

Risk factors and youth recidivism prediction in general and property offenders

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Abstract

The predictive validity of risk factors for recidivism in general offenders is well known, but few studies have considered specific crimes, such as non-violent property offenders. In this study we analysed the prediction of risk factors on recidivism among general and property offenders in an attempt to capture any motivation differences underlying diverse types of crimes. Subsamples of theft and property damage offenders were extracted from a general population of 210 juvenile offenders aged between 14 and 18 years. All of them were assessed by the YLS/CMI Inventory and their recidivism rates were evaluated in terms of number of new records in a 24-month follow-up period. Factors pertaining to the Big Four (especially the antisocial peers risk factor) seem to be the most predictor factors for both general offenders and non-violent property offenders. The variable type of crime does not seem to make a clear difference to youth offenders' needs.

Keywords

Risk, recidivism, YLS/CMI Inventory, general offenders, property offenders.

Introduction

Youth reoffending rates in Spain (where minors from 14 to 17 years old are judged under the juvenile system) range between 5 and 34%, depending on the type of crime (Capdevila, Ferrer & Luque, 2005; Iborra, Rodríguez, Serrano & Martínez, 2011; Ortega-Campos, García-García & Frías-Armenta, 2014). In this context, intervention to decrease youth recidivism is critical to help prevent young people from continuing their criminal career into adulthood on a life-course-persistent trajectory (Moffit, 2006).

In this sense, determining the level of risk in youth offending becomes crucial for predicting recidivism (Cuervo & Villanueva, 2015; Schwalbe, Gearing, Mackenzie, Brewer & Ibrahim, 2012; Wilson & Hoge, 2013b). This risk assessment is essential if we are to respect the risk and the needs principles (Andrews & Bonta, 2010; Andrews, Bonta & Hoge, 1990). It has been shown that some interventions with low-risk youths can produce poor results, whereas the same interventions addressed to high-risk offenders yield positive results. Moreover, intervention targets must be matched to criminological needs in youth. A comprehensive assessment can identify relevant risk factors for treatment, suitability of educational measures in juvenile courts and intervention in juvenile justice facilities. In this study, risk predictive factors are analysed in general (all types of crimes) and in property offending groups, in order to obtain a clear picture of specific profiles and needs of youth offenders that may help define specific intervention profiles.

This risk assessment is mainly based on the presence of risk factors in the youth's life contexts. Social learning theories (Andrews & Bonta, 2006; Catalano & Hawkins, 1996) aim to structure the wide range of risk factors in youth recidivism. One perspective of social learning theories attempts to provide an in-depth explanation of the theoretical frame of risk factors through Andrews and Bonta's General Personality and Social Psychological Model of Criminal Conduct (2006). This model understands the individual as an agent that interacts with his or her environment, and that cannot be explained without this interactive, dynamic context; it also highlights the importance of costs and rewards in antisocial behaviour from the social learning perspective.

This model holds that some risk factors, such as antisocial attitudes, antisocial peers, antisocial personality pattern and history of previous offences, are related to a higher risk

of recidivism. These factors, also termed the 'Big Four', are followed by a further group of factors with moderate correlations: deficient family circumstances, education and employment, substance abuse, and leisure and recreation. These factors have been considered 'the Central Eight' and are those included by Hoge and Andrews (2006) in the Youth Level of Service/Case Management Inventory, the instrument used in the present study. Different studies put forward the strength of these eight areas in the prediction of youth recidivism (Andrews, et al., 2012; Chu et al., 2015; Cuervo & Villanueva, 2015).

The predictive validity of risk factors for recidivism in general offending is therefore well known, but there are few studies in specific index crimes. For example, Cuervo, Villanueva, González, Carrión and Busquets (2015) found that minors who commit crimes against persons present more individual risk factors, such as antisocial personality and attitudes. In crimes against property, the minors were characterised by presenting a greater degree of inconsistent parenting. However, the predictive relation of these risk factors to recidivism was not present in the study.

