

**A META ANALYSIS OF THE PREDICTORS
OF SEXUAL RECIDIVISM
IN JUVENILE SEXUAL OFFENDERS**

By

Kristie McCann
Bachelor of Arts (Honours), University of Waterloo, 2002

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APPROVAL

Name: Kristie McCann
Degree: Master of Arts
Title of Thesis: A meta analysis of the predictors of sexual
recidivism in juvenile sexual offenders

Examining Committee:

Chair: Prof Neil Boyd
Professor, School of Criminology

Patrick Lussier, PhD
Senior Supervisor
Assistant Professor, School of Criminology

Raymond R. Corrado, PhD
Supervisor
Professor, School of Criminology

Jean Proulx, PhD
External Examiner
Professor, Director of Criminology, University of
Montreal

Date Defended/Approved:

Jul. 21/06



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ABSTRACT

It is unclear whether risk factors that predict sexual recidivism in adults are the same for juveniles. Most studies have been based on small samples of juvenile sex offenders and analyzed a limited number of risk factors. Eighteen studies were used in a meta analysis of sexual and general recidivism in juveniles. Studies included were characterized by: a sample of juveniles; a longitudinal design with follow up period; a measure of sexual recidivism; risk factors assessed for a relationship to sexual recidivism; and bivariate relationships were given. Overall strength of association between risk factors and sexual recidivism was calculated. Results suggest that sexual recidivism is low (12%), and most re-offended generally (53%). Sexual deviancy and antisocial traits are significantly related to sexual recidivism, and victim characteristics are good predictors of sexual re-offending. The mean effect sizes found were low, raising questions about correctly predicting risk of sexually re-offending in juveniles.

Keywords: sex offender; juvenile; recidivism; prediction; meta analysis; risk assessment.

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GLOSSARY

SOR	Sex Offender Registry
JDA	Juvenile Delinquency Act
YOA	Young Offender's Act
YCJA	Youth Criminal Justice Act
ATSA	Association for the Treatment of Sexual Abusers
PCL	Psychopathy Checklist
ERASOR	Estimate of Risk of Adolescent Sex Offence Recidivism
J-SOAP-II	Juvenile Sex Offender Assessment Protocol II

THE JUVENILE SEX OFFENDER

Sex offenders have long been considered a unique type of offender deserving extra attention by the criminal justice system. Historically, sex offences were treated similarly to other violent offences; however, those who committed such acts were typically subjected to harsher penalties (Witt, DelRusso, Oppenheim, & Ferguson, 1997). Though sex offences appear to have been treated more seriously than many other offences, it has only been in the last century that there have been a number of attempts at creating legislation specific to sex offenders and their containment or treatment. These attempts have originated primarily from high profile, tragic cases involving child victims in both Canada and the United States (Sutherland, 1950; Petrunik, 2003).

Despite this attention to sexual crime in general, it is only in the last twenty years or so that there has been recognition that sex offences can be, and are, committed by juveniles (Vizard, Monck, & Misch, 1995). Prior to 1980, sex offences committed by juveniles were believed to be a nuisance but primarily an expression of normal male sexual aggression (Martin & Pruett, 1998). As such, the juvenile justice system was reluctant to give the behaviour any attention (Groth & Laredo, 1981). Any intervention then, was considered unnecessary and usually given in adulthood, if at all (Martin & Pruett, 1998). Once researchers began to see juvenile sex offending as a precursor to adult sex offending (Weinrott, 1996), there was a shift in attitudes toward juvenile sex offenders. Sex crimes by juveniles are now considered serious offences that harm the community and are not simply experimentation or sexual curiosity on the part of the juvenile (Martin & Pruett, 1998). Further, some researchers have suggested that the

juvenile justice system should intervene as juvenile sex offending reflects the failure of society to prevent the behaviour and thus society is obligated to at least provide the opportunity for rehabilitation (Martin & Pruett, 1998).

