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Risk and needs assessment for juvenile delinquents

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Chapter

7

Risk profiles of different types of juvenile sex offenders: Differences in the prevalence and impact of risk factors for general recidivism among different types of juvenile sex offenders and non-sex offenders

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Submitted.

Abstract

There is very little research available that compares the risk profiles of various types of juvenile sex offenders with juvenile non-sex offenders. Such research is important to be able to refer juvenile sex offenders for the appropriate interventions. For that reason, this study examined the extent to which differences exist in the prevalence and impact of static and dynamic risk factors between non-sex offenders ($n = 504$), misdemeanor sex offenders ($n = 136$), felony sex offenders ($n = 116$) and child abusers ($n = 373$). The prevalence of dynamic risk factors was significantly lower in sex offenders than in non-sex offenders. More serious sexual offenses were associated with a lower prevalence of dynamic risk factors. In contrast, the impact of dynamic risk factors on general recidivism proved to be considerably larger among sex offenders compared to non-sex offenders. The relative importance of the dynamic risk factors varied for each type of sex offender, resulting in differences in the dynamic risk profiles of the various types of sex offenders.

7.1 Introduction

Research literature on sex offenders has traditionally been aimed primarily at adult offenders (Cuadra, Viljoen, & Cruise, 2010). In the past, the conduct of juvenile sex offenders was often seen as explorative behavior that would pass 'automatically' when entering adulthood (Ryan & Lane, 1997). However, juvenile sex offenders are responsible for a considerable proportion of all sex offenses. It is estimated that 15-20% of all rapes and 30-50% of the sexual abuse of children are committed by juvenile sex offenders (Barbaree & Marshall, 2006; Davis & Leitenberg, 1987; Federal Bureau of Investigation, 2007). For this reason, the research literature of the last three decades has devoted more and more attention to young perpetrators of sexual offenses (Cuadra et al., 2010).

In spite of this greater level of attention, there is still a significant need for additional research into juvenile sex offenders (Gerhold, Browne, & Beckett, 2007). It is still unclear, for example, to what extent juvenile sex offenders differ from juvenile non-sex offenders in the prevalence and impact of 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. Some research suggests that there are hardly any differences between sex offenders and non-sex offenders in terms of personality, history of anti-social behavior, cognitive skills, or family characteristics (e.g., Becker & Hunter, 1997; Butler & Seto, 2002; Jacobs, Kennedy, & Meyer, 1997; Spaccarelli, Bowden, Coatsworth, & Kim, 1997), whereas other research does indeed show important differences between sex offenders and non-sex offenders in these areas (Van Wijk et al., 2006). One explanation for these conflicting results is that the research in which juvenile sex and non-sex offenders are compared is often faced with a number of methodological limitations. First, the sample sizes are often very small, because juvenile sex offending is relatively uncommon. At the same time, the control groups (i.e. non-sex offender groups) are usually not adequately defined (Davis & Leitenberg, 1987; Truscott, 1993; Righthand & Welch, 2001), and non-standardized measuring instruments are often used (Van Wijk, et al., 2005).

Despite these limitations, there are a number of findings that are worth mentioning. One recurrent finding is that a history of sexual and/or physical abuse is more frequently observed in sex offenders than in non-sex offenders (Fagan & Wexler, 1988; Hastings, Anderson, & Hemphill, 1997; Jonson-Reid & Way, 2001; Milroy, 1994). There is less clarity when it comes to mental health problems. Overview studies have shown that juvenile sex offenders display less externalizing problem behavior than do juve-

nile non-sex offenders (Barbaree, Marshall, & Hudson, 2006; Kempton & Forehand, 1992), but other research suggests that there are in fact few differences between juvenile sex offenders and other violent offenders in externalizing problems (Jacobs, et al., 1997; Lewis, Shanok, & Pincus, 1981; Shaw e.a., 1993). Internalizing problems like anxiety, low self-esteem and depression appear to occur among juvenile sex offenders more frequently than they do among juvenile non-sex offenders (Becker, Kaplan, Tenke, & Tartaglini, 1991; Blaske, Borduin, Henggeler, & Mann, 1989; Bourke & Donohue, 1996, Charles & McDonald, 1997).

With regard to socio-demographic characteristics, it has been found that sex offenders commit their first offense at a later age than do non-sex offenders (Ford & Linney, 1995; Jacobs, et al., 1997). When it comes to ethnicity, research results show a conflicting picture: some authors have found that Caucasians are over-represented in the sex offenders group (Veneziono, Veneziono, LeGrand, & Richards, 2004; Van Wijk, Van Horn, Bullens, Bijleveld, & Doreleijers, 2005), whereas others have not identified any differences (e.g., Bischof, Stith, & Whitney, 1995; Van Wijk, Vreugdenhil, & Bullens, 2004) or indeed found that sex offenses actually occur with greater frequency among certain ethnic minority groups (e.g., Awad & Saunders, 1991; Van der Put, Stams, Deković, Hoeve, & Van der Laan, 2011). The families of sex offenders can be typified as disharmonious. Characteristics that have emerged from research are an absent father or poor relationship with the father, witnessing domestic violence, being themselves victims of physical or sexual abuse, parents who use alcohol and/or drugs (Ford & Linney, 1995; Kobayashi, Sales, Becker, Figueredo, & Kaplan, 1995; Ryan, 1997, Whitte & Koss, 1993). The question is whether these family characteristics are exclusive to juvenile sex offenders, because the same characteristics are found among families of non-sex offenders (Bishof e.a., 1995; Vizard, Monck, & Misch, 1995; Van Wijk, Vreugdenhil, Van Horn, Vermeiren, & Doreleijers, 2007).

Although it has repeatedly been shown that juvenile sex offenders form a heterogeneous group (e.g., Barbaree, et al., 2006; Hunter, Figueredo, Malamuth, & Becker, 2003), only a very limited number of studies have made a distinction between various sub-groups of sex offenders. Ignoring this heterogeneity may cause differences between sub-types of sex offenders and non-sex offenders to remain undetected and perhaps explains the contradictory research results in the comparison between juvenile sex offenders and juvenile non-sex offenders (Van Wijk e.a., 2005). The little research that does exist in which different sub-types of juvenile offenders are compared with each other appears to show, among other things, that a relatively high proportion of child abusers display internalizing problem behavior, such as neuroticism, introversion and low self-esteem, in comparison with those who commit abuse against others of their own age (e.g., Hendriks & Bijleveld, 2004; Katz, 1990; Van Wijk e.a., 2005). They also have poor social skills and often have problems in their contacts with their same-age peers (e.g., Epps & Fisscher, 2004; Ford & Linney, 1995; Hendriks & Bijleveld,

2004; Katz, 1990). Moreover, they have been more frequently exposed to sexual abuse. Juvenile sex offenders who abuse others of their own age mostly display externalizing problems, thereby more closely resembling non-sex offenders (e.g., Jacobs e.a., 1997; Lewis e.a., 1981; Shaw e.a., 1993).