Although there is a reasonable analogy between violent/non-violent crimes and crimes against persons/property, this study focuses on property crimes as one of the most common offences (Papageorgiou & Vostanis, 2000) and most overrepresented in non-persistent trajectories (the most frequent youth delinquency pathway), (Cuervo & Villanueva, 2013; Moffit & Caspi, 2001). Moreover, the Spanish legal system gives more primacy to this differentiation (persons/property), instead of violent/non-violent, this later presenting a more diffuse and changing classification across the studies, in relation to the specific offenses included (Woolard & Fountain, 2016).

Numerous studies have highlighted the slightly higher percentage of crimes against property versus against persons: 54% to 46% (Alcaraz, Bouso & Verdejo, 2015; Capdevila et al., 2005; Iborra et al., 2011; INE, 2013; Núñez, 2012; Jiménez, 2010), the most common of which are robbery, robbery with violence and intimidation, and burglary with forced entry (Alcázar et al., 2015; San Juan & Ocáriz, 2009). However, this study focuses on non-violent property crimes, such as theft and property damage, which account for approximately 9-10% and 4-6% of the total, respectively (Alcázar et al. 2015; Desbrow, Fernández, Gran, Lozano & Cárdbaba, 2014; Bravo, Sierra & del Valle, 2009; Jiménez, 2010). Although the most common property crimes are those involving violence, Fernández (2013) explains that these violent acts are the product of a reiterative

behaviour that begins with theft offences. Early intervention in cases of thefts and property damage could therefore prevent this trend to violence from escalating.

Do sex and age play a part in this relation between risk predictive factors and property offending? In the main, studies support the gender neutrality of existing offender risk and needs assessment (Geraghty & Woodhams, 2015; Van der Knaap, Alberda, Oosterveld & Born, 2012). However, in general offending, several studies (Andrews et al., 2012; Shepherd, Luebbers, Ogloff, Fullam & Dolan, 2014) have underscored the presence of specific female risk factors that play an important role in the development of female offending trajectories. Factors including familial and social relationships, trauma, victimisation, mental health, self-harm and substance abuse are believed to play a major role in female delinquency. However, very little is known about risk factors and sex in specific property offending. A commonly accepted phenomenon in relation to age is the *age-crime curve* (Farrington, 1987), in which violent crime increases each successive year from age 12, peaks at age 17, and then drops from ages 18 to 27. However, to our knowledge, no specific studies deal with the contribution of age to the relation between risk factors predicting recidivism in specific property offenders.

Objective of the study

This study analysed the prediction of risk factors on recidivism among general (all types of crimes) and property offenders specifically. It is possible that significant risk predictive factors may differ due to motivation differences underlying diverse types of crimes. To date, most studies have focused on the differentiation between violent and non-violent crime but not on the different forms that non-violent property offences can take. Also, a valid and reliable inventory for predicting the level of risk was applied to all participants in this study, namely, the Youth Level of Service/Case Management Inventory (YLS/CMI), (Hoge & Andrews, 2006). The study also included an adequate prospective follow-up period (24 months), since it has been shown that most youth re-offending takes place within that time (Capdevila et al., 2005; Mulder, Brand, Bullens & van Marle, 2011). The hypothesis posed are therefore: All the Central Eight risk factors will predict recidivism in property offending, but contextual risk factors, such as parenting and education/employment, will offer more predictive power (Cuervo et al., 2015). Variables sex and age will contribute to recidivism prediction in the property offending group in the same direction than in the general offending group.

Method

Participants

The study was undertaken with all the youths with a disciplinary record in the Juvenile Court of a Spanish province between January 2008 and February 2010 (N = 210). All of them were assessed by the Youth Offending Team as a result of having committed some kind of crime (index offence). The youths' ages ranged from 14 to 18.07 years, with a mean of 16.06 years (SD = 1.16), and 151 were boys (71.9%).