Treatment and Legislation

Until the 19th century, adult sex offenders were believed to be rational actors, and not afflicted with a mental defect or abnormality (Witt et al, 1997). However, by the 1930s, psychology and psychiatry were gaining in acceptance and it was concluded that adult sex offenders required specialized treatment because they were more impulsive and therefore more dangerous than other offenders (Witt et al, 1997). At the same time, various states in the US began to implement the first sexual psychopath statutes (Sutherland, 1950). These laws allowed for the civil commitment of sex offenders in psychiatric facilities and were based on the beliefs that a) a psychiatric disorder caused the behaviour, b) psychiatry could consistently identify that disorder in an individual, and c) that it could be treated (La Fond, 1998). The sexual psychopath laws were used to force individuals who were considered a danger to society into treatment in order to protect the community (Witt et al, 1997). Criticisms began in the 1950s because of the issues with identifying those who were psychopaths under the laws and because of the increasing awareness of the need for due process and equal protection for offenders in the justice system (Freedman, 1987). By the 1970s many states had stopped using these statutes or had repealed them because no causal mental illness had been found to be involved and treatment efforts appeared to be failing (Martinson, 1974).

The US was not alone in their attempt at coercive rehabilitation as a form of societal protection. Beginning in the 1940s, Canada implemented a number of pieces of legislation relating to sex offenders. However, Canada's approach was quite different from that of the US in two ways. First, Canada's policies applied to habitual and/or

violent offenders who were not necessarily sex offenders as well as to sex offenders (John Howard Society of Alberta, 1999). Second, Canada's legislation focused less on mental disorder as a cause of sex offending and violent behaviour. More recently, the Task Force on High Risk Offenders (1995) noted that because of the discrepancies in provincial legislation outlining appropriate circumstances for civil commitment, the financial issues of placing federally housed offenders in provincial mental health facilities, and the fact that most sex offenders were deemed to have personality disorders that were not considered true psychiatric illnesses by many psychiatric professionals, the use of civil commitment with sex offenders has been difficult to legislate in Canada. Instead, they noted that further cooperation between correctional services and mental health services should be sought (Task Force on High Risk Offenders, 1995). Because of these differences, offenders in Canada typically served their sentences in a penitentiary rather than a psychiatric hospital. However, offenders with legitimate psychiatric disorders were sent to secure psychiatric facilities for treatment but this was usually pre-release (Task Force on High Risk Offenders, 1995) whereas the US legislation allowed for the containment of offenders past their final release date. It should be noted that Canada also had legislation in place that allowed for an indeterminate portion of a sentence after a fixed period of incarceration that was evaluated every three years to assess the risk the offender posed to the community. Similar to the US legislation, this practice relied on the ability of psychiatrists to identify high risk offenders who required further treatment prior to release. Because assessment was so difficult, professionals were under fire for their lack of accuracy in determining which offenders were still dangerous.

Overall, the Canadian and American legislation were limited by the same issues: (1) treatment did not seem to be effective; and (2) policies aimed at sex offenders were using more punitive methods of control for those offenders who were seen as a danger

to the community. The 1970s and 1980s saw radical changes in the legislation about sexual offending. The feminist movement brought new awareness to the way the justice system re-victimized women who had been victims of sexual crime (Janus, 2003) and placed responsibility back on the offender as a rational actor, rather than suffering from mental health issues. In the 1980s, as a response to the clinical model of dealing with offenders, there was a move towards community protection (Petrunik, 2003). Specifically, this meant a shift toward harsher penalties, and less reliance on clinical treatments. Further, it was a focus on protection of the real and potential victims, rather than the offender. It is unfortunate that treatment became less of a focus because it can be an effective method of reducing recidivism. Because of the lessened focus on the offender however, this approach failed to address high risk cases, as shown by the continued offending by paroled offenders (Janus, 2003). Both Canada and the United States had begun to move away from a view of “treatment and cure” to one of “management and control” of sex offenders (Petrunik, 2003) and legislative efforts demonstrated this ideological shift in thinking.

