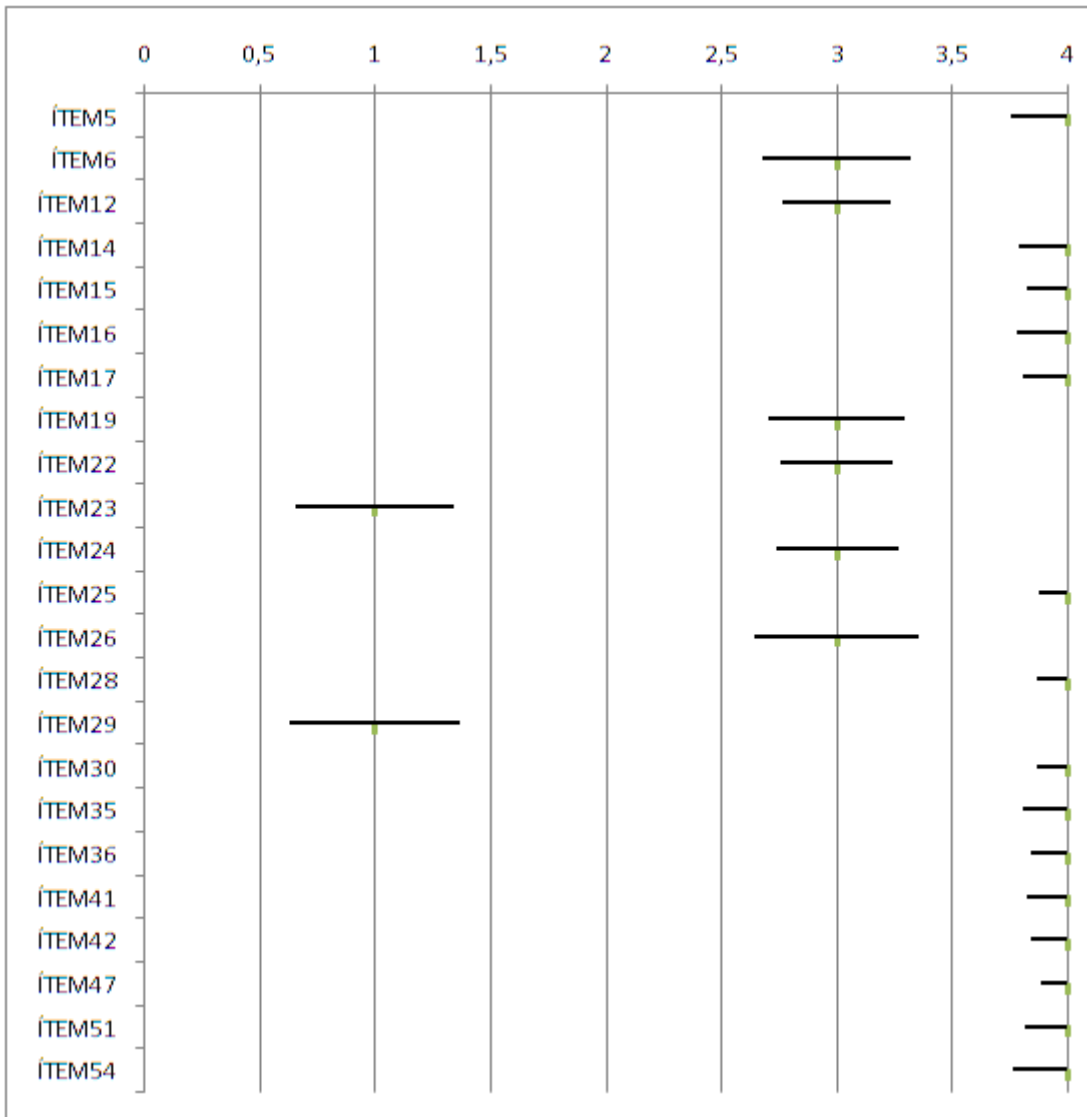


Figure 6 (continued). Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the “interviewer’s skills” area in the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

