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Risk and needs assessment for juvenile delinquents

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Chapter 1

General introduction

General introduction

An important goal of the juvenile justice system is to reduce recidivism because many juvenile delinquents ultimately reoffend sooner or later. The WODC (Research and Documentation Centre of the Ministry of Justice) recidivism monitor (2009) reveals that approximately 25% of all juvenile offenders reoffend within one year, 40% after two years and almost 60% after five years. Many of the theories about the causes of recidivism and delinquent behavior are based on risk factors (e.g., Elliott, Huizinga, & Ageton, 1985; Farrington, 1996; Gottfredson & Hirschi, 1990; Le Blanc & Frechett, 1989; Loeber, Farrington, Stouthamer-Loeber, & White, 2008; Moffitt, 1993; Wilson & Herrnstein, 1985). Risk factors are characteristics that increase the likelihood of delinquent behavior and consist of individual characteristics of juveniles on the one hand, and of social characteristics, found in the domains of family, peers, school, and neighbourhood, on the other hand (Howell, 2003; Loeber, DeLamatre, Keenan, & Zhang, 1998; Loeber, Farrington, Stouthamer-Loeber, & White, 2008; Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikström, 2002). These risk factors have been conceptualized as static or dynamic (Cottle, Lee, & Heilbrun, 2001; Heilbrun, Lee, & Cottle, 2005). *Static* factors, such as gender and previously committed offenses, cannot be changed, while *dynamic* factors, such as school performance, social skills and the youth's friends, can potentially be changed. This distinction is relevant because dynamic factors provide insight into the possibilities of lowering risks, whereas static factors are often strong predictors of recidivism. Overall, the notion that delinquent behavior can be considered to result from complex interactions between these various risk factors is widely accepted (e.g., Deković & Prinzie, 2008; Loeber, Farrington, Stouthamer-Loeber, & White, 2008; Prinzie, Hoeve, & Stams, 2008). Important in this respect is the accumulation of risk factors in several domains rather than an exposure to risk factors from one domain (Rutter, Tizard, & Whitmore, 1970).

Various meta-analyses have shown that recidivism can best be reduced if the Risk-Need-Responsivity (RNR) model is used (Andrews & Bonta, 2003; Andrews & Bonta, 2010; Andrews, Bonta, & Hoge, 1990; Lowenkamp & Latessa, 2005). The RNR model describes three basic principles that interventions must comply with to be effective: (a) the *risk principle*: the level of an intervention must be matched to the offender's risk of recidivism; (b) the *needs principle*: the intervention must be geared to the criminogenic needs (dynamic risk factors that relate to recidivism), and (c) the *responsivity principle*: the intervention must be tailored to fit the learning style, strengths, ability and motivation of the offender. The risk principle indicates *who* should be treated (juveniles with a medium and high risk), the needs principle *what* should be treated and the responsivity principle *how* treatment should take place (Andrews & Bonta, 2010). These are part of the so-called 'What Works' criteria, which also include programme

integrity and professionalism. It is expected that penal intervention would become more effective as these principles are adhered to more closely.

The application of both the risk principle and the need principle requires a reliable and valid assessment of the recidivism risk and of the criminogenic needs. Structured risk-assessment instruments are the most appropriate for this purpose. However, there are currently no structured and validated instruments available in the Netherlands for the juvenile justice system. The two most important validated instruments in the Netherlands currently used in the juvenile justice system are the BARO (*Basis Raadsonderzoek*, Protection Board Preliminary Investigation), which indicates whether the offense is a sign of underlying problems, and hence an indication for further diagnosis (Doreleijers, Bijl, Veldt, & Van der Loosbroek, 1999) and the SAVRY (Structured Assessment of Violence Risk in Youth; Lodewijks, Doreleijers, De Ruiter, & De Wit-Grouls, 2006), which is used to assess the risk of violent recidivism among juveniles in a correctional institution. Neither of these instruments is suitable for estimating the general risk of recidivism for a broad group of juvenile offenders (Vogelvang, Krooi, & Van den Braak, 2006). The BARO does not include a structured risk assessment and identifies general risk-related characteristics and circumstances rather than criminogenic factors (Vogelvang, Persoon, & Sondeijker, 2007). Although the SAVRY is a structured risk assessment instrument, it can only be used in the case of a violent initial offense and must be applied by a trained expert with an academic background.