To gain better insight into the differences between various groups of sex offenders and non-sex offenders, this research made a comparison between the following groups: non-sex offenders, offenders who have committed a minor sex offense (misdemeanor) such as exhibitionism or voyeurism, offenders who have committed a serious sexual offense (felony) such as indecent assault or rape, and offenders who are guilty of abusing a young child.

Available literature mostly only examines the degree to which differences exist between juvenile sex and non-sex offenders in the prevalence of risk factors. However, it is also important to know if, and to what extent, these risk factors have an impact on recidivism. This is important for the purpose of being able to refer juvenile offenders for the appropriate interventions, because interventions will be most effective if they target changeable (dynamic) risk factors that are most closely related to recidivism (Andrews & Bonta, 2003; Andrews & Bonta, 2010; Andrews, Bonta, & Hoge, 1990; Lösel, 1995). For that reason, this study focused on dynamic risk factors, examining both differences in prevalence and impact on recidivism between different groups of sex offenders and non-sex offenders. We examined the impact on general recidivism, because both sex offenders and non-sex offenders continue committing non-sexual offenses much more often than sexual ones (Langstrom, & Grann 2000; McCann, & Lussier, 2008; Rasmussen, 1999). A number of static risk factors were also examined, in the assumption that they play an important role with sex offenders. In the etiology of sex offending, for example, a central role is often ascribed to growing up in an abusive family and to psychopathology (Barbaree e.a., 1998; Knight & Sims-Knight, 2003; Malamuth, 2003; Ward & Siegert, 2002). These factors are therefore included in this research. Finally, an examination was made of which combinations of dynamic risk factors lead to a high - and low - likelihood of general recidivism in each sub-group, because this information is important for being able to refer juvenile sex offenders for the appropriate interventions. In summary, this study focused on the following research questions:

1. To what extent are there differences between juvenile sex offenders and non-sex offenders in terms of background characteristics and the level of general recidivism?
2. To what extent are there differences between juvenile sex offenders and non-sex offenders in terms of the prevalence and impact of dynamic and static risk factors?
3. Which combinations of static and dynamic risk factors lead to a high, and a low, likelihood of general recidivism by each sub-group?

7.2 Method

7.2.1 Sample

For this study, secondary data from the Washington State Juvenile Court Assessment (WSJCA) validation study were used (Barnoski, 2004b). This dataset consisted of American juveniles, aged 12 to 18, who appeared before the courts for a criminal act in the period from January 1999 to January 2000 and for whom the WSJCA was completed. A distinction was made between the following research groups:

- (a) *Misdemeanour sex offenders*: all boys whose most serious sexual offense was a misdemeanor offense and the victim was a person of a similar age or an adult woman ($n = 136$). Misdemeanour offenses include the following offenses: public indecency, indecent exposure, obscene phone calls, obscenity or pornography.
- (b) *Felony sex offenders*: all boys who committed a felony offense in which the victim was a person of similar age or an adult woman ($n = 116$). Felony sex offenses include the following offenses: assault to rape, incest and indecent liberties.
- (c) *Child abusers*: all boys who committed a sexual offense against a (pre-pubertal) child who was at least five years younger than the offender ($n = 521$). The age difference of five years was selected because this is generally used in the research literature (Van Wijk, Doreleijers, Bullens, & Ferwerda, 2001).
- (d) *Non-sex offenders*: a random sample of the boys who committed an offense other than a sexual offense ($n = 504$)

7.2.2 Instruments and procedure

Washington State Juvenile Court Assessment (WSJCA).

De WSJCA is a screening and risk assessment instrument, which was developed in Washington State. The WSJCA maps out the most important risk and protective factors on a large number of domains. The selection of domains and items took place on the basis of a review of the juvenile delinquency research literature and then was modified, based on feedback from an international team of experts. The assessment was revised again following reviews by Washington State juvenile court professionals (Barnoski, 2004b).

The WSJCA comprises two parts: a pre-screen and a full assessment. The pre-screen is a shortened version of the full assessment that quickly indicates whether a youth is at low, moderate, or high risk for re-offending. The pre-screen comprises the most important predictors of recidivism from two domains: the criminal history domain and the social history domain (Barnoski, 2004b). The pre-screen is administered to all youth on probation and the full assessment is required only for youth who are assessed as having moderate or high risk on the pre-screen (71% of the juvenile offenders). The full assessment identifies a youth's risk and protective factor profile to guide rehabilitative efforts. The courts have refocused their resources on moderate and high

risk youth by assigning low risk youth to minimum supervision caseloads.

Probation officers perform the full assessments on the basis of information from a structured motivational interview with the youth and youth's family. Probation officers are trained in conducting the assessment. This training includes reviewing videotaped interviews and the resulting assessment to ensure the probation counselor has mastered the assessment skills. There is a manual available for the full assessment and quality assurance is an important part of the assessment structure and organization in Washington State (Barnoski, 2004a). The full assessment measures both static (historical) and dynamic (current) risk and promotive factors. In the present study we examined dynamic factors, because these factors are used to guide the rehabilitative efforts. The dynamic factors are measured over the past six months. The full assessment contains dynamic risk and promotive factors in the following domains: school, employment, use of free time, relationships, family, alcohol and drugs, attitude, aggression and skills. We have excluded the employment domain from the analysis because of the large number of missing values (only 9% are employed).

The full assessment contains dynamic risk factors in the following domains: school, employment, use of free time, relationships, family, alcohol and drugs, attitude, aggression and skills. Per domain, the following dynamic risk factors were measured: (a) *School*: severe behavior problems (fighting or threatening students/staff, lying, cheating, dishonesty, crimes, e.g. theft, vandalism, overly disruptive behavior), truancy (some full-day unexcused absences or truancy petition/equivalent or withdrawn), poor academic performance (some Ds and mostly Fs), poor relationship with teachers (not close to any adult at school), recent expulsions (two or more recent expel/suspend), not interested or involved in school activities, estimation of school progress (not likely to graduate), youth does not believe school is encouraging, and youth does not believe education of value. (b) *Use of free time*: "no daily activities" (youth does not attend school or work), not involved/interested in structured recreational activities (clubs, groups, church), and not involved/interested in unstructured recreational activities (hobby). (c) *Relationships*: no positive adult non-family relationships, no pro-social community ties (no people in his or her community who discourage the youth from getting into trouble or are willing to help the youth), anti-social friends or gang membership, romantically involved with an anti-social person, admires or emulates anti-social peers, and rarely resists anti-social peer influence. (d) *Family*: low family income (annual income under \$15,000), jail/imprisonment of persons who are currently involved with the household (siblings and/or mother and/or father), problems of parents who are currently involved with the household (current alcohol problem, current drugs problem, current mental health problem, current employment problem), poor relationship with parents (not close to father and/or mother), serious conflicts in the family (family verbal intimidation, threats of physical abuse and/or