Legislative Prevention

Recent efforts to create preventative legislation have concentrated on two types of policy – sex offender registries (SORs) and community notification. SORs require those convicted of violent sex offences or those involving minor children to report regularly to the police for a minimum of 10 years to life to register their address and photograph in both Canada and the US (Letourneau, 2006). Depending on the location, different sexual crimes are included in the requirement to register. It was expected that SORs would aid law enforcement by helping to identify and monitor high risk perpetrators of sex crime, as well as to reduce recidivism and increase public safety (Letourneau, 2006). Both Canada and the US have implemented SORs, however

Canada has been much slower to adopt this strategy of prevention and it has been the impetus of the provinces that encouraged this development (Petrunik, 2003). While some provinces have had registries for some time (e.g. Ontario), only in 2004 was a national registry proclaimed into law in Canada (Royal Canadian Mounted Police, 2004). In the US, each state is responsible for implementation of a registry.¹ Community notification, referred to generically as Megan's Law in the US, is the disclosure of information about sex offenders in a particular area for the community's protection. In the US, this has been implemented by all states, at least in part because continued federal funding was dependent upon having this legislation by 1997 (Petrunik, 2003; Martin & Pruett, 1998). The underlying belief of notification laws held that citizens will be more cautious if they are aware of violent offenders in their community (Simon, 2000). Notification can be done in a number of ways, such as police officers going door to door, television, newspapers, and via the internet. In some communities, there are different levels of notification for different risk levels (Petrunik, 2003). However, many areas have no differentiation between high risk and low risk offenders and simply make the SOR publicly available via the internet (Letourneau, 2006). These states typically use a disclaimer statement like that of California's to note that they "[have] not considered or assess[ed] the specific risk that any convicted sex offender displayed on this website will commit another offence or the nature of any future crimes that may be committed" (Attorney General of California, 2001). However, it is possible that the public simply assumes they all are dangerous or that the risk is minimal.² The lack of distinction

¹ Interstate communication has not been very effective in times of emergency. This has been demonstrated with the chaos of Hurricane Katrina in the United States where 2000 sex offenders have gone missing (Marsteller, 2005). These issues have encouraged a number of changes to the system to help monitor sex offenders during future crises such as natural disasters.

² As in the past, troubling cases in the news such as that of Jessica Lunsford in Florida, who was sexually assaulted and murdered by a registered sex offender (Candiotti, Dorsey, Oppmann, Phillips & Zarrella, 2005), have caused massive public outcry about the efficacy of these laws.

between high and low risk offenders has caused some to question the efficacy of these laws.

Application of SORs and Community Notification to Juveniles

The response to juvenile sex offenders is a fairly new one, and perhaps because of this, the approach taken has been to simply apply the sanctions used for adult sex offenders to juveniles. While a number of researchers have noted the dynamic and unstable features of adolescence (Steen, 2001), others have focused on juvenile offending as a precursor of adult offending (Weinrott, 1996).

The shift from the rehabilitation of sex offenders to their management and control strongly resembles that which occurred in policies relating to juvenile offenders. Historically, there are two fundamental principles of the juvenile justice system; juveniles are different from adults and thus require “not only separate but different treatment before the law” (Martin & Pruett, 1998:280) as juveniles are more malleable to change (Association for the Treatment of Sexual Abusers [ATSA], 2000) and less responsible for their actions due to lower intellectual and moral capacities. These principles suggest that rehabilitation should be a primary goal of the juvenile justice system (Bala & Schwartz, 1993). In the last decade, however, pessimism has been growing regarding the efficacy of rehabilitative efforts and the public has begun to favour punishment as a form of societal protection (Martin & Pruett, 1998).