1.1 Risk assessment

The aim of risk assessment is to estimate the risk of recidivism. Because there are no validated risk assessment instruments available in the Netherlands, the youth probation service has been using a Dutch translation of the Washington State Juvenile Court Pre-Screen Assessment (WSJCPA) since 2007. The WSJCPA is a shortened version of the Washington State Juvenile Court Assessment (full assessment) and it enables a relatively quick assessment of the risk of recidivism because it contains only the main predictors of recidivism (Barnoski, 2004b). The predictive validity of the WSJCPA has been measured in three different American studies (Baglivio, 2009; Barnoski, 2004b; Orbis Partners, 2007) and varied from .58 to .64.

Predictive validity indicates how adequately a risk-assessment instrument predicts recidivism. The 'area under the receiver-operating-characteristic curve' (AUC) is regarded as the most important measure for this (Rice & Harris, 2005). The AUC indicates which percentage of correct classifications the instrument will yield overall (Hanley & McNeil, 1982). With a value of 0.50, the instrument is no better at predict-

ing than a random assessment and a value of 1.00 indicates a perfect prediction. The predictive value of the WSJCPA in the Netherlands has not yet been investigated. The first aim of this dissertation was therefore to determine the predictive validity of the WSJCPA in the Netherlands.

Not only in the Netherlands, but also internationally, the development and validation of risk and needs assessment instruments for juvenile offenders are still in the very early stages (Welsh, Schmidt, McKinnon, Chattha, & Meyers, 2008). To date, most instruments have been developed and validated for use in adult populations. The instruments developed for juveniles have been validated only to a limited extent (Welsh et al., 2008). This means that there is often no information as to whether the instruments provide a good prediction for different groups of juvenile offenders, such as boys and girls, different age groups or different ethnic groups. In addition, the validation research that is available reveals that the risk assessment instruments for juveniles are not particularly adequate. A meta-analysis of the predictive validity of risk assessment instruments for juveniles showed that the average AUC is .64 (Schwalbe, 2007), which in terms of generally accepted standards must be considered to be moderate (Dolan & Doyle, 2000; Hosmer & Lemeshow, 2000; Shapiro, 1999). This means that there is significant room for improvement with regard to the risk assessment instruments available for juveniles. Because American research has shown that the predictive validity of the WSJCPA is also moderate (Baglivio, 2009; Barnoski, 2004b, Orbis Partners, 2007), a second objective of this dissertation was to investigate the extent to which it is possible to improve the predictive validity of the WSJCPA by modifying the scoring procedure.

1.2 Needs assessment

Needs assessment is necessary for the referral of juveniles to appropriate interventions. It is therefore important to identify the dynamic risk factors that are most strongly related to recidivism, and to gain insight into how the risks can best be reduced. Because no instrument was available for this purpose in the Netherlands, a project was launched in 2008 to develop a new set of instruments for use within the juvenile justice system, the LIJ (*Landelijk Instrumentarium voor de Jeugdstrafrechtketen*). The LIJ is based on the RNR model and encompasses a number of instruments for screening risks for the various components of the juvenile justice system (the police, Halt¹, the Council of Child Care and Protection (*Raad voor de Kinderbescherming*),

1 The Halt program is a diversion program for youngsters arrested for shoplifting, vandalism, and other minor offenses. Instead of filing a report with the public prosecutor, the police can refer young offenders to Halt. At Halt, they carry out work for the benefit of victims or the community for a maximum of 20 hours.

the youth probation service and youth prisons). This set of instruments is used to collect information about risks, criminogenic needs, protective factors, care needs, and responsivity, and aims to establish the type of care and/or intervention a young person requires. The LIJ was commissioned by the Ministry of Justice and is currently being trialled in a number of pilot regions. A third objective of this dissertation was to provide the building blocks for various parts of the LIJ, including weightings for the various risk factors and cut-off scores for domain scores, based on the (relative) importance of risk and protective factors in terms of recidivism in different domains.

1.3 Gender differences

There has been a great deal of discussion in the literature on the question whether the same (generic) risk-assessment instruments can be used for both boys and girls (e.g. Baglivio, 2009; Covington, 2003; Daly, 1992; Funk, 1999; Holtfreter & Morash, 2003; Reisig, Holtfreter, & Morash, 2006; Simourd & Andrews). Generic instruments have been developed and validated on populations largely consisting of boys, which raises the question whether these instruments are also effective in making predictions for girls (Funk, 1999; Schwalbe, Fraser, Day, & Cooley, 2006). For example, Emeka and Sorenson (2009) have demonstrated that a generic risk assessment instrument was significantly more effective in predicting recidivism for boys than for girls.