domestic violence), inadequate parental supervision (parents do not or hardly know whom youth is with, when youth will return, where youth is going, and what youth is doing), poor parental authority and control (youth consistently disobeys family), poor parental punishment (inconsistently or consistently insufficient), poor parental reward (consistently appropriate/inconsistently or consistently insufficient), no family support network, and run away from home. (e) *Alcohol and drugs*: alcohol and/or drug abuse (alcohol and/or drugs causing family conflict and/or disrupting education and/or causing health problems and/or interfering with keeping pro-social friends), alcohol and/or drugs contribute to criminal behavior. (f) *Attitude*: optimism (low aspirations: little sense of purpose or plans for better life), impulsiveness (usually acts before thinking), no control over anti-social behavior (believes cannot stop anti-social behavior), no empathy (does not have remorse, sympathy, or feelings for victims of criminal behavior), no respect for other's property, no respect for authority figures, no respect for rules/social conventions, does not accept responsibility for behavior, does not think he or she can comply with measures. (g) *Aggression*: low frustration tolerance (often gets upset over small things or has temper tantrums), hostile interpretation of other's behavior/intentions, beliefs verbal aggression is often appropriate to solve a conflict, beliefs physical aggression is sometimes or often appropriate to solve a conflict, reports/evidence of violence, reports of problem with sexual aggression (aggressive sex, young sex partners, sex for power, voyeurism, exposure). (h) *Skills*: poor consequential thinking (does not understand about consequences of actions), poor goal setting (does not set any goals or set unrealistic goals), poor problem-solving behavior (cannot identify problem behaviors), poor situational perception (cannot analyze the situation for use of a pro-social skill), problems in dealing with others (lacks basic social skills), lacks skills in dealing with difficult situations, lack of skills in dealing with feelings/emotions, problems in controlling internal triggers (cannot recognize and monitor internal triggers [thoughts, needs, emotions] that lead the youth into trouble), problems in controlling external triggers (cannot recognize and monitor external triggers (people, situations, events) that lead the youth into trouble), lacks techniques to control impulsive behavior, lacks alternatives to aggression.

In addition, the following static risk factors were measured: history of physical abuse (by family member or someone outside the family), history of sexual abuse (by family member or someone outside the family), history of being a victim of neglect, history of mental health problems (such as schizophrenia, bipolar, mood, thought, personality, and adjustment disorders), history of out-of-home placements.

Some risk factors are scored on a 2-point scale (0 if the risk is 'not present', 1 if it is 'present'), some on a 3-point scale (0 if the risk is 'not present', 1 if it is 'somewhat or sometimes present' and 2 if the risk is 'very present or often present', during the past six months) and some on a 4 point scale, if the protective side is also measured.

7.2.3 Outcome measure

Recidivism was defined as the occurrence of one or multiple new convictions within 18 months after completing the full screen. Data on recidivism were based on official records, both juvenile and adult records, from Washington State. Recidivism was treated as a dichotomous variable (whether or not convicted for any new offense).

7.2.4 Analyses

To measure the *prevalence* of the risk factors of the various domains, the risk factors were recoded into dichotomous variables (1 if there is an increased risk and 0 if there is no increased risk). A total score was calculated for each domain by adding the number of risk factors. Analysis of variance (ANOVA) was used to determine whether there are differences in the prevalence of risk factors between the different groups of sex offenders. Pearson correlation coefficients were calculated to determine the strength of the relation between the risk factors and recidivism in the various groups of sex offenders. Fisher's z tests were calculated to assess the significance of the differences between the correlations of the different groups.

The prediction value of the WSJCPA in the different groups of sex offenders was investigated by means of the 'area under the ROC curve' (AUC). The AUC indicates what percentage of correct classifications the instrument will yield overall (Hanley & McNeil, 1982). With a value of 0.50, the instrument is no better at predicting than random assessment. A value of 1.00 indicates a perfect positive prediction, and a value of 0.00 indicates a perfect negative prediction. A meta-analysis of the predictive validity of risk-assessment instruments for juveniles shows that the AUC varied from 0.53 to 0.78, with an average AUC of 0.64 (Schwalbe, 2007). The predictive validity of the WSJCA has been tested in two studies: a study of Barnoski (2004) and a study of Orbis Partners (2007). The first study showed that the AUC of the WSJCPA is .64 and the second study showed that the AUC is about .63. So, the AUC of the WSJCPA is comparable to the average AUC of juvenile justice risk assessment instruments.

To identify combinations of risk factors that result in high or low risk of recidivism, a Chi squared Automatic Interaction Detector (CHAID) analysis was performed for each offender group. CHAID is a classification technique that detects interaction effects between independent risk factors and, therefore, identifies combinations of risk factors that result in high or low risk of recidivism (Thomas & Leese, 2003).

7.3 Results

7.3.1 Background characteristics and general recidivism in the various sex offender sub-groups

Table 1 shows the background characteristics of age at the time of the assessment, ethnicity and family composition for the various groups of sex and non-sex offenders, as well as the level of general recidivism. In comparison with non-sex offenders, European Americans appeared to be over-represented in the various sex offender groups. Felony sex offenders and child abusers were on average younger than misdemeanor sex offenders and non-sex offenders. Differences in relation to family composition were that sex offenders were less likely to live with their biological mothers and less likely to have brothers and sisters than non-sex offenders. General recidivism was relatively high among non-sex offenders (50%) and misdemeanor sex offenders (43%), while rates of general recidivism were about half in the case of felony sex offenders (24%) and child abusers (21%). There were no significant differences between the groups in terms of the seriousness of the repeat offenses.