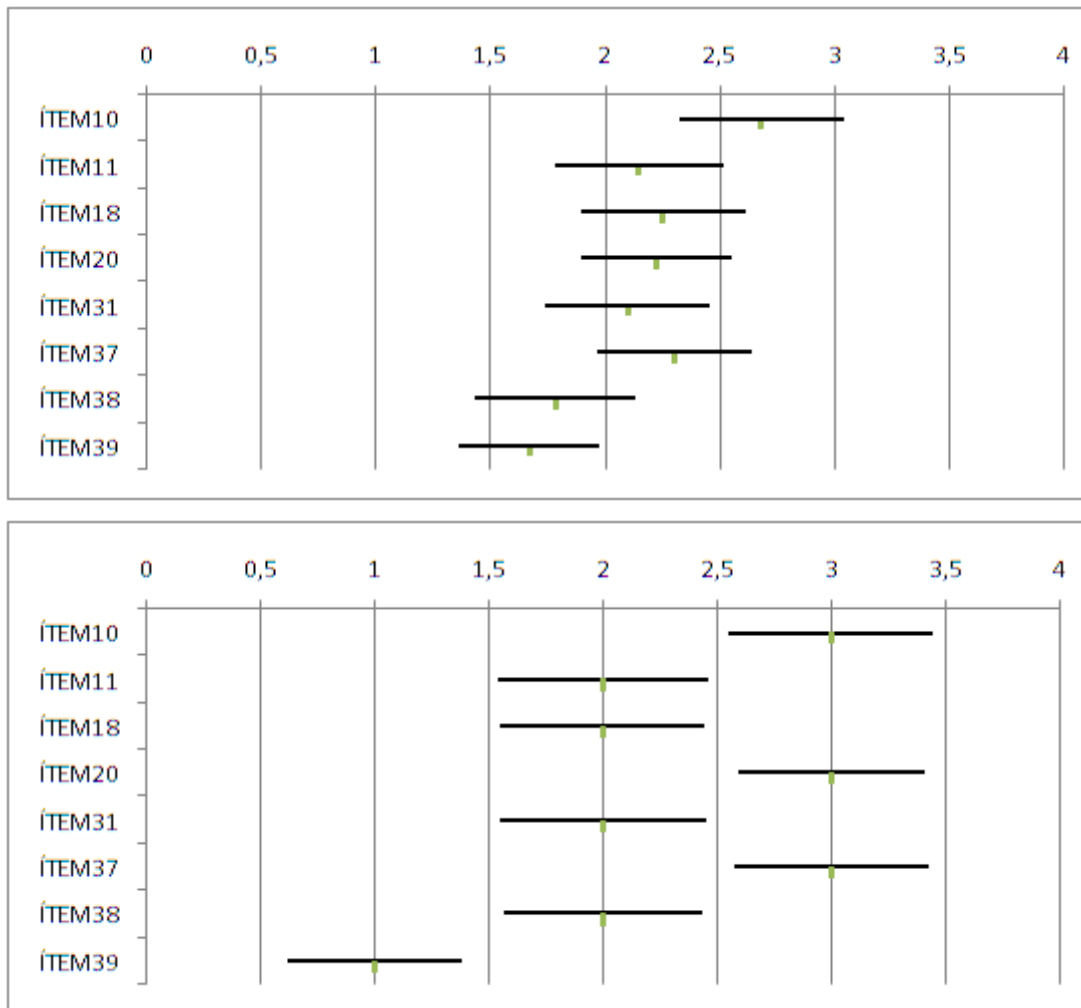


Figure 7. Confidence interval of means (upper graph) and medians (lower graph) for the scores on the items that form the “procedural matters” area in the questionnaire to examine the judges’ and magistrates’ needs during judicial explorations of children.

As can be observed in figure 2, the intervals obtained for the mean are very similar to those obtained for the median, and are very precise in all the areas. The areas on whose items the judges sample showed the greatest agreement are the “stages of the interview” and the “interviewer’s skills”; whereas the area where they agreed the least was “procedural matters”, followed by the “child’s evolutionary maturity”.

The confidence intervals of means and medians for the items throughout the areas do not show the same pattern (see Figures 3 to 7). For this reason, given the ordinal nature of the item measurement scale, interpreting the confidence intervals of the medians in all cases was considered more adequate.

Figure 3 shows the confidence intervals of means and medians of the items that belong to the “child’s evolutionary maturity” area. The judges show their greatest

agreement in this area on items 1, 25, and 32. In fact, in all three of them, the median equals the measurement scale's upper limit. In turn, the judges agree the least on items 13, 46, 49, and 55, where the median equals 1 in the four cases. For the remaining items, the medians are in the intermediate range of agreement. Therefore, it is apparent that the pattern of answer to the items in this area is not homogenic.

Figure 4 shows the confidence intervals of the means and medians of the scores given to the items of the "setting of the interview" area. By taking a closer look at the confidence intervals of medians, it can be seen that the median matches the maximum value of the answer scale in five out of the nine items (items: 7, 27, 44, 45, and 48); whereas the median is 1 in two items (21 and 44). The remaining two items present quite a high median, which shows the high degree of agreement on them.

As for the "stages of the interview" area, the degree of agreement with the five items of the area is quite high. In two out of the five items, the median is 4 (items 52 and 53), while for the remaining three items, the median is 3 (figure 5).

As regards the items that make up the "interviewer's skills" area (figure 6), the degree of agreement on the items is quite high. Only in two items is the median 1 (items 23 and 29), while in 6 items the median is 3, and 4 in 15 of the items (maximum score). That is to say, for over half of the items in this area, the judges from the sample studied show the maximum degree of agreement.

Finally, the confidence intervals of the mean and the median of the items from the "procedural matters" are shown in figure 7. As regards this area, in general, the degree of agreement on the items is lower. One of the 8 items shows a median of 1, 4 items present a median of 2, and 3 items present a median of 3.

Discussion

As a general conclusion, it should be noted that the answer rate of the questionnaire sent out to the sample of judges with exclusive family competences is very high, 68.48%.

As regards the psychometric study of the final instrument, several conclusions can be drawn. With respect to reliability as internal consistency, the scale shows good reliability on a global level, but this is not the case when the analysis is conducted by areas. In this sense, only two areas present good or adequate reliability ("interviewer's

skills” and “evolutional maturity”), which, on the other hand, are the ones with most items. As for the discrimination index, it should be noted that again the items function best in the “interviewer’s skills” and “child’s evolutional maturity” areas. Despite some items presenting discrimination values of little adequacy, it was decided to keep those in the data analysis conducted, since some of the areas might otherwise be underrepresented. The idea of a second administration with a reviewed second scale was ruled out, since it involved a second evaluation of almost the same sample with a very similar instrument, given the reference population size. This matter should be addressed in a future review of the present scale. As regards construct validity, it should be noted that the exploratory factor analysis provides a factor structure consistent with 5 areas, but inconsistent with those provided by the expert judges. Based on the confirmatory factor analysis, it can be concluded that the structure proposed by the expert judges has been confirmed. However, it would possibly be advisable to optimize the questionnaire since, despite fit indexes being generally adequate, not all the hypothesized factor loadings are statistically significant (number of statistically non-significant factor loadings: 6 out of 11 in the “child’s evolutional maturity” area; 4 out of 9 in the “setting of the interview” area; 1 out of 5 in the “stages of the interview” area; 4 out of 23 in the “interviewer’s skills” area; and 4 out of 8 in the “procedural matters” area).

It can therefore be claimed that the questionnaire generated is a good measurement instrument to explore the judges’ needs during the exploration of children, but that it can be modified in order to optimize it as an evaluation tool. In fact, these changes must involve redefining the items comprised in the following areas: “setting of the interview”, “stages of the interview”, and “procedural matters”. These areas present inadequate reliability, proportionally they have more items with an inadequate discrimination index, the most non-significant factor loadings in the confirmatory factor analysis, and in addition, they comprise the items without an adequate discrimination index.

As for the descriptive analysis, it should be noted that the areas where the judges show the greatest agreement are “stages of the interview” and “interviewer’s skills”, whereas the area where they agree the least is “procedural matters”. This aspect is consistent with a more precise analysis when describing the items for each of these areas. Logically, both in the “stages of the interview” and “interviewer’s skills” areas, the degree of agreement on the different items is quite high. The median has the

maximum score in two out of the five items in the “stages of the interview” area, and in fifteen out of the twenty-three items in the “interviewer’s skills” area. On the other hand, the items of the “procedural matters” area present, in general, the lowest degree of agreement. Lastly, the items of the “child’s evolutionary maturity” and “setting of the interview” areas are the least homogeneous, regarding the pattern of answer, in the degree of agreement of the judges from the studied sample.

Finally, it is considered advisable to reformulate the questionnaire to explore the needs of judges and magistrates during the explorations of children according to the results of the present study. The reformulated questionnaire should be administered once more in order to determine whether its psychometric properties improve.