The type of crime committed was against persons in 48% of the cases and involving property in 51.4%. In the property group, two subgroups were extracted: all youths charged with Property damage (16%, N= 33), and all youths charged with Theft (16%, N= 33). In the Theft group, 75.8% were boys and the mean age was 16.03; in the Property damage group 85% were boys and the mean age was 16.01. The level of risk of reoffending were low for both groups (0-8 points on the YLS/CMI Inventory): Theft M = 6.8, SD = 7.3 and Property damage M = 4.9, SD = 5.3). No significant differences were found between the two groups regarding sex distribution, mean age or risk level.

Instrument

The YLS/CMI Inventory by Hoge and Andrews (2006), which was translated into Spanish by Garrido, López, Silva, López, and Molina (2006) as the *Inventario de Gestión e Intervención para Jóvenes* (IGI-J), is an instrument for evaluating the risk of a youth reoffending. Information to complete the inventory must be collected from several sources, such as an interview with the family and the youth, previous charges, social services, educational institutions, and so forth.

This inventory consists of 42 items grouped into eight risk factors. In each factor, the evaluator marks the risk items that can be applied to the youth (1 = presence; 0 = absence); each factor has between three and seven items. The factors included in the questionnaire are: 1) Prior and current offences and dispositions; (*“Three or more prior convictions”*); 2) Family circumstances/parenting (*“Inconsistent parenting”*); 3) Education/employment (*“Disruptive classroom behaviour”*); 4) Peer relations (*“Some delinquent friends”*); 5) Substance abuse (*“Chronic alcohol use”*); 6) Leisure/recreation (*“No personal interests”*); 7) Personality/behaviour (*“Poor frustration tolerance”*); and 8) Attitudes, values and beliefs (*“Defies authority”*). The total of the youth's scores on all

the items provides us with a level of the risk for recidivism, which can be classified in four ranges: Low (0-8 points), Moderate (9-22), High (23-32), and Very High (33-42 points). According to the overall score obtained from the Inventory, the Youth Offending Team will decide on what kind of arrangements should be made for the young person. The Spanish version of the inventory has shown adequate psychometric properties in previous studies ($\alpha = .87$) (Cuervo & Villanueva, 2013).

Procedure

When a youth is charged with committing a crime or an offence, he or she is assessed by the Youth Offending Team of the Juvenile Court. In this study the interviews took place at the juvenile court around 3-6 months after the charge. During the two previous months, for two days a week the members of staff from the technical team received training from an expert to understand the protocol of the Inventory and establish common criteria for assessing the young people. The YLS/CMI Inventory is completed in these interviews and the specific score obtained reflects the risk of recidivism for each offender; the Youth Offending Team can then use this information to propose a particular type of measure or educational intervention.

The index offences were classified as follows: only Theft and Property damage were taken into account in this study (non-violent offences against property). Theft was understood not to involve force or violence (as opposed to assault, robbery), for example, shoplifting. Property damage was regarded as damage or destruction of public or private property (breaking windows, keying cars, or tagging structures with paint or other forms of graffiti).

Finally, a youth was considered to be a re-offender if he or she was charged with another new offence within the two-year follow-up period after assessment by the Youth Offending Team and having completed the YLS/CMI Inventory, which was taken as the baseline. The number of new criminal records (recidivism variable) was recorded over this 24-month period.

Data analysis

Since a large number of young people do not reoffend, we adopt a generalised linear regression with negative binomial distribution, which has become a standard estimation strategy in penological research (DeLisi, Trulson, Marquart, Drury & Kosloski, 2010;

Walters, 2007). The measure of our dependent variable, youth recidivism, has a skewed and over-dispersed distribution, which violates key assumptions of traditional OLS regression (Weerman & Hoeve, 2012), thus suggesting the use of negative binomial regression. Predicted tables of likelihood of recidivism were developed from each of the models.