Table 1 Background Characteristics and Recidivism Rates for the Various Groups of Sex and Non-sex offenders

	Non-sex offenders (<i>n</i> = 504)	Misdemeanor sex offenders (<i>n</i> = 136)	Felony sex offenders (<i>n</i> = 116)	Child abusers (<i>n</i> = 373)	F
Ethnicity					
European Americans	65%	82%	81%	81%	10.3***
African Americans	13%	10%	7%	8%	2.0
Hispanic Americans	14%	7%	8%	7%	3.8**
Other	8%	2%	4%	4%	3.1*
Youth is currently living with:					
Biological mother	71%	65%	60%	58%	5.9**
Biological father	33%	37%	28%	39%	1.9
Sibling(s)	64%	56%	50%	51%	6.8***
Average age at time of the assessment					
	15.45	15.41	15.20	15.03	6.5***
Recidivism					
	50%	43%	24%	21%	84.7*
Seriousness Recidivism					
	<i>n</i> = 250	<i>n</i> = 58	<i>n</i> = 28	<i>n</i> = 79	
Misdemeanor	47%	48%	32%	33%	7.0
Felony	53%	52%	68%	67%	7.0

p* < .05, *p* < .01, ****p* < .001

7.3.2 Prevalence of dynamic risk factors

Table 2 shows the prevalence of the dynamic risk factors in the various sex offender groups. The percentages of juveniles in whom the dynamic risk factor were present is presented, divided into the various sex and non-sex offender groups. Figure 1 is a graphic representation of the overall scores for each domain.

Table 2 Prevalence of Dynamic Risk Factors for the various groups of sex and non-sex offenders

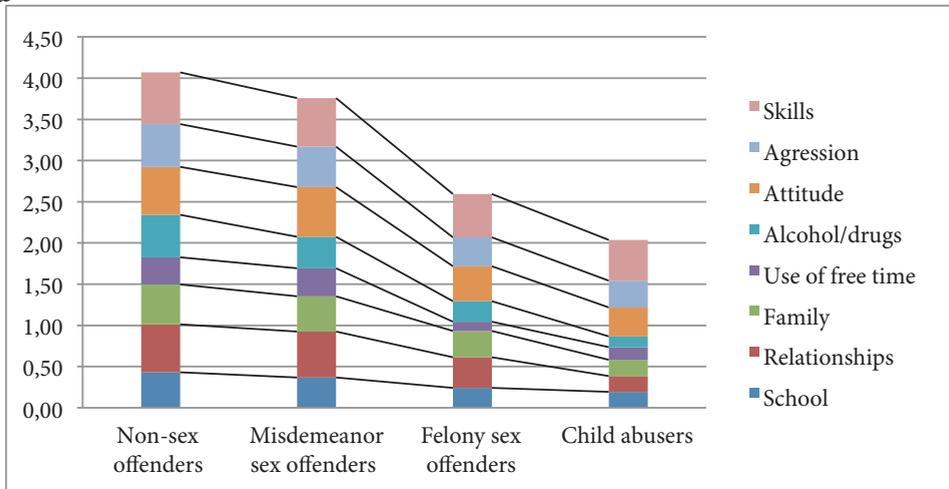
	Non-sex offenders (<i>n</i> = 405)	Misdemeanor sex offenders (<i>n</i> = 136)	Felony sex offenders (<i>n</i> = 116)	Child abusers (<i>n</i> = 373)	<i>F</i>
School	45%	37%	24%	19%	24.1***
Severe behavior problems	69%	57%	41%	36%	33.0***
Truancy	67%	46%	33%	24%	63.0***
Poor academic performance	71%	64%	45%	45%	22.5***
Poor relationship with teachers	40%	45%	45%	43%	.5
Recent expulsions	58%	46%	32%	21%	48.4***
Not interested/involved in school activities	49%	39%	28%	30%	12.0***
Not likely to graduate	72%	73%	51%	47%	22.6***
Does not believe school is encouraging	19%	18%	11%	8%	7.3***
Does not believes getting education of value	10%	6%	7%	2%	5.6**
Use of free time	34%	34%	11%	15%	19.3***
No daily activities	20%	21%	9%	6%	13.5***
Not interested/involved in unstructured activities	43%	43%	30%	28%	7.9***
Not interested/involved in structured activities	47%	44%	16%	24%	25.8***
Relationships	58%	56%	37%	19%	54.5***
No positive relationships with adults	47%	45%	44%	38%	2.7*
No pro-social bonds in the community	35%	33%	25%	21%	7.5***
Anti-social friends	77%	65%	44%	31%	79.7***
Gang membership	13%	8%	3%	2%	14.7***
No friends	10%	13%	19%	24%	10.0***
Romantic relationship anti-social person	9%	6%	3%	1%	8.5***

	Non-sex offenders (<i>n</i> = 405)	Misdemeanor sex offenders (<i>n</i> = 136)	Felony sex offenders (<i>n</i> = 116)	Child abusers (<i>n</i> = 373)	<i>F</i>
Admiration of antisocial behavior	70%	61%	43%	28%	62.5***
No resistance to influence of anti-social peers	47%	46%	24%	11%	51.7***
Family	46%	43%	32%	20%	24.4***
Low family income	68%	64%	67%	58%	3.6**
Family member in detention	38%	38%	25%	18%	14.4***
Parental alcohol problems	23%	20%	20%	14%	3.3**
Parental drug problems	18%	17%	17%	11%	3.5**
Parental mental health problems	11%	12%	8%	9%	.7
Parental employment problems	23%	28%	13%	11%	10.0***
Poor relationship with father	70%	61%	62%	57%	5.4**
Poor relationship with mother	46%	39%	27%	31%	8.7***
Serious conflicts in the family	62%	57%	45%	36%	21.6***
Poor parental supervision	63%	57%	41%	31%	33.9***
Poor parental authority and control	75%	68%	44%	40%	48.1***
Poor parental punishment	57%	53%	46%	34%	16.5***
Poor parental reward	47%	46%	33%	28%	12.7***
No family support network	17%	19%	20%	12%	2.3
Run away from home	29%	18%	11%	11%	18.0***
Alcohol/drug abuse	60%	38%	25%	13%	54.5***
Alcohol abuse	34%	25%	17%	9%	27.2***
Alcohol contributes to criminal behavior	14%	10%	6%	3%	11.0***
Drugs abuse	47%	32%	23%	9%	55.9***
Drugs contributes to criminal behavior	19%	10%	6%	3%	21.9***
Attitude	58%	60%	42%	35%	19.3***
Low aspirations for better life	33%	35%	23%	23%	5.4**
Impulsive behavior	51%	50%	43%	39%	4.5**
No or little control over antisocial behavior	62%	59%	45%	43%	12.3***
No or little empathy	33%	35%	32%	21%	5.8**
No or little respect for others' property	70%	62%	43%	32%	51.3***