Acknowledgements

This paper has been carried out thanks to a financial aid for research projects, studies, and analyses in the fields of penal execution, penal mediation, victim assistance, justice administration, and Catalan civil law granted by the *Generalitat*³ of Catalonia’s Center of Legal Studies and Specialized Training (DOGC: 5313 – 6.2.2009), and partly conducted by members of the *Grup de Recerca Consolidat en Tècniques Estadístiques Avançades Aplicades a la Psicologia* (Code: 2009 SGR 388).

References

- Bentler, P.M. (1989). *EQS structural equations program manual*. Los Angeles, CA: BMDP Statistical Software.
- Bentler, P.M., & Bonett, D.G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.
- Bentler, P. M., & Dijkstra, T. (1985). Efficient estimation via linearization in structural models. In P.R. Krishnaiah (Ed.), *Multivariate analysis VI* (pp. 9-42). Amsterdam: North-Holland.

³ Generalitat de Catalunya: the institution under which the autonomous community of Catalonia is politically organized.

- Bentler, P.M., & Wu, E.J.C. (1995). *EQS for windows user's guide*. Encino, CA: Multivariate Software, Inc.
- Budd, K.S., Felix, E.D., Sweet, S.C., Saul, A., & Carleton, R.A. (2006). Evaluating parents in child protection decisions: An innovative court-based clinic model. *Professional Psychology: Research and Practice*, *37*, 666-675.
- Ebel, R.L. (1965). *Measuring educational achievement*. Englewood Cliffs, N.J.: Prentice-Hall.
- Fitzgerald, J.M., & Moltzen, N. (2004). Psychological evaluation of the child's best interests: The interpretation of data in the preparation of child welfare reports in the New Zealand Family Court. *Psychiatry, Psychology and Law*, *11*, 214-225.
- Hita, L.C., Braver, S.L., Sandler, I.N., Knox, P., & Strehle, M. (2009). Family court-university partnership to benefit divorcing families: The experience of Maricopa County (Arizona) Family Court Department and Arizona State University's Prevention Research Center. *Family Court Review*, *47*, 436-450.
- Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55.
- Kendall, M.G. (1945). *The advanced theory of statistics. Volume I*. London: Charles Griffin & Company Limited.
- Loehlin, J.C. (2004). *Latent variable models: An introduction to factor, path, and structural equation analysis* (4th ed.). Mahwah, NJ: LEA.
- Lagarde, P. (1998). *Explanatory report on the 1996 Hague Child Protection Convention*. Den Haag: HCCC Publications. Retrieved October 1, 2008, from <http://hcch.e-vision.nl/upload/expl34.pdf>
- Ley Orgánica 1/1996, de 15 de Enero, de Protección jurídica del Menor, de Modificación parcial del Código civil y de la Ley de Enjuiciamiento Civil. *Boletín Oficial del Estado*, 17 de Enero 1996 (BOE núm. 0015).
- Ley 15/2005, de 8 de julio, por la que se modifican el Código Civil y la Ley de Enjuiciamiento Civil en materia de separación y divorcio. *Boletín Oficial del Estado*, 9 de Julio 2005 (BOE núm. 0163).
- McIntosh, J.E., Bryant, D., & Murray, K. (2008). [Evidence of a different nature: The child-responsive and less adversarial initiatives of the family court of Australia.](#) *Family Court Review*, *46*, 125-136.

- Mothes, J., & Torrens-Ibern, J. (1970). *Estadística aplicada a la ingeniería*. Barcelona: Ariel.
- Muñiz, J. (2005). Utilización de los tests. In J. Muñiz, A.M. Fidalgo, E. García-Cueto, R. Martínez, & R. Moreno (Eds.), *Análisis de los ítems* (pp. 133-172). Madrid: La Muralla, S.A.
- Schumacker, R.E., & Lomax, R.G. (1996). *A beginner's guide to structural equation modeling*. Mahwah, NJ: LEA.
- Ya-Hua, Y., Chia-Lin, Y., & Tsung-Chieh, M. (2009). "I am ready": A program to help the child witness prepare for court. *International Journal of Child Health and Human Development*, 2, 427-430.

Annex: Final questionnaire



CHILD COURT HEARING IN FAMILY CASES. QUESTIONNAIRE TO ASSESS THE CHILD NEEDS DURING THE JUDES EXPLORATION.

Creating a questionnaire to examine the needs during judicial explorations of children

Item Generation and Selection Process

Below, you will find a series of statements regarding the possible needs during judicial explorations of children. You are kindly requested to assess your degree of agreement regarding each statement in a 0 to 4 scale:

0. Totally disagree
1. Disagree
2. Indiferent
3. Agree
4. Totally agree

ID	Statement	Degree of agreement				
1	It is necessary to know the child's evolutionary periods.	0	1	2	3	4
2	Interviews with a child must always be prepared in advance.	0	1	2	3	4
3	Enough information is available regarding the child's characteristics and capacities before performing the exploration.	0	1	2	3	4
4	More information is needed regarding the child's language comprehension ability.	0	1	2	3	4
5	It is advisable not to run ahead of the child's answers, their silence must be respected.	0	1	2	3	4
6	It is advisable to repeat, from time to time, what the child says but in other words.	0	1	2	3	4
7	Appropriate rooms must be available to take declarations from the children.	0	1	2	3	4
8	In general, enough information is available regarding the child's capacities (memory, attention, reasoning...) according to their age.	0	1	2	3	4
9	The child must be told who you are, what your mission is, the goal of the exploration and how it is going to take place.	0	1	2	3	4
10	The Audiencia Provincial ⁴ must explore the child again if the first instance decision is to be changed.	0	1	2	3	4
11	A civil servant must take the minutes of the interview.	0	1	2	3	4
12	Working guidelines must be available in case a child gets aggressive during an interview.	0	1	2	3	4
13	Enough information is usually available regarding suggestion in childhood.	0	1	2	3	4
14	Training in child interviewing techniques is required.	0	1	2	3	4
15	A pleasant tone of voice must be used.	0	1	2	3	4
16	It is advisable to avoid inducing answers.	0	1	2	3	4
17	Guidelines must be available in order to pose the questions properly when exploring a child.	0	1	2	3	4
18	The result of the exploration must be kept in a sealed envelope.	0	1	2	3	4
19	It is advisable to check the accuracy of the information provided by the child by rephrasing the questions.	0	1	2	3	4
20	What the judge has construed during the exploration must be recorded.	0	1	2	3	4
21	The exploration can be carried out in the courtroom, but only after the trial has already finished.	0	1	2	3	4
22	It is advisable to know when to ask specific or generic questions.	0	1	2	3	4
23	It is advisable to make a value judgement of the child's behavior now and then.	0	1	2	3	4
24	Training must be provided to judges in order to improve their interpersonal skills when interviewing a child.	0	1	2	3	4
25	It is advisable to use understandable language according to the child's age.	0	1	2	3	4
26	At the end of each part of the exploration, what the child has said must be summarized to them, in their own words, to make sure they have been understood.	0	1	2	3	4
27	A minimum number of persons must be present when taking declaration from a child.	0	1	2	3	4
28	It is necessary to show an active understanding and listening attitude before the child explored.	0	1	2	3	4
29	Enough information is available regarding the possible influence of the judge's attitudes and skills during a child's exploration.	0	1	2	3	4
30	A proper attitude must be maintained toward the children when interviewing them.	0	1	2	3	4
31	The exploration minutes, with the child's verbatim declaration, must be added to the file.	0	1	2	3	4
32	Specialized training in children's characteristics and capacities is necessary.	0	1	2	3	4