More and more, differences in the treatment of adult and juvenile offenders by the criminal justice system are fading and courts are using offence based sentencing and focusing less on the juvenile’s personality, character or environment in determining appropriate sentences (Steen, 2001). Changes in the Canadian system are outlined by Corrado (1992), who distinguishes the main assumptions between the *Juvenile Delinquents Act* (JDA) and the *Young Offenders Act* (YOA). The JDA, in place for 74

years, took the view that juveniles are deviant because of dysfunctional socialization and attempted to help them adjust using treatment-oriented, needs based sentences. The YOA, enacted in 1982, took a drastically different approach to juvenile justice from that of the JDA, viewing juveniles as rational actors choosing their criminal behaviour and believing that they should be held accountable for their actions. As of 2003, the *Youth Criminal Justice Act* (YCJA) attempted to amalgamate the approaches of the JDA and the YOA.³ It remains to be seen whether this newest legislation will prove successful at appeasing the public's lust for punishment and the academic's desire for more rehabilitative methods. At the very least the YCJA appears to be more consistent in differentiating consequences that are more appropriate for non-violent or low risk offenders and violent or high risk offenders. Both Canada and the US are guilty of this trend towards deterrence and punishment for delinquent children and reserving protections for those children who are in danger (Trépanier, 1999; Bala & Schwartz, 1993). Specifically, the intent of the legislation is to "punish, hold accountable and incarcerate for longer periods" juveniles whose behaviour is not tolerated by society (Trépanier, 1999, 321). Impacted by changes to sex offence legislation and juvenile justice, juvenile sex offenders have perhaps been the most affected by this shift to more punitive sentences.

The increasing similarities in the treatment of adults and juveniles can be seen in both Canada and the US, where juvenile sex offenders prosecuted as adults are subject to registration and notification. According to federal guidelines, juvenile sex offenders in the US who are not tried as adults should not register or have the community notified;

³ Specifically, the YCJA has attempted to bring restorative justice principles such as conferencing into the fold while at the same time focusing on offence based proportionality in sentencing and allowing for adult sentencing for more serious offences (Barnhorst, 2004). It should also be noted that provincial differences in the application of this legislation mean that interpretation and focus also differ; Quebec in particular continues to utilize a more rehabilitative approach (Trépanier 2004).

however, this is changing as more states extend their legislation to cover all juvenile sex offenders (Letourneau, 2006). Further, because judicial waivers in the US are easier to obtain than in the past, juvenile sex offenders are typically moved to adult court (Martin & Pruett, 1998). The use of SORs and community notification legislation with juvenile sex offenders is thus mixed across states. Some states specifically include them, while others do not specifically exclude them, leaving the appropriateness to the interpretation of the courts (Zimring, 2004). Even in those states which have juvenile specific legislation, some have simply added the words "juvenile" and "adjudicated delinquent" to the pre-existing statutes (e.g. Idaho; Zimring, 2004). In Canada, federal legislation considers most sexual offences (specifically aggravated sexual assault) committed by offenders aged 14-17 as presumptive offences. This means that these juveniles are subject to the same sentencing options as an adult would be for the same offence (see YCJA, 2003, § 61-82). Though there are some cases where juveniles have been required to register (e.g. R. v. J.E.T. and R v. M.G. in 2005 in British Columbia), it is less common in Canada than it is in the US. Juvenile sex offenders are now able to be sanctioned with longer sentences, civil commitment, registration and notification (Letourneau, 2006).

A number of researchers and practitioners have expressed concern over this trend of utilizing the policies developed for adult sex offenders on juveniles. While the concern is due in part because the efficacy of the laws with adult sex offenders is still unknown, much of this concern stems from the lack of understanding of juvenile sex offending; the physical, emotional and social development of the juvenile is rarely considered in the application of these laws (Vizard, Monck, & Misch, 1995). Aside from efficacy issues, one of the biggest difficulties in the application of these laws in general is defining the sexual behaviour to be included. This is particularly true for juveniles. Because the definition of normal sexual behaviour for juveniles is relatively unknown,

age and peer inappropriate behaviour is difficult to categorize as criminal without the clear presence of force or coercion.