	Non-sex offenders (<i>n</i> = 405)	Misdemeanor sex offenders (<i>n</i> = 136)	Felony sex offenders (<i>n</i> = 116)	Child abusers (<i>n</i> = 373)	<i>F</i>
No or little respect for authority figures	48%	51%	24%	23%	27.1***
No or little respect for rules/ social conventions	20%	22%	15%	8%	9.3***
Does not accept responsibility for behavior	63%	63%	61%	49%	6.6***
Does not think they can comply with measures	48%	49%	31%	34%	8.9***
Aggression	51%	49%	35%	32%	12.0***
Low frustration tolerance	25%	21%	11%	13%	8.5***
Hostile interpretation of behavior	44%	46%	30%	25%	14.3***
Verbal aggression to solve conflict	76%	65%	53%	47%	28.1***
Physical aggression to solve conflict	52%	43%	31%	23%	29.1***
Report of violent behavior	57%	55%	31%	39%	14.7***
Report of sexually violent behavior	2%	26%	47%	49%	123.8***
Skills	63%	59%	53%	49%	6.0***
Problems with consequential thinking	75%	76%	73%	67%	2.6
Problems with goal setting	39%	40%	41%	32%	1.9
Poor problem-solving behavior	80%	76%	75%	67%	6.7***
Poor situational perception	74%	64%	59%	60%	7.9***
Problems in dealing with others	75%	70%	69%	67%	2.4
Problems in dealing with difficult situations	56%	55%	44%	41%	8.8***
Problems in dealing with feelings	60%	46%	47%	62%	7.2***
Problems in controlling internal triggers	48%	51%	47%	40%	2.5
Problems in controlling external triggers	31%	37%	35%	25%	3.0*
Total number of problems	27.5	25.7	20.3	17.6	53.7***

p* < .05; *p* < .01; ****p* < .01.

Figure 1 Prevalence of Dynamic Risk Factors for the various groups of sex and non-sex offenders



With almost every risk factor in every domain, there were significant differences between the sub-groups in the degree to which dynamic risk factors occur. In general, dynamic risk factors were far more prevalent among non-sex offenders, closely followed by misdemeanor sex offenders, while the prevalence was considerably lower among felony sex offenders and lowest in the case of child abusers. For most risk factors in the various domains, therefore, the more serious the sexual offenses, the lower the incidence of dynamic risk factors. This applied to every risk factor in the 'use of free time', 'alcohol/drugs' and 'attitude' domains, and for more or less every risk factor in the 'school', 'relationships', 'family' and 'skills' domains. An exception in the 'school' domain was the 'poor relationship with teacher' risk factor: there were no significant differences between the groups as regards this factor. An exception in the 'relationships' domain concerned the 'no positive relationships with adults (who are not teachers or part of the youth's family)' risk factor – here, too, there were no significant differences between the sub-groups. In the 'relationships' domain, there was one risk factor that occurred more frequently as the seriousness of the sexual offenses increases, namely the 'not having any friends' factor. There were no significant differences in the 'parental mental health problems' or 'no family support network' factors in the 'family' domain, while in the 'aggression' domain, there was one risk factor that occurred more frequently as the seriousness of the sexual offense increases: that of 'report of sexually violent behavior'. In the 'skills' domain, there were fewer major differences between the sub-groups. There were also no significant differences between the groups in the risk factors relating to 'consequential thinking', 'goal setting', 'dealing with others' and 'controlling internal triggers'.

7.3.3 Impact of the dynamic risk factors on recidivism

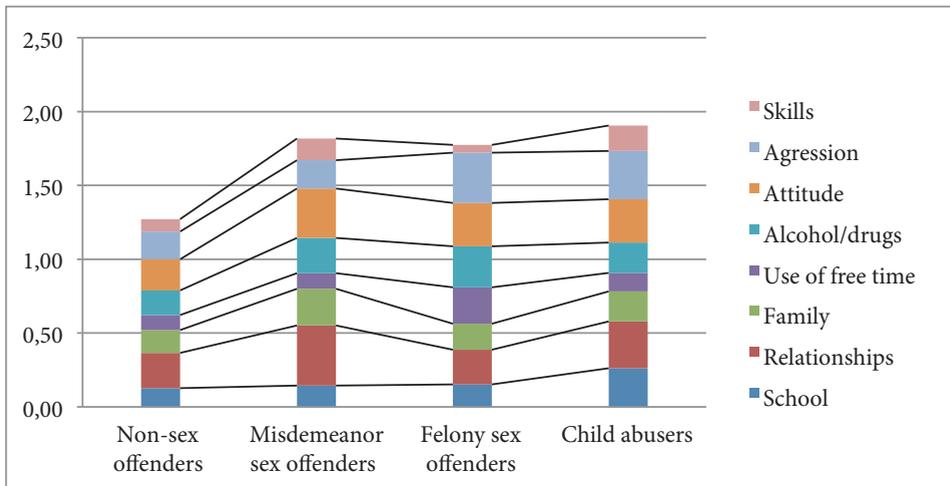
Table 3 shows the correlation between recidivism and the overall score per risk domain for the various sub-groups of sexual offenders. Figure 2 is a graphic representation of Table 3.

Table 3 Correlations between the Dynamic Risk Factors and Recidivism for the various groups of sex and non-sex offenders

	Non-sex offenders (n = 405)	Misdemeanor sex offenders (n = 136)	Felony sex offenders (n = 116)	Child abusers (n = 373)
School	.13**	.14	.15	.26***
Relationships	.21***	.41***	.23*	.32***
Family	.16***	.25**	.18	.20***
Use of free time	.10 [†]	.11**	.25**	.13*
Alcohol/drugs	.17***	.24**	.28**	.21***
Attitudes	.24***	.34***	.29***	.29***
Aggression	.19***	.19*	.34***	.33***
Skills	.08	.15	.05	.17**

[†] $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2 Impact of Dynamic Risk Factors for the various groups of sex and non-sex offenders



There was a significant correlation between most domain scores and recidivism in most sub-groups. Because of the variation in size of the sub-groups, the statistical power for detecting an effect is not the same in each group. The result of this is that any correlation in the smallest groups (the misdemeanor sex offenders and the felony sex offenders) has to be relatively high in order to be considered significant, and indeed there are slightly fewer domains in these groups that show a correlation with recidivism than there are in the other groups. For most groups, it were the 'relationships', 'attitude' and 'aggression' domains that showed the strongest relationship with recidivism. Figure 2 shows that for most domains, the relationship of the risk factors was stronger for the sex offenders than for the non-sex offenders.

7.3.4 Prevalence of static risk factors

Table 4 shows the degree to which static risk factors occur in the various sex offender groups. The sub-groups only differed significantly from each other in relation to the sexual abuse risk factor. Sexual victimization was more frequently found among child abusers (32%) and felony sex offenders (26%) than among misdemeanor sex offenders (15%) and non-sex offenders (7%). Overall, mostly static risk factors were present in child abusers, compared to the other groups.