Related to this is the question whether there are sex differences in the prevalence and impact of risk factors on recidivism. Previous research among juvenile offenders has revealed a number of gender differences (Bloom, Owens, Deschenes, & Rosenbaum 2002; Hipwell & Loeber, 2006; Loeber & Keenan, 1994; McCabe, Lansing, Garland, & Hough, 2002; Vermeiren, Jaspers, & Moffitt, 2006; Zahn, 2009). Firstly, it appears that girls face more severe problems than boys, despite a lower prevalence of antisocial behavior among girls, which has been designated as the 'gender paradox' (Hipwell & Loeber, 2006; Loeber & Keenan, 1994). Comorbidity is more common in girls than in boys in residential institutions: In addition to antisocial behavior, girls often display internalizing problems, such as anxiety, depression, and suicidal tendencies (Belknap & Holsinger, 2006; Hipwell & Loeber, 2006; McCabe et al., 2002). Besides differences in the intensity of problems, research implies that certain risk factors occur more often in the case of delinquent girls than in that of delinquent boys. Girls are more often victim of child abuse, especially sexual abuse. In addition, for girls there is more often an accumulation of risks in the home situation, including family conflicts, parents with an addiction, neglect by parents, out-of-home placements, antisocial behavior of family members and abuse (McCabe et al., 2002; Schwalbe et al., 2006). To summarize, delinquent girls more frequently face problems of mental health, physical

and sexual abuse and an accumulation of problems within the family. The studies mentioned above focus on the risk factors that initiate delinquent behavior. There is much less research available about gender differences in terms of risk factors for continuing delinquent behavior (recidivism) (Hollin & Palmer, 2006). That is why a fourth objective of this dissertation was to investigate the extent to which risk factors occur (prevalence) and the importance of these factors for recidivism (impact).

1.4 Ethnic differences

Ethnic differences have also received little or no attention in the development and validation of risk and needs assessment instruments, despite the strong overrepresentation of certain ethnic minority groups in the juvenile justice system both in the Netherlands and internationally (e.g., Jennissen & Blom, 2007; Bijl, Blom, Oudhof, & Bakker, 2006; Rodney & Tachia, 2004; Hagan & Palloni, 1999; Sampson, Morenoff, & Raudenbush, 2005). There is also hardly any research available into the question whether delinquency and recidivism are caused by the same risk factors in different ethnic groups (Loeber & Farrington, 2004). This knowledge is important to be able to perform an adequate risk assessment for all juvenile offenders and to ensure that each juvenile is referred to the appropriate (intensity of) intervention. For this reason, a fifth objective of this dissertation was to examine ethnic differences in the prevalence and impact of risk factors for recidivism.

1.5 Age differences

In the development and validation of risk and needs assessment instruments for juvenile offenders there has so far been little or no focus on age differences, despite the fact that the adolescent period marks an important transition from childhood to adulthood (Cole, Cole, & Lightfoot, 2005; Weijers, 2008). This raises the question whether the same risk assessment instruments can adequately be used throughout the whole period of adolescence. Loeber, Slot and Stouthamer-Loeber (2008) show with their developmental model of onset, accumulation, and continuity of risk factors, that the extent to which children are exposed to risk factors increases as they grow older, peaks during adolescence and then decreases in early adulthood. Exposure in early childhood is restricted to individual and family factors, in late childhood friend and school factors are added, and in adolescence there are neighbourhood factors too (including employment). In young adulthood, the importance of family, school and friends subsequently declines (Loeber, Slot, & Stouthamer-Loeber, 2008). There is not only a change in the *extent* to which children are exposed to risk factors as they grow

older; the *impact* of these risk factors also changes. The impact of some risk factors decreases with age, while the impact of other factors increases. For example, the influence of peers on juveniles' behavior increases with age, while the effect of parental authority decreases as juveniles grow older (e.g., Loeber, Slot & Stouthamer-Loeber, 2006; Loeber, Farrington et al., 2008; Sampson & Laub, 1992, 1997; Van der Laan & Blom, 2006). The abovementioned studies focus on risk factors for the possible onset of delinquent behavior in the various phases of development. Thus far very little research has been carried out into the extent to which these findings also apply to the continuation of delinquent behavior (recidivism). However, this knowledge is important to perform an adequate risk assessment at different ages and to determine the correct form and intensity of interventions during these different periods. For this reason, a sixth objective of this dissertation was to examine age differences in terms of the prevalence and impact of risk factors for recidivism.