⁴ Audiencia Provincial: courts located in each province of Spain.

ID	Statement	Degree of agreement				
33	The exploration must be carried out solely by one person.	0	1	2	3	4
34	Noise must be prevented from the room where the child's exploration is being carried out.	0	1	2	3	4
35	It is interesting to have guidelines and criteria at your disposal in order to pose questions to the child.	0	1	2	3	4
36	During the exploration, questions inducing the child to uncertain answers must be avoided.	0	1	2	3	4
37	The judicial exploration must be carried out even if the child provides a hand-written document stating they do not wish to be listened to.	0	1	2	3	4
38	The exploration minutes, comprising the judge's interpretation, must be added to the proceedings.	0	1	2	3	4
39	The exploration must be interrupted if the child mentions an event that would constitute a criminal offense.	0	1	2	3	4
40	It would be advisable to have a better knowledge regarding the best way to structure the different moments of a child's exploration.	0	1	2	3	4
41	It is advisable to maintain visual contact with the child during the interview.	0	1	2	3	4
42	Guidelines must be available in order to react if a child starts crying during the interview.	0	1	2	3	4
43	It is necessary to carry out the child's exploration without the presence of their parents.	0	1	2	3	4
44	Explorations to a group of brothers can be performed jointly.	0	1	2	3	4
45	A physical space in which there are no interruptions is necessary when making declaration to a child.	0	1	2	3	4
46	Enough information is available regarding children's memory and attention capacity before starting the exploration.	0	1	2	3	4
47	It is advisable to avoid legal technical terms during the child's exploration.	0	1	2	3	4
48	The exploration must be performed without wearing a gown.	0	1	2	3	4
49	Enough information is available regarding children's intellectual capacity before starting the exploration.	0	1	2	3	4
50	Information is needed regarding the possibility that children's declarations change with age.	0	1	2	3	4
51	It is advisable to avoid lecturing the child.	0	1	2	3	4
52	Information is needed on how to structure an interview with a child.	0	1	2	3	4
53	Children must be told why their declaration is wanted.	0	1	2	3	4
54	Interpersonal skills are required when interviewing a child.	0	1	2	3	4
55	A twelve-year-old child must always be considered mature.	0	1	2	3	4

IN SEARCH OF PSYCHOSOCIAL VARIABLES LINKED TO THE RECIDIVISM IN YOUNG OFFENDERS

Lourdes Contreras, Virginia Molina, and María del Carmen Cano.

University of Jaén (Spain)

(Received 20 April 2010; revised: 21 October 2010; accepted 25 October 2010)

Abstract

Most of the literature on juvenile delinquency is aimed to the identification of the protective and risk factors of the antisocial and criminal behaviors. In this line, a study was carried out to assess whether the family setting, personal variables of the youngster and variables linked to the judicial measure execution mediate in recidivism. For this reason, all the closed judicial files of the young offenders from the Service of Juvenile Justice in Jaén (Spain) have been analysed. The results showed that such family setting variables as broken homes, large families, low incomes, deprived neighborhoods, criminal records, drug abuse, children protection records and crime legitimacy are linked to recidivism. As for personal variables of the youngster, the findings illustrate that re-offenders are characterized by external attribution, deficits in social skills, deficits in self-control, violent behaviors and low tolerance to frustration. In relation to the judicial measure execution variables, data support that the non re-offenders are defined in contrast to re-offenders, by a high compliance with rules and timetables and with the established objectives, as well as a high family involvement during the judicial measure execution. The implications of the results for prevention of recidivism are discussed.

Keywords: Young offenders; Criminal behavior; Antisocial behavior, Juvenile delinquency; Recidivism; Risk factors; Protective factors.

Resumen

La mayoría de la literatura sobre la delincuencia juvenil está centrada en la identificación de los factores de riesgo y protección de la conducta antisocial y delictiva. En este sentido, se ha llevado a cabo un estudio con el objeto de evaluar si las variables del ámbito familiar, variables personales del/la menor y variables relacionadas con la ejecución de la medida judicial impuesta median la reincidencia delictiva. Para conseguir este objetivo, se han analizado todos los expedientes de menores infractores finalizados y archivados en el Servicio de Justicia Juvenil de Jaén (España). Los resultados mostraron que variables familiares como desestructuración familiar, antecedentes judiciales, de consumo de drogas, de protección de menores y normalización del delito en la familia están vinculadas a la reincidencia. Con respecto a las variables personales del/la menor, los datos muestran que los/las reincidentes se caracterizan por un locus de control externo, déficit en habilidades sociales, déficit en autocontrol, conductas violentas y baja tolerancia a la frustración. En relación con las variables de ejecución de la medida judicial, los datos señalan que los/las menores no reincidentes se caracterizan, a diferencia de los/las reincidentes, por un alto cumplimiento de las normas, horarios y objetivos establecidos, así como por una alta implicación familiar durante la ejecución de la medida judicial. Se discuten las implicaciones de los resultados para la prevención de la reincidencia.

Palabras clave: Menores infractores; Conducta delictiva; Conducta antisocial; Delincuencia juvenil; Reincidencia; Factores de riesgo; Factores de protección.

Introduction

The phenomenon of delinquency is inherent to all societies and cultures. Although its diverse manifestations rest too much on the characteristics of the context where it happens, undoubtedly there is a great concern about this topical issue. This concern is bigger and generates more impact when deal with juveniles who commit antisocial and criminal acts.