Table 4 Prevalence of Static Risk Factors for the various groups of sex and non-sex offenders

	Non-sex offenders (n = 405)	Misdemeanor sex offenders (n = 136)	Felony sex offenders (n = 116)	Child abusers (n = 373)	F
Mental health	24%	32%	18%	27%	2.2
Sexual abuse	7%	15%	26%	32%	33.7*
Physical abuse	22%	24%	23%	27%	0.8
Out-of-home placement	19%	18%	16%	22%	0.7
Neglect	23%	22%	21%	21%	0.2

* $p < .001$

7.3.5 Impact of the static risk factors on recidivism

Table 5 shows the correlation between the static risk factors and recidivism for the various groups of sex and non-sex offenders. The results show that most static risk factors were not significantly related with recidivism in most sub-groups. The only significant relationship with recidivism in the sub-groups was the variable 'neglect', with the exception of the misdemeanor sex offenders, for whom most correlations with recidivism were negative, but not significant.

Table 5 Correlations between Static Risk Factors and Recidivism for the various groups of sex and non-sex offenders

	Non-sex offenders (n = 405)	Misdemeanor sex offenders (n = 136)	Felony sex offenders (n = 116)	Child abusers (n = 373)
Mental health	.05	-.04	.05	.12*
Sexual abuse	-.01	-.10	.13	-.02
Physical abuse	.08*	-.02	.02	.06
Out-of-home placement	.05	-.09	.13	.09
Neglect	.12**	-.05	.36***	.20***

*p < .05, **p < .01, ***p < .001

Dynamic risk profiles for the various sex offender and non-sex offender groups

To gain insight into which combinations of dynamic risk factors lead to a high, or low, risk for general recidivism, a CHAID analysis was performed for each sub-group. Figures 3 to 6 show the results of these analyses for the various sex offender and non-sex offender groups.

Figure 3 Results of the CHAID-analysis for the subgroup Non-Sex Offenders (AUC = .60)

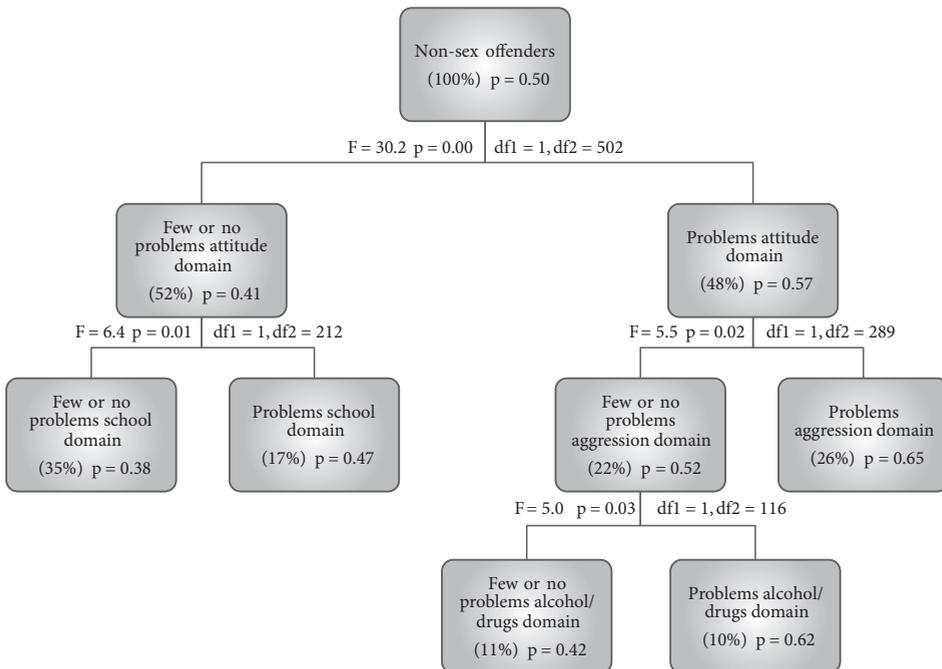


Figure 4 Results of the CHAID-analysis for the subgroup Misdemeanor Sex Offenders (AUC = .73)

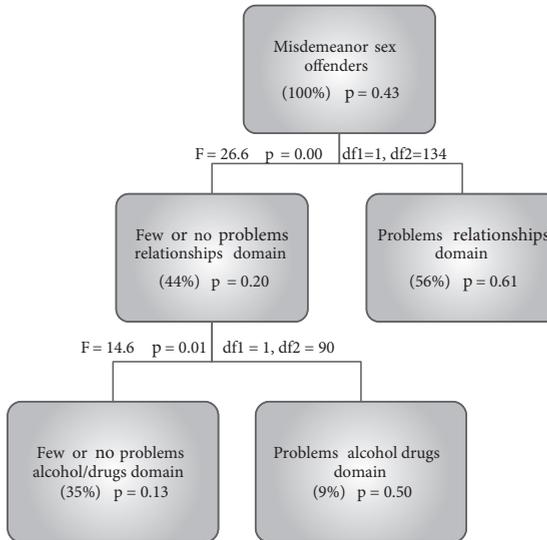


Figure 5 Results of the CHAID-analysis for the subgroup Felony Sex Offenders (AUC = .76)