1.6 Sex offenders

In the research literature on juvenile sex offenders there is much attention for the prediction of the risk of *sexual* recidivism but much less for the question whether the risk of *general (any)* recidivism can be effectively predicted among these juveniles. However, this is a highly relevant question, as juvenile sex offenders are approximately three times more likely to reoffend by committing a non-sexual offense than a sexual offense (e.g. Långström & Grann, 2000; McCann & Lussier, 2008; Rasmussen, 1999; Vandiver, 2006). For juvenile sex offenders, a number of risk assessment instruments have been developed for estimating the likelihood of sexual recidivism. Examples of these include the Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II; Prentky & Righthand, 2003), the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR; Worling & Curwen, 2001) and the Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (J-SORRAT-II; Epperson, Ralston, Fowers, & DeWitt, 2005). These instruments are often used to estimate the risk of sexual recidivism as well as the risk of general recidivism. However, the limited validation research that is available reveals that these instruments are not capable of providing a significant prediction of sexual recidivism and even less so of general recidivism (Viljoen, Elkovitch, Scalora, & Ullman, 2009; Viljoen et al., 2007). So far, it remained unclear to what extent the general risk assessment instruments developed for general juvenile offenders are usable for juvenile sex offenders. A seventh objective of this dissertation was therefore to examine to what extent the risk of general recidivism among sex offenders can be estimated in the same way as among non-sex offenders. Furthermore, it is important to examine differences between sex and non-sex offend-

ers regarding dynamic risk factors. Such knowledge is important for clinical practice as identical treatment programs can be applied to both groups if there are no differences between the groups, whereas group-specific treatment programs will have to be developed if there are differences between them (Van Wijk et al., 2005). Existing literature in which comparisons are made between sex and non-sex offenders is varied and often contains contradictory findings, due to methodological shortcomings like small sample sizes, lack of any adequately defined non-sex offender groups and ignoring the heterogeneity of juvenile sex offenders (Van Wijk et al., 2005). For this reason, a eighth objective of this dissertation was to examine differences between various groups of sex offenders and non-sex offenders in the prevalence and impact of dynamic risk factors.

1.7 Protective factors

Compared to the knowledge available about risk factors, relatively little is known about protective factors. There is currently a debate in the literature about what protective factors are and how they work (e.g., Farrington, Loeber, Jolliffe, Pardini, 2008; Rutter, 1987, 2003; Stouthamer-Loeber et al., 1993; Van der Laan et al., 2010). This discussion is primarily concerns the question whether factors are unipolar or bipolar: are risk factors and protective factors really two different groups of factors, or are they the same factors, with a risk effect at one extreme and a protective effect at the other extreme. An example of bipolar conceptualization is the factor 'school achievement', for which 'poor grades' is considered a risk factor and 'good grades' a protective factor. In this case there may be a difference in the strength of the risk effect and the strength of the protective effect: 'Poor grades' might be a relatively strong predictor of recidivism, whereas 'good grades' might offer only small protection against recidivism (Farrington, 1992). Secondly, the discussion concerns the effect of protective factors. Some researchers define protective factors as factors that moderate the effects of risks on delinquency (Fergusson & Lynskey, 1996; Pollard et al., 1999; Rutter 1987, 2003). According to this definition, the presence of risk is required and protective factors mitigate the negative effects of risk factors on problem behavior. Other researchers use a broader definition and use the term promotive factors to refer to a direct positive effect on problem behavior, even where there are no risks present (Farrington et al., 2008; Loeber et al., 2008; Sameroff et al., 1998; Stouthamer-Loeber et al., 2002). Recent studies have only found support for promotive factors and not for protective factors (Deković, 1999; Farrington et al, 2008; Van der Laan, Veenstra, Bogaerts, Verhulst & Ormel, 2009). Various studies also show that by far the most factors are bipolar, which means that they have both protective and risk effects (Farrington et

al., 2008; Stouthamer-Loeber et al., 1993). It remains unknown what the (relative) importance is of different promotive factors for recidivism and the extent to which there are differences in the strength of the risk and promotive effects. However, this knowledge is essential for both risk and needs assessment. The needs assessment instruments currently available focus primarily on identifying risk factors and the interventions currently available focus primarily on reducing risk factors. In response to this, an alternative model has been developed, known as the 'Good Lives Model' (GLM; Ward, 2002; Ward & Stewart, 2003; Ward and Gannon, 2006). This model stresses the importance of promotive factors. The GLM focuses on promoting the welfare of the delinquent and places the strengths and capacities of the individual in a central position. According to the GLM, the RNR model focuses too much on risks and provides insufficient guidance to motivate juvenile offenders to continue or sustain intervention (Mann, Webster, Schofield & Marshall, 2004). In contrast to the RNR model, there has so far been little empirical research available to demonstrate the effectiveness of the GLM. A ninth objective of this dissertation was therefore to provide more knowledge about the impact of promotive (protective) factors compared to the impact of risk factors.