In this sense, it has been paid great attention to juvenile delinquency, basically analyzing the main risk and protection factors linked to this kind of behaviors (Andrews & Bonta, 2006; Farrington, 1996; Lösel & Bender, 2003; Simoes, Matos, & Batista-Foguet, 2008). These factors refer to the family setting, to the youngster's individual variables, to his/her group of peers, to the drugs consumption and to variables linked to the school area. There has been a special interest in the analysis of those variables related with the family and the individual setting, but also the relation of these variables with the criminal recidivism.

With regard to the family variables, several studies support that an appropriate family setting contributes to the development of adapted behaviors in juveniles (e.g., Amezcua, Pichardo, & Fernández, 2002). In the other hand, other studies stress the importance of family problems in the development of the delinquent behavior (e.g., Pacheco & Hutz, 2009). Factors like a greater family-size or to belong to a broken home promote maladjusted behaviors and more delinquency in youngsters (Cano, 2006; Rodríguez & Torrente, 2003). A poor family affection and poor family cohesion, a high degree of family conflict and a permissive parenting style are connected with the children's problematic behaviors (Rodríguez & Torrente, 2003; Villar, Luengo, Gómez, & Romero, 2003). There also are some parents' factors that influence the children's antisocial behaviors, like the drug abuse, the alcohol consumption (Kofler-Westergren, Klopff, & Mitterauer, 2010) or criminal behavior (Farrington, Coid, Jeremy, & Murray, 2009; Rutter, Giller, & Hagell, 1998). With regard to the drug consumption in the family context, the drug consumption parental model is considered a great risk factor that results in the teenager children's more disposition to experiment and get used to the alcohol and illegal drugs (Moral, Ovejero, & Pastor, 2004). The violence at home and parent' maladjusted behaviors are too risk factors for the antisocial behaviors of youngsters (García, 2008).

With regard to the youngster's individual characteristics that seem to be connected to the criminal behavior, those that have received more attention are the internal locus of control, the search of sensations, high impulsivity and low internalizing of rules (López & López, 2003; Monahan, Steingberg, Cauffman & Mulvey, 2009; Sobral, Romero, Luengo, & Marzoa). These youngsters tend to have difficulties to delay the satisfaction of their needs and they want everything at the moment (López & López, 2003). In the same way, from the point of view of the social competence, it is considered that the deficits in aspects like to be tolerant, autonomous, emotionally confident, supportive person and to observe the social rules and the social values, increase the risk of social and personal maladjustments in the future (López, Garrido, Rodríguez, & Paíno, 2002).

On the other hand, in addition to analyze the family variables and young offenders' psychological and behavioral peculiarities, it is also necessary to know the differential characteristics in these areas that have those juveniles who do not reoffend compared to those with a persistent criminal behavior. The recidivism rate is one of the aspects that can provide this information, and also indicate the effectiveness of the treatment applied to the young offender. In this sense, as it has been mentioned before, it is unquestionable the importance of the family and its involvement in the treatment with the young offender, as influential factors in this type of behaviors. In this line, various studies that connect the juveniles' recidivism with various family variables have been made (Álvarez, Balaña, & Becedóniz, 2008; Bravo, Sierra, & Del Valle, 2009; Giménez, Blatier, Paulicand, & Pez, 2008; Menéndez, Rodríguez, Becedóniz, Herrero, & Rodríguez, 2008; Mulder, Eddy, Bullens, & Van Marle, 2010). The results show that the greatest family problems appear in the case of young re-offenders, being the family support, with clear rules at home and a structured environment, factors highly linked to the not recidivism of young offenders (Carr & Vandiver, 2001). Connected with this, recent results affirm that, as regards to the lower probability of recidivism, the family collaboration and involvement is an especially important factor. Likewise, a high compliance with the established objectives in the treatment program is more present in those non re-offenders after the legal measure (Bravo et al., 2009).

So the main objective of this study is to analyze which variables are closely connected to the persistence or not persistence concerning offences through the differences between re-offenders and non re-offenders. Concretely, it is intended to exam

variables in the family setting, variables linked to the judicial measure execution and young offender's individual variables.

Method

Protocols

All the closed judicial files of the young offenders from the Service of Juvenile Justice of Jaén (Spain) have been analyzed, since the moment when the current Organic Law 5/2000 of Juveniles' Criminal Responsibility came into effects to nowadays. The judicial files referred to 456 young offenders, 398 males and 58 females, with an average of 15.84 years ($SD = 1.15$).

Design and procedure

An archival study with judicial files of young offenders was performed. Thus, a total of 658 files were analyzed, and from those, 202 were excluded because they involved the implementation of extralegal measures, being the total 456 judicial files. These files contain the following documents: the report of the Technical Team of the Prosecutor Office, the measure execution's report, the treatment report and the final report.

From the contents of these documents the following information was drawn:

- *Family variables*: broken home (yes vs. no), family-size (large \geq than three, yes vs. no), the main educational figure (e.g., father, mother, both parents), parenting style (e.g., authoritarian, permissive, democratic, overprotective, ambivalent), intra-family relations (normalized vs. conflictive), mistreatment records (yes vs. no), children protection records (yes vs. no), criminal records (yes vs. no), drugs consumption records (yes vs. no), crime legitimacy in the family (yes vs. no) y, socioeconomic situation (low, high, normal) and neighborhood (deprived vs. normalized).

- *Variables linked to the intervention during the judicial measure execution*: compliance with the established rules and timetables (yes vs. no), compliance with the established objectives (e.g., high, normal, low, and null). These variables refer to the regular attendance to the planned visits to the technicians, to follow the suggestions or the established rules, to get home in an appropriate hour (in the case of an opened legal measure), or to attend to the formative activities with a good achievement. It is also

included the family involvement (high, normal, low, null), that refers to follow the instructions given by the technicians in relation to the young offenders, to attend to the planned visits and to control and supervise the young offender's behavior.

- *Individual variables:* locus of control (internal vs. external), social skills (deficits vs. normal), self-control (deficit vs. normal), tolerance to frustration (high, normal, low, null), intra/extraversion and violent behavior (yes vs. no).

Although in general these documents offer information about all the variables, sometimes the information about some of them was not found.

Firstly, the descriptive analyses were made, which include the frequency and the percentage of all the variables. Then, the total of subjects was divided into two groups: re-offenders group ($N = 85$) and non re-offenders group ($N = 322$). The young offender is considered as a re-offender if he/she commits another crime during the execution of the judicial measure or when the measure has finished i.e., judicial and/or criminal recidivism. The follow-up time after the end of the judicial measure was two years.