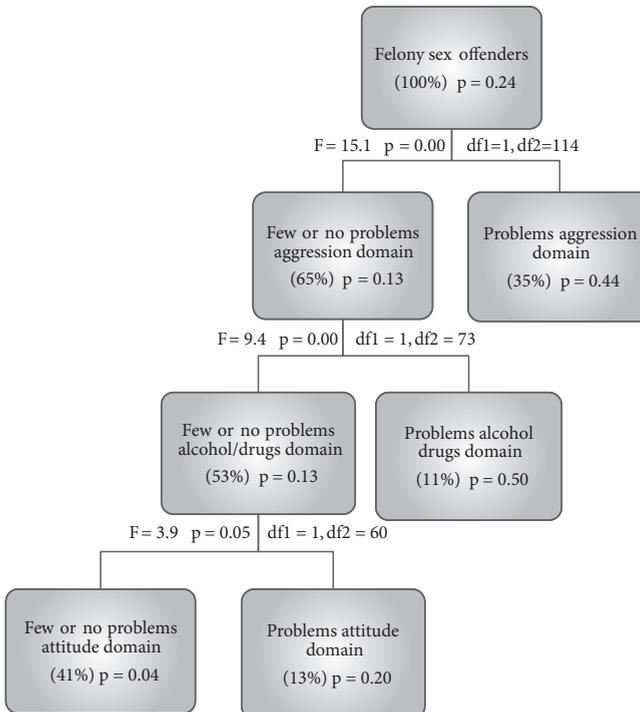
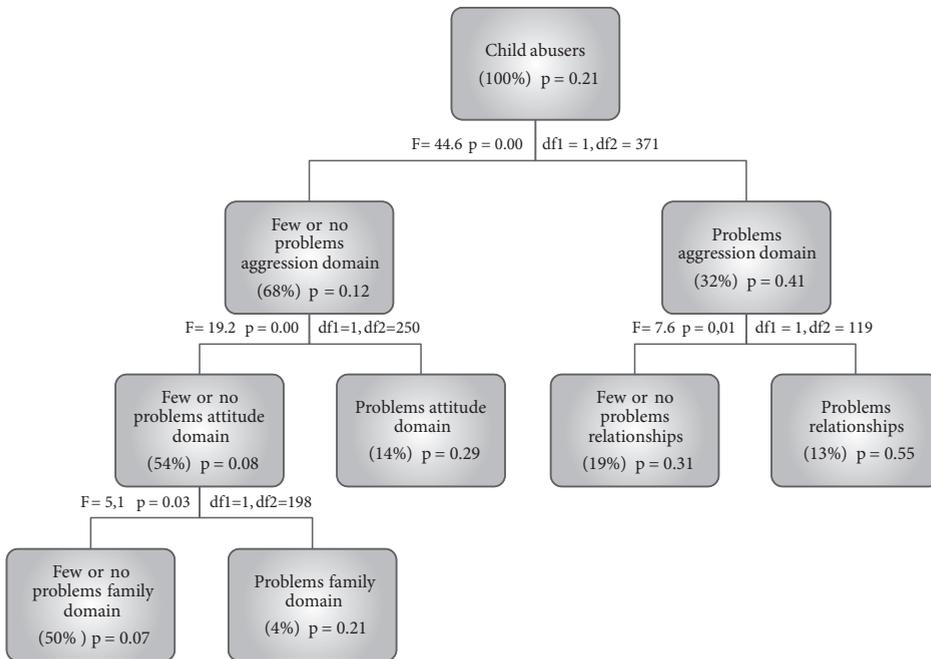


Figure 6 Results of the CHAID-analysis for the subgroup Child Abusers (AUC = .77)



The risk classification of the non-sex offender group (average risk of recidivism $p = .50$) was based on dynamic risk factors in the attitude, aggression, school and alcohol/drugs domains. Based on these four domains, juveniles were divided into six groups, which differed in terms of the risk of recidivism. The combination of risk factors in the attitude and aggression domains resulted in the greatest risk of recidivism ($p = .60$), followed by the combination of risk factors in the attitude and alcohol/drugs domains ($p = .55$). The AUC value of this risk classification was .65

The risk classification of the misdemeanor sex offenders group (average risk of recidivism $p = .43$) was based on dynamic risk factors in the relationships and alcohol/drugs domains. Based on these two domains, juveniles were divided into three groups, which differed in terms of the risk of recidivism. The presence of dynamic risk factors in the relationships domain was associated with the greatest risk of recidivism ($p = .61$). In the case of juveniles with no risk factors in the relationships domain, but with risk factors in the alcohol/drugs domain, there was an increased risk of recidivism ($p = .50$). Juveniles with no risk factors in the relationships and alcohol/drugs domains had a low risk of recidivism ($p = .13$). The AUC value of this risk classification was .73

The risk classification of the felony sex offenders group (average risk of recidivism $p =$

.24) was based on dynamic risk factors in the aggression, alcohol/drugs and attitude domains. The risk of recidivism was greatest among the group of juveniles with risk factors in the aggression domain ($p = .44$). In the case of juveniles with no risk factors in the aggression domain, but with risk factors in the alcohol/drugs domain, there was a high risk of recidivism ($p = .39$). The AUC value of this classification was .77. The risk classification of the child abusers group (average chance of recidivism $p = .21$) was based on the presence of dynamic risk factors in the aggression, attitude, relationship and family domains. The presence of dynamic risk factors in the aggression domain resulted in a high risk of recidivism ($p = .31$), especially in combination with the presence of risk factors in the relationships domain ($p = .55$). If there were no risk factors present in the aggression domain, but present in the attitude domain, there was an increased likelihood of recidivism ($p = .29$). The AUC value of this risk classification was .77.

7.4 Discussion

Because the degree to which differences exist between groups of juvenile sex offenders and juvenile non-sex offenders was unclear so far, this study examined differences in the prevalence and impact of static and dynamic risk factors between non-sex offenders ($n = 504$), misdemeanor sex offenders ($n = 136$), felony sex offenders ($n = 116$), and child abusers ($n = 373$). First, differences between the groups were examined in terms of their background characteristics and the level of general recidivism. Sex offenders were relatively often European Americans compared to non-sex offenders. This is in line with previous findings (Veneziano, et al., 2004; Van Wijk et al., 2005), although there have also been studies that revealed no differences in background, or indeed an over-representation of ethnic minorities among sex offenders (Van Wijk et al., 2006). On average, felony sex offenders and child abusers appeared to be younger than misdemeanor sex offenders and non-sex offenders. Past research findings on age differences are mixed. Some studies have shown that sex offenders are younger than non-sex offenders, while others suggest the opposite or find no differences at all (Van Wijk et al., 2006). As far as family composition is concerned, this study has shown that sex offenders are less likely to live with their biological mothers, and are less likely to have brothers and sisters than are non-sex offenders. No differences with regard to family size or family structure emerged from previous studies in which family composition was compared (Van Wijk et al., 2006). As already stated in the introduction, these contradictory results can be attributed to the limitations of previous studies in which small sample groups were used, and to the lack of any adequately defined non-sex offender group (Van Wijk et al., 2006).

Levels of general recidivism were considerably lower among boys who committed relatively serious sex offenses (24% for felony sex offenders and 21% for child abusers) than among juveniles who committed no (50%) or misdemeanor sex offenses (43%). There were no significant differences between the groups as regards the seriousness of the re-offense. It should be noted that in the present study, the recidivism period (eighteen months) is relatively short compared with other studies (McCann & Lussier, 2008), and makes comparisons of the recidivism rates with those of earlier studies difficult.

Furthermore, this study examined the degree to which dynamic risk factors occur among the various groups of sex offenders. The prevalence of most dynamic risk factors was greatest in the case of non-sex offenders, followed by misdemeanor sex offenders. There were far fewer dynamic risk factors present in felony sex offenders, and even less in the case of child abusers. These results indicate that the incidence of dynamic risk factors is lower among sex offenders than among non-sex offenders. In addition, the more serious the sexual offense, the lower the prevalence of dynamic risk factors. This applied to every risk factor in the use of free time, alcohol/drugs and attitude domains, and to almost every risk factor in the school, relationships, family, aggression and skills domains.