1.8 Research questions

In summary, the following research questions are central to this dissertation:

1. What is the predictive value of the Washington State Juvenile Court Pre-Screen Assessment (WSJCPA) in the Netherlands? (Chapter 2)
2. To what extent can the predictive validity of the WSJCPA be improved by modifying the scoring procedure? (Chapter 2)
3. What is the importance of static and dynamic risk factors for recidivism, how do they relate to each other and what are the implications of this for risk assessment? (Chapter 5)
4. Are there gender, ethnic and age differences in the prevalence and impact of risk factors for recidivism and what are the implications of this for risk and needs assessment? (Chapters 3, 4, 5 and 6)
5. Are there differences between various groups of sex offenders and non-sex offenders in the prevalence and impact of dynamic risk factors and can the risk of general recidivism among sex offenders be estimated in the same way as among non-sex offenders? (Chapters 7 and 8)
6. What is the importance of dynamic promotive factors for recidivism and how does this relate to the importance of dynamic risk factors? (Chapter 9)
7. How can the risk and needs assessment within the LIJ be optimised, based on the answers to the research questions referred to above? (Chapter 10)

1.9 Samples

This dissertation makes use of four different samples:

1. A sample of 1,396 juveniles (1,156 boys and 240 girls), aged 12 to 18, charged with a criminal offense and referred to the Council of Child Care and Protection. The sample consisted of 61% juveniles from a non-Dutch background and 39% from a Dutch background.
2. A sample of 520 juveniles (424 boys and 96 girls), aged 12 to 18, referred to the youth probation service. The research group consisted of 45% juveniles from a non-Dutch background and 55% from a Dutch background.
3. A sample of 13,613 American juveniles (10,111 boys and 3,502 girls), aged 12 to 18, charged with a criminal offense and for whom the WSJCA (full assessment) was completed. The sample consisted of 69% European Americans, 11% African Americans, 12% Hispanic Americans and 8% miscellaneous.
4. A sample of 21,810 American juveniles (16,339 boys and 3,882 girls), aged 12 to 18, charged with a criminal offense and for whom the WSJCPA (pre screen) was completed. The sample consisted of 70% European Americans, 10% African Americans, 12% Hispanic Americans and 8% miscellaneous.

1.10 Outline of this dissertation

Chapter 2 establishes the predictive validity of the WSJCPA in the Netherlands and investigates the extent to which the instrument can be improved by modifying the scoring procedure.

Chapter 3 examines whether there are differences between boys and girls in the extent to which risk factors occur (prevalence) and in the impact of risk factors on recidivism. In order to gain a greater understanding of risk profiles that apply specifically to girls, a risk assessment instrument for girls was also constructed.

Chapter 4 examines whether there are differences in the prevalence and impact of risk factors within the five largest ethnic groups in the Netherlands (Dutch, Moroccan, Surinamese, Turkish and Antillean juveniles). The patterns of offenses and motives for committing offenses are also examined.

Chapter 5 examines age differences in the importance of static and dynamic risk factors for recidivism, how these relate to each other, and the implications of this for risk assessment.

Chapter 6 examines age differences in the prevalence and impact of criminogenic needs, which is important to gain insight into the potential effects of interventions at different ages and the extent to which interventions need to be attuned to the age of the juvenile.

Chapter 7 examines the extent to which differences exist in the prevalence and impact of static and dynamic risk factors between non-sex offenders, misdemeanor sex offenders, felony sex offenders, and child abusers.

Chapter 8 examines the extent to which the WSJCPA can be used to assess the general risk of recidivism among misdemeanour sex offenders, felony sex offenders, child abusers and female adolescent sex offenders.

Chapter 9 investigates the impact and prevalence of promotive (protective) factors on recidivism and compares these to the impact of risk factors, with the aim of increasing the currently limited knowledge available about promotive (protective) factors. Gender and age differences are examined. The extent to which the prediction of recidivism significantly improves by adding promotive factors to risk factors is also examined.

Finally, the aim of Chapter 10 is to describe how the new LIJ was developed for the various phases of the juvenile justice system. It includes a description of how the knowledge from this dissertation was applied to the development of the different components of the LIJ. There is also a description of how the LIJ can be used to refer juvenile offenders to the appropriate evidence-based behavioral interventions, based on a match between the dynamic risk profile of the juvenile and the indication criteria of the available interventions.