Results

Family setting and recidivism rate

As regard to the family configuration, the results show that broken homes, $\chi^2(1, N = 406) = 8.05; p < .01, \phi = .147$, and large families, $\chi^2(1, N = 403) = 4.53; p < .05, \phi = .113$, differentiate the re-offender group (49.5% and 78.8%), (for broken homes and large family, respectively) from the non re-offender group (32% and 66%). In relation to the family economy and neighborhood, results illustrate a significant effect for the economical situation of the family, $\chi^2(1, N = 404) = 7.95; p < .01, \phi = .147$, showing lower incomes in re-offender families (62.7% vs. 44.5%, for re-offenders and non re-offenders, respectively), as well as a home localization $\chi^2(1, N = 398) = 17.145; p < .001, \phi = .214$, that it is deprived neighborhoods for re-offenders (51.8% vs. 26.6, for re-offenders and non re-offenders). No differences were observed between re-offenders and non re-offenders for the parenting styles, $\chi^2(4, N = 364) = 9.17; ns, \phi = .159$, the intrafamily relations, $\chi^2(1, N = 395) = 3.53; ns, \phi = .102$, and educational figure, $\chi^2(2, N = 346) = 2.03; ns, \phi = .077$. It is to highlight in relation to the educational figure, the practical absence of the father figure isolated (< 11%), resting on his/her mother exclusively or in both parents.

As for the family background, the highest percentage of these problems is localized in the re-offenders group, since it is significantly more frequent in the family the criminal records, $\chi^2(1, N = 402) = 10.92; p < .001, \phi = .172$, drugs consumption records, $\chi^2(1, N = 402) = 6.84; p < .01, \phi = .137$, children protection records, $\chi^2(1, N = 408) = 5.00; p < .05, \phi = .119$, and crime legitimacy in the family, $\chi^2(1, N = 405) = 9.40; p < .01, \phi = .160$, compared to the non re-offenders group. No significant differences between re-offenders and non re-offenders were found in the mistreatment records, $\chi^2(1, N = 412) = 2.20; ns, \phi = .082$.

Variables linked to the intervention during the legal measure execution and recidivism rate

Variables referred to the overall assessment about the judicial measure execution and their relations with the recidivism rate were analyzed. In this sense, it has been found that the compliance with rules and timetables, $\chi^2(1, N = 397) = 47.58; p < .001, \phi = -.355$, compliance with the established objectives, $\chi^2(1, N = 396) = 43.03; p < .001, \phi = -.336$, and a high family involvement during the legal measure execution, $\chi^2(1, N = 281) = 9.99; p < .01, \phi = -.197$, (60.7%), is significantly higher in the non re-offenders group (91.5%, 74% and 60.7% for achievement of rules and timetables, achievement of the objectives, and family involvement, respectively) compared to the re-offenders group (40%, 33.8% and 37.1%).

Young offender's individual variables and recidivism rate

Locus of control, $\chi^2(1, N = 403) = 13.70; p < .001, \phi = -.202$, social skills, $\chi^2(1, N = 392) = 6.63; p < .01, \phi = .137$, self-control, $\chi^2(1, N = 362) = 12.58; p < .001, \phi = .194$, violent behaviors, $\chi^2(1, N = 391) = 6.82; p < .01, \phi = .140$, and tolerance to frustration $\chi^2(1, N = 403) = 13.92; p < .001, \phi = -.209$, discriminate significantly re-offenders of non re-offenders. In short, re-offenders exhibit, in contrast with non re-offenders, a tendency to an external attribution (56.3% vs. 31.8%, for re-offenders and non re-offenders, respectively), deficits in social skills (41.5% vs. 26.1%), deficits in self-control (75.7% vs. 51.7%), violent behaviors (32.5% vs. 18.3%), and a low tolerance to frustration (51.5% vs. 22.9%). No differences, $\chi^2(1, N = 345) = 0.00; ns, \phi = .010$, were found between re-offenders and non re-offenders in intra/extraversion variable.

Discussion

An objective considered in this study was to identify the family characteristics closely connected to the persistence or non-persistence of offences, namely, variables which define families of both young re-offenders and non-re-offenders. In this line, the large families and a broken home are more common in the re-offenders group, results which agree with those that appear in the recent literature, since these variables promote maladjusted behaviors and more delinquency in juveniles (Cano, 2006; Rodríguez & Torrente, 2003). The main educational figure are both the parents and the mother alone in both groups, data which are similar to those obtained in other studies (e.g., Menéndez et al., 2008). On the other hand, the intra-family relations tend to be troubled in the re-offender group. It is also observed that the family with criminal records, drugs consumption records, any of the children's protection records and crime legitimacy is more frequent in this group, compared to the non re-offender group. These results ratify what other authors have reported in previous researches (e.g., Kofler-Westergren, Klopff, & Mitterauer, 2010; Menéndez et al., 2008; Mulder et al., 2010; Pacheco & Hutz, 2009). Finally, those in the re-offenders group have a lower economic situation and a home in a deprived neighborhood, unlike the non re-offender group, where most of them have a normal economic situation and a home in a non-deprived neighborhood. This stress the influence that community and neighborhood exert as protective or risk factor of delinquent behavior (Fariña, Arce, & Novo, 2008).

Therefore, it could be concluded that the obtained results confirm that the most serious problems appear in the juveniles' families with persistent criminal behavior (Álvarez et al., 2008; Bravo et al., 2009; Menéndez et al., 2008). However, it can not be associated exclusively the young offender's offenses with these variables, because a great number of juveniles from the total sample belong to families that have no special difficulties in the family dynamic and functioning (Álvarez et al., 2008). Nevertheless, these socio-familiar factors seem to be crucial in the young offenders' social rehabilitation once they are immersed in the criminal world. That is, these factors seem to show a considerable influence on the fact that the young offender neither accepts the offence nor accomplishes efficiently the imposed judicial measure, and also, on the fact that he/she commits a second offence. In this sense, the troubled family panorama that has been described is more usual in persistent young offenders. Logically, if the young

offender belongs to a broken home, with troubled relation and poor family supervision, and in a criminal context due to any family member has criminal records, it is easy to understand that this young offender does not consider the offence very important, because he/she perceives it like something both usual and familiar. Under these circumstances, the young offender probably will not find neither the necessary support nor the best environment to overcome the difficulties which caused that he/she involved in criminal activities.