The finding that significantly fewer dynamic risk factors were present among sex offenders than among non-sex offenders in almost every area has not been highlighted so clearly in any other study. A review of literature from 1995 to 2005 shows that there are more similarities than differences between sex and non-sex offenders (Van Wijk et al., 2006). Van Wijk and colleagues (2006) conclude that many differences probably remain undiscovered as a result of methodological limitations of the studies, such as small sample groups, the heterogeneity of the sex offender group and inadequately defined control groups. Moreover, previous studies have mostly been conducted among incarcerated juveniles. As risk factors are more commonplace in this group, both in the case of sex offenders and non-sex offenders, the differences between these groups may be less sizeable than differences between sex and non-sex offenders from non-detention samples. A study by Butler and Seto (2002) involving non-detention samples also found that sex offenders had fewer family problems and fewer peer problems than was the case among non-sex offenders.

The current study found only one risk factor that actually occurs more frequently among sex offenders, and which additionally is more common the more serious the sexual offense. This concerns 'not having any friends'. Earlier studies also revealed that juvenile sex offenders, especially child abusers, are often loners with a lack of social skills (Davis & Leitenberg, 1987; Ford & Linney, 1995; Hsu & Starzynski, 1990; Manocha & Mezey, 1998; Miner & Munns, 1995; O'Callaghan & Print, 1994; Valliant & Bergeron, 1997).

If we look at the impact of the dynamic risk factors on general recidivism, we found a very different picture: the impact of the risk factors appears to be considerably greater among sex offenders than among the non-sex offenders. In other words, risk factors are less commonly found among sex offenders than non-sex offenders, but if they do occur, their impact on recidivism is much stronger. To our knowledge, no research exists in which a comparison is made of the *strength* of the relationship between risk factors and general recidivism among sex and non-sex offenders. Research of this kind is only possible where the samples are sufficiently large. From the previously mentioned review by Van Wijk and colleagues (2006), it appears that the average size of sex offender groups is 105, which is somewhat low for the purpose of being able to detect actual differences between correlations. A meta-analysis by Hanson and Bussière (1998) has shown that there are few differences between sex and non-sex offenders in the *type* of risk factor that are predictive of general recidivism. However, that these factors are more closely related to recidivism among sex offenders than is the case with non-sex offenders has not been reported so far.

As far as the prevalence and impact of static risk factors are concerned, there are fewer differences between the groups. It is only in relation to the sexual abuse risk factor that a significant difference exists, with sexual abuse being more frequently found among juveniles who commit relatively serious sexual offenses (child abusers and felony sex offenders). Sexual abuse is considerably less often found among non-sex offenders. This is in line with literature that has repeatedly shown that there is a greater incidence of a history of sexual abuse among sex offenders than in the case of non-sex offenders (Fagan & Wexler, 1988; Hastings, et al., 1997; Jonson-Reid & Way, 2001; Milroy, 1994). However, if we look at the effect of sexual abuse on recidivism, then we see that this risk factor is not significantly related to recidivism in the various groups. This affirms the results of a meta-analysis in which no relationship between a history of sexual abuse and both sexual and general recidivism among sex offenders was established (Hanson & Bussiere, 1998). So in spite of the fact that juvenile sex offenders have frequently been the victim of sexual abuse, this risk factor is not predictive for recidivism among juvenile sex offenders.

No significant differences have been found between the groups in the degree to which physical abuse, neglect and out-of-home placements occur. In addition, these risk factors were weak predictors of recidivism, both for sex offenders and non-sex offenders. A meta-analysis also showed the relationship between these risk factors and sexual and general recidivism to be weak (Hanson, Morton-Bourgon, 2005). So in spite of the fact that these risk factors are considered essential in the etiology of sex offending, they are of subordinate importance for general recidivism.

Finally, no differences have been found between the groups in the extent to which mental health problems are present. However, one limitation of this study is that no

distinction was made between internalizing and externalizing problems. Previous studies have shown that there are no differences between sex and non-sex offenders in the prevalence of externalizing problems, but that there are differences when it comes to internalizing problems (Van Wijk et al., 2006). Current research data does not allow this distinction to be made. Mental health problems are only significantly correlated with general recidivism among child abusers, and this correlation is relatively weak. Other studies in the past have also shown that there is no or only a weak relationship between mental health problems and both general and sexual recidivism (Hanson & Morton-Bourgon, 2005).

Some limitations of this study need to be mentioned. First, the WSCJA was not designed to provide an in-depth examination of risk factors. Instead, it is a risk assessment tool that is designed to be used by juvenile justice professionals and clinicians to summarize juveniles' risks and needs, classify their overall risk level, and plan treatment and supervision strategies. Second, there are no research results available regarding the interrater reliability of the WSJCA. However, given that quality assurance is an important part of the assessment structure and organization in Washington State and probation officers receive intensive training to adequately administer and reliably score the WSJCA (Barnoski, 2004b), we have no reason to assume that reliability of the WSJCA would be low. Third, recidivism is defined in terms of judicial contacts. The use of official records involves the risk of underestimating the actual number of criminal acts, as there is more criminality than is registered in the official systems. On the other hand, self-reported data has its limitations too. For instance, Breuk, Clauser, Stams, Slot, and Doreleijers (2007) showed that juvenile delinquents tend to underreport delinquent behavior, in particular where it concerns more severe offenses.

The results of this study have important implications for clinical practice. First, it appeared that dynamic risk factors have a relatively major impact on general recidivism among sex offenders. The potential effect on recidivism from interventions that deal with these factors is therefore also relatively large among sex offenders. If, in addition to specific programs for sex offenders, behavioral interventions are used that are aimed at the dynamic risk factors most closely associated with general recidivism, it is possible that there will be a decrease not just in general recidivism, but also in sexual recidivism.

Furthermore, it was shown which combinations of dynamic risks resulted in a high risk of recidivism among the various groups of sex and non-sex offenders. In the case of the non-sex offenders, the risk of recidivism is greatest among juveniles in whom dynamic risk factors are present in the attitude and aggression domains, or the attitude and alcohol/drugs domains. Among the misdemeanor sex offenders, the risk of recidivism is greatest in juveniles with risk factors in the relationships domain, followed by juvenile offenders with risk factors in the alcohol/drugs domain. With the felony sex

offenders, the risk of recidivism is greatest among juveniles with risk factors in the aggression domain, followed by the alcohol/drugs domain. Finally, in the case of child abusers, the risk of recidivism is greatest if risk factors are present in the aggression domain, especially in combination with risk factors in the relationships domain. These results demonstrate that there are combinations of dynamic risk factors that treatment should target in order to maximize the potential effect of treatment on reducing general recidivism.