Results

The results of negative binomial regression analysis of recidivism in which age, sex and all YLS/CMI areas served as predictors are reproduced in table 1 for general offenders. The model presented is significant (-2Log Likelihood = 231.65; $p = .00$), with the following pseudo R-square value: Nagelkerke = .27. Furthermore, the parallel-line test indicates that the model meets the need requirement (Chi-square (12, $N = 210$) = 3.20 $p = .99$). The Wald statistic shows that the variable with the highest effect on recidivism was YLS/CMI area 4 (Antisocial peers), followed by univariate effects of sex and age. Being male has a significant and substantial negative effect on recidivism, while the youth offender's age increases as recidivism decreases.

TABLE 1

Table 2 presents the predicted values of likelihood of recidivism in general offenders, as coefficients in the model in table 1 indicate. Values for average age (16 years old) and limits of $\pm 2 * (1.16)$ standard deviations are shown. For all age groups, scores on Recidivism 0 are higher when there is no risk in YLS/CMI area 4: Antisocial peers (ranging between .63-.99). In relation to sex, likelihood of Recidivism 0 is 1.33 higher for 14 year-old girls than for boys, 1.09 at 16 years old, and 1.03 at 18 years old.

When YLS/CMI area 4 (Antisocial peers) presents the maximum score (= 4), sex and age differences can be observed in non-recidivism and recidivism. For all ages, likelihood of non-recidivism continues to be higher for girls than for boys. In relation to risk factors, likelihood of non-recidivism decreases dramatically at 14 years old when antisocial peers are present in the youth's context (.02 for girls and .24 for boys). As they grow older (16 and 18 years old), the likelihood of non-recidivism increases (ranging from .34 to .89), even when the risk score in YLS/CMI area 4 is high.

TABLE 2

Negative binomial regression analysis for Property damage offenders is shown in table 3. The only YLS/CMI area that significantly predicts recidivism is area 2: Family circumstances/parenting. The model presented is significant (-2 Log Likelihood = 13.10; $p = .01$; Pseudo R-square values: Nagelkerke = .22); the parallel-lines test was not significant (Chi-square (2, N = 33) = 3.17 $p = .20$). The variables sex and age were not included in the model.

TABLE 3

Analysing the likelihood of recidivism for Property damage offenders in table 4, it can be observed that as risk in Family circumstances increases (YLS/CMI area 2), so does recidivism. That is, Recidivism 0 is 2.3 times higher when there are no negative family circumstances in the youth's context, in comparison with the maximum score in this area (= 2).

TABLE 4

Finally, table 5 shows the significant model that predicts recidivism in Theft offenders (-2 Log Likelihood = 19.56; $p = .00$). The Wald statistic shows that the variable with the highest effect on recidivism was YLS/CMI area 4 (Antisocial peers), followed by YLS/CMI area 8 (Attitudes/values), age and YLS/CMI area 7 (Personality/behaviour). The model presented the pseudo R-square value Nagelkerke = .62. The parallel-line test indicates that the model meets the need requirement (Chi-square (8, N = 33) = 2.14; $p = .98$).

TABLE 5

In table 6, only maximum and minimum values were included for all YLS/CMI areas, with the exception of the most predictive area in the model (area 4: Antisocial peers), in which all the values (0-4) are shown. At 18 years old, with the highest scores in areas 7 (Personality/behaviour) and 8 (Attitudes/values), the probability of recidivism is almost non-existent. Only when the highest score in area 4 is reached (= 4), and area 7 and 8 = 0, is there a minimum score of recidivism (.13). At 14 years old, the likelihood of

reoffending rises as the risk of having antisocial peers increases. With all the area scores at 0, likelihood of non-recidivism for 18 year-old offenders is 1.26 times higher than for 14 year-old offenders.

TABLE 6

Conclusions

The main goal of this study was to evaluate the prediction of risk factors on youth recidivism among general and property offenders. It was suggested that significant risk predictive factors may differ due to motivation differences underlying different types of crimes. However, the results do not fully support this hypothesis. General and property offending does not seem to make a clear difference in the needs of youth offenders, expressed in risk predictor factors. In the main, factors pertaining to the Big Four seem to be the most predictive factors for recidivism, regardless of the type of crime.