It was also interesting to know the global assessment about the judicial measure execution and its relation with the recidivism rate. Results show that the compliance with rules and timetables, and with the objectives which were established in the sentence, is higher in the non re-offender group. The family involvement among non re-offenders tends to be high, whereas a low implication of the family in his/her rehabilitation is typical of the re-offender group. These data are very similar to those obtained by other authors (e.g., Bravo et al., 2009; Van Domburgh, Loeber, Bezemer, Stallings, & Stouthamer-Loeber, 2009). Thus, as expected, it seems that to fulfil the timetables, the rules and the established objectives, that is, the young offender has a responsible behavior with respect to the legal measure execution, is a very important factor to prevent him/her from re-offending. This responsible behaviors refer to the regular attendance to the planned visits to the technicians, to follow the suggestions or the established rules, to get home in an appropriate hour (in the case of an opened legal measure), or to attend to the formative activities with a good achievement. The same effect has been observed with the family involvement, that is, to follow the instructions given by the technicians in relation to the young offenders, to attend to the planned visits and to control and supervise the young offender' behavior, seem to be a critical factor to prevent the recidivism. In short, results highlight the fundamental role that the family plays in tertiary prevention.

Our study has verified, in the step from non re-offenders to re-offenders, the link established in the literature between antisocial and criminal behaviors with external locus of control, high scores in search of sensations, low self-control, low tolerance to frustration and a low internalization of rules (López & López, 2003; Monahan et al., 2009; Sobral et al., 2000). These characteristics, which inevitably lead to be an impulsive person, may be a determining combination of factors for the involvement in high risk

behaviors, and finally, antisocial and criminal behaviors (e.g., Sobral et al., 2000), and, accordingly to our results, in re-offending.

Nevertheless, some limitations of the present study must be pointed out. In this respect, at least three circumstances, which could limit the results obtained from the recidivism data, should be taken into consideration: the youngster who commits another crime in a different province is not detected by this procedure (although this possibility is very low); the youngster reoffends but he/she is not caught, or the youngster reoffends when he/she becomes an adult. Likewise, as regards the generalization of the findings, they resemble to a great extent those obtained in other similar studies. Lastly, some data are not based on reliable and valid instruments or official records; thus, the validity of the technicians' criterion in the assessment cannot be guaranteed. However, these are the product of the agreement between two technicians and are based on administration and social categorization (i.e., deprived neighborhoods).

As a comprehensive conclusion, the results of this research verify that the family setting is an essential factor in juveniles' education and socialization, acting as a risk or a protection factor of the criminal behavior (e.g., Andrews & Bonta, 2006; Farrington & Welsh, 2003; Lösel & Bender, 2003; Patterson, Reid, & Dishion, 1992; Ross & Fabiano, 1985). It is necessary, on the one hand, to promote the prevention in this field, designing effective programs of detection and treatment with high risk families, and, by this way, to prevent as possible the involvement of children and teenagers in problematic behaviors in the future (Moffit, Caspi, Harrington, & Milne, 2002; Redondo, Pérez, & Martínez, 2007). On the other hand, it is recommended to aim a great part of the efforts to involve the family in the social rehabilitation of the young offenders during the educational intervention with them, as well as to try to drop the present risk factors and to increase the potential protection factors. In this line, several authors confirm that the parents' training is effective in reducing the juvenile delinquency (Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009).

It is also interesting to continue deepening in the psychological aspects linked to the juvenile antisocial and antisocial behavior, as well as to look for new factors that can be in the base of these behaviors.

References

- Álvarez, A., Balaña, P., & Becedóniz, C. (2008). Familia y grupo de iguales en la adaptación del menor infractor. In F.J. Rodríguez, C. Bringas, F. Fariña, R. Arce, & A. Bernardo (Eds.), *Psicología jurídica. Entorno judicial y delincuencia* (pp. 173-178). Oviedo: Servicio de Publicaciones de la Universidad de Oviedo.
- Amezcuca, J. A., Pichardo, M.C., & Fernández, E. (2002). Importancia del clima social familiar en la adaptación personal y social de los adolescentes. *Revista de Psicología General y Aplicada*, 55, 575-590.
- Andrews, D.A., & Bonta, J. (2006). *The psychology of criminal conduct* (4th ed.). Cincinnati, OH: Anderson Publishing Co.
- Bravo, A., Sierra, M.J., & Del Valle, J. (2009). Evaluación de resultados de la ley de responsabilidad penal de menores. Reincidencia y factores asociados. *Psicothema*, 21, 615-621.
- Cano, M.C. (2006). Factores psicosociales relacionados con la conducta antisocial en menores. In Y.M. De la Fuente & M.P. Martín (Eds.), *Menores en riesgo. Reflexiones teóricas y ámbitos de intervención desde la perspectiva de género* (pp. 191-208). Jaén: Editorial Blanca.
- Carr, M., & Vandiver, T. (2001). Risk and protective factors among youth offenders. *Adolescence*, 36, 409-426.
- Fariña, F., Arce, R., & Novo, M. (2008). Neighborhood and community factors: Effects on deviant behavior and social competence. *The Spanish Journal of Psychology*, 11, 78-84.
- Farrington, D.P. (1996). Psychosocial influences on the development of antisocial personality. In G. Davies, S. Lloyd-Bostock, M. McMurrin, & C. Wilson (Eds.), *Psychology, law and criminal justice: International development in research and practice* (pp. 424-444). Berlin: Walter de Gruyter.
- Farrington, D.P., Coid, J., Jeremy. W., & Murray, J. (2009). Family factors in the intergenerational transmission of offending. *Criminal Behaviour and Mental Health*, 19, 109-124.
- Farrington, D.P., & Welsh, B.C. (2003). Family-based prevention of offending: A meta-analysis. *Australian and New Zealand Journal of Criminology*, 36, 127-151.

- García, O. (2008). *La delincuencia juvenil ante los juzgados de menores*. Valencia: Tirant lo Blanch.
- Giménez, C., Blatier, C., Paulicand, M., & Pez, O. (2008). Self-reported delinquency and family factor. *Revue de Psychoéducation*, 37, 47-76.
- Kofler-Westergren, B., Klopff, J., & Mitterauer, B. (2010). Juvenile delinquency: Father absence, conduct disorder and substance abuse as risk factor triad. *The International Journal of Forensic Mental Health*, 9, 33-43.
- López, C., & López, J. (2003). Rasgos de personalidad y conducta antisocial y delictiva. *Psicopatología Clínica Legal y Forense*, 3, 5-19.
- López, M.J., Garrido, V., Rodríguez, F., & Paíno, S. (2002). Jóvenes y competencia social: Un programa de intervención. *Psicothema*, 14, 155-163.
- Lösel, F., & Bender, D. (2003). Protective factors and resilience. In D.P. Farrington & J.W. Coid (Eds.), *Early prevention of antisocial behaviour* (pp. 130-204). Cambridge, MA: Cambridge University Press.
- Menéndez, B., Rodríguez, M.J., Becedóniz, C., Herrero, F.J., & Rodríguez, F.J. (2008). Menores infractores reincidentes: Análisis de la incidencia de los factores psicosociales. In F.J. Rodríguez, C. Bringas, F. Fariña, R. Arce, & A. Bernardo (Eds.), *Psicología jurídica. Entorno judicial y delincuencia* (pp.189-196). Oviedo: Servicio de Publicaciones de la Universidad de Oviedo.
- Moffit, T.E., Caspi, A., Harrington, H., & Milne, B.I. (2002). Males on the life-course persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology*, 14, 179-207.
- Monahan, K.C., Steingberg, L., Cauffman, E., & Mulvey, E.P. (2009). Trajectories of antisocial behavior and psychosocial maturity from adolescence to young adulthood. *Developmental Psychology*, 45, 1654-1668.
- Moral, M.V., Ovejero, A., & Pastor, J. (2004). Modelado familiar y del grupo de iguales sobre la experimentación juvenil con sustancias psicoactivas. *Boletín de Psicología*, 81, 33-68.
- Mulder, E., Brand, E., Bullens, R., & Van Marle, H. (2010). A classification of risk factors in serious juvenile offenders and the relation between patterns of risk factors and recidivism. *Criminal Behaviour and Mental Health*, 20 23-28.
- Pacheco, J.T., & Hutz, C.S. (2009). Family variables that predict antisocial behavior in adolescent who committed criminal transgressions. *Psicología: Teoría e Pesquisa*, 25, 213-219.

- Piquero, A., Farrington, D.P., Welsh, B., Tremblay, R., & Jennings, W. (2009). Effects of early family/parental training programs on antisocial behavior and delinquency. *Journal of Experimental Criminology*, 5, 83-120.
- Redondo, S., Pérez, M., & Martínez, M. (2007). El riesgo de reincidencia en agresores sexuales: Investigación básica SVR-20. *Papeles del Psicólogo*, 28, 187-195.
- Rodríguez, A., & Torrente, G. (2003). Interacción familiar y conducta antisocial. *Boletín de Psicología*, 78, 7-19.
- Rutter, M., Giller, H., & Hagell, A. (1998). *Antisocial behavior by young people*. Cambridge: Cambridge University Press.
- Simoës, C., Matos, M.G., & Batista-Foguet, J.M. (2008). Juvenile delinquency: Analysis of risk and protective factors using quantitative and qualitative methods. *Cognition, Brain, Behavior. An Interdisciplinary Journal*, 12, 389-408.
- Sobral, J., Romero, E., Luengo, A., & Marzoa, J. (2000). Personalidad y conducta antisocial: Amplificadores individuales de los efectos contextuales. *Psicothema*, 12, 661-670.
- Van Domburgh, L., Loeber, R., Bezemer, D., Stallings, R., & Stouthamer-Loeber, M. (2009). Childhood predictors of desistance and level of persistence in offending in early onset offenders. *Journal of Abnormal Child Psychology*, 37, 967-980.
- Villar, P., Luengo, M.A., Gómez, J.A., & Romero, E. (2003). Una propuesta de evaluación de variables familiares en la prevención de conducta problema en la adolescencia. *Psicothema*, 15, 581-588.

Instructions

Presentation

The *European Journal of Psychology Applied to Legal Context*, the Official Journal of the Sociedad Española de Psicología Jurídica y Forense, publishes empirical articles, theoretical studies and focused reviews of topics dealing with psychology and law (e.g., legal decision making, eyewitness). Only original papers (not published or submitted elsewhere) will be published. Papers driven to both legal systems, inquisitorial and adversarial, will be welcome as well as papers based in concrete laws of a European country. Neither the Editors nor Publishers accept responsibility for the views or statements expressed by the authors.

Paper submission

Manuscripts should be submitted electronically to the Editors to the e-mail address of the journal (ejpalc@usc.es). Postal address should be used exceptionally (The European Journal of Psychology Applied to Legal Context, Facultad de Psicología, Universidad de Santiago de Compostela, E-15782 Santiago, Spain). Submission of a paper to this journal implies that it represents original work not previously published, and that it is not being considered elsewhere for publication.

Review

The manuscripts will be reviewed by two external blind referees. The reviews are anonymous for authors and reviewers. Author identities will be removed before sending out a manuscript to the reviewers.

Copyright

Authors submitting a manuscript do so with the understanding that if it is accepted for publication the copyright of the manuscript, including the reproduction of the paper in all forms and media, shall be transferred to the publisher.

Permissions and responsibility

The author is responsible for obtaining permission necessary to quote from other works, to reproduce material already published, and to reprint from other publications. The opinions expressed and the contents of the paper are under exclusive responsibility of the author(s) and do not reflect the point of view of The European Journal of Psychology Applied to Legal Context.

Style

Manuscripts must adhere to the instructions on references, tables, figures, abstract, format, narrative style, etc. as described in the Publication Manual of the American Psychological Association (5th edition). Manuscripts that do not fit to the style set forth in this manual will not be considered for publication.

Check list of requirements

The abstract should be 150-200 words.

Title page (include the authors' name, affiliations, full contact details).

Full paper text (double spaced with numbered pages and anonymised).

References (APA style).

Tables and figures placed at the end of the paper or attached separately.

CONTENTS

Articles

- Anger and self-reported delinquency in university students
Clive R. Hollin, Christopher Marsh, and Claire A. J. Bloxson 1
- The conditions of respect of rules in young and elderly drivers:
An exploratory study
Sandrine Gaymard, Philippe Allain, François Osiurak, and Didier Le-Gall 11
- Magistrates' beliefs concerning verbal and non-verbal
behaviours as indicators of deception
Andrew Brownsell and Ray Bull 29
- Child court hearings in family cases: Assessment questionnaire
of child needs during pre-trial proceedings
*Joan Guàrdia, Maribel Però, Sònia Benítez, Adolfo Jarne,
Mercedes Caso, Mila Arch, Asunción Molina, and Álvaro Aliaga* 47
- In search of psychosocial variables linked
to the recidivism in young offenders
Lourdes Contreras, Virginia Molina, and María del Carmen Cano 77