This study revealed that the YLS/CMI risk factors were effective in predicting youth recidivism in general and non-violent property offenders. However, neither all the Big Four nor the Central Eight emerge as significant predictors. For general offenders, only the antisocial peers risk factor appeared as central; for property damage offenders, only negative family circumstances, and for theft offenders, antisocial peers, attitudes/values and personality, this last model being the most explanatory (Nagelkerke = .62). That most of the risk factors were not significant predictors may, at least in part, be due to the fact that there are high intercorrelations between them, as suggested by Grieger and Hossler (2014), and the authors of the model (Andrews & Bonta, 2010).

What seems clear is the predominance of the antisocial peers risk factor over the other factors, as shown in the model for general offenders and theft offenders. In addition, having antisocial peers seems to be especially relevant to risk of recidivism around the age of 14 years old, compared to older ages. These antisocial peers may be influencing crucial choices about costs and rewards in antisocial behaviour, as defended by the social learning perspectives. This age is characterised precisely by the focus on peers and social life, as young adolescents want to be liked and be a part of the group (Smetana, 2011). At the same time, this age coincides with the strong increase in recidivism, which takes place from 12 years old onwards (Farrington, 1987). It is therefore especially important to break this negative association with problematic peers around the age of 14.

The fact that Prior or current offences did not appear as a predictor factor in Theft crimes (the only one of the Big Four) could be a reflection of the differences in the Spanish legal environments (see Chu et al., 2015, for similar results in the Singaporean context). In fact, Cuervo and Villanueva (2015) explained that the legal systems of Spain and Canada, where the original Inventory comes from, are not fully compatible, which means that it is more difficult to mark an item from this subscale in the Spanish sample. For example, presenting “three or more current convictions” is unusual in the Spanish system, since youths do not normally have more than one charge at the same time.

The Antisocial attitudes factor was negatively skewed in the regression analyses for youths who had committed thefts (table 5), which is quite an unexpected result that deserves additional research. It may be the case that the features comprising this factor, like not seeking help or actively rejecting it, defying authority and showing little concern for others, are not core to this type of crime, which is usually regarded as a minor infraction. Whatever the case, this factor and the antisocial personality factor may be the most abstract factors in the Inventory and, therefore, are difficult to assess in the brief interview that takes place in the juvenile court. In fact, authors such as Andrews and Bonta (2010), and Skilling and Sorge (2014) suggest assessing these two factors with specific instruments due to the difficulty of capturing them in a risk inventory coded as merely presence/absence.

The negative family circumstances risk factor, which does not pertain to the Big Four, was the best predictor of recidivism in property damage offenders. However, taking together both property offending groups, the results do not support the importance of contextual factors in property offending. In theft, mainly individual risk factors seems central (personality and attitudes), and in property damage, parenting factor emerge as significant. Finally, the variables sex and age yielded the following results, supporting classical and previous studies: boys and younger offenders presented more risk of recidivism, mainly in the model for general and theft offenders. Therefore as the young person grows older, the risk of recidivism falls. However, no interaction effects were found between sex, age and risk factors.

Finally, the present study has several limitations to point out. First, data come from a single Spanish province and therefore results cannot be generalised to the rest of Spain and other countries. Likewise, in future research it would be interesting to focus on the

violent/non-violent nature of the index crime, comparing non-violent property offences (theft, property damage), with violent property offences, such as robbery, assault, and so on. Future studies into juvenile offending trajectories might usefully include the index crime but also the crime committed on reoffending, since this would allow more accurate predictions to be made.

Despite these limitations in the present research, the results have clear practical implications for professionals working daily with youth offenders. The importance of the antisocial peers risk factor to recidivism, in the case of general and property offenders, makes it a target for preventive and intervention plans, especially at the youngest age covered by the Spanish Law of Criminal Liability of Minors (14 years old). Moreover, factors pertaining to the Big Four seem to be the most efficient predictor factors for both general offenders and non-violent property offenders. In this sense, these types of crimes do not seem to make a clear difference to the needs of youth offenders. However, the role of antisocial attitudes factor for recidivism in theft offenders deserves further exploration.

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