The legal definition of criminal sexual behaviour differs from that used by clinicians. Specifically, the legal definition must be one which draws firm lines around the behaviour that is acceptable and that which is not, while the clinical definition can take far more elements under consideration (Martin & Pruett, 1998). Despite this, in many states, broad definitions of what sex crimes are included in the legislation are used.⁴ In some cases, this can be seen as net widening; juveniles in states such as Alabama and Wisconsin are more likely to be involved with the justice system for a sex offence than a juvenile in Washington or Connecticut because the definitions of what behaviours are acceptable and what behaviours are illegal differ (Martin & Pruett, 1998).⁵ This is less of a problem in Canada where federal legislation means that the same legislation is applied to all offenders as opposed to state-based criminal codes in use in the United States.

This makes a difference when evaluating risk; some states believe certain behaviours are normal or at the very least, not serious enough to warrant attention whereas others believe the same behaviour is a serious violation. Because of this, community notification regarding serious offenders in the area may hold a significantly different meaning depending on the area. The expectations of the public and the societal beliefs about adolescent behaviour add to the confusion of what behaviours should be sanctioned. This issue is compounded by cultural discrepancies; in Norway, for example, certain "normal" behaviours in pre-school children were described as abusive and

⁴ It can also be difficult to discern at what age it is appropriate for the justice system to be involved. In Canada, the minimum age of responsibility is 12 years (Barnhorst, 2004). In the US, it is not as straightforward. The minimum age ranges from age 6-12, and some states have no minimum age at all (Martin & Pruett, 1998). An immaturity defence can be used however.

⁵ For example, sex between a 12 and 14 year old in Wisconsin is considered a sexual assault because the victim is younger than 13 and thus the 14 year old is prosecuted accordingly. In Washington however, this same situation would not be prosecuted as this state requires a thirty-six month difference between the age of the offender and victim (Martin & Pruett, 1998).

inappropriate in the US (Vizard, Monch, & Misch, 1995). Further, in the Netherlands it has been noted that hands-off offences (i.e. voyeurism, exhibitionism) are usually ignored when committed by juveniles and are seldom prosecuted even with adults (Bruinsma, 1995). The issue of definitively labelling sexual behaviour as inappropriate is difficult because “normal” is not agreed upon across groups.

Legislative Issues

Registration and notification have stirred up controversy in the courts. A number of constitutional issues have come up in regard to these laws, though more so for their application to adults. Most arguments have been focused on due process issues, and the concern that SORs and notification amount to double jeopardy by instituting a second punishment for the offence. Issues regarding the discrimination of juvenile sex offenders on the basis of age and sex have also been raised. Most courts, however, have ruled in favour of allowing juvenile sex offenders to be sanctioned (Martin & Pruett, 1998).

The determination that SORs and notification do not constitute a punishment in the eyes of the law has had a significant impact on subsequent decisions. In terms of juveniles, this has been a contentious issue because in both the US and Canada, there are juvenile justice codes which mandate confidentiality for juveniles who are not convicted in adult court; these same juveniles are being subjected to the requirements of these policies, particularly in the US. Clearly, community notification would be a breach of confidentiality. Juvenile sex offenders in Canada who are given adult sentences are not entitled to this confidentiality in the same way so the issue is not a legal one. However, it has still been argued in the Canadian courts because of the onus on the offender to show why s/he should be dealt with by the youth courts instead of the adult system (see *R v M.G.* [2005] for discussion). In the US, courts have decided that

because notification/disclosure does not constitute punishment, it is not a constitutional issue despite the confidentiality that the juvenile justice acts afford (*Alabama v. C.M., C.M.D., S.D.*, [1999]). Further to this, because juveniles in the US are not “convicted” but “adjudicated delinquent”, they are not given the right to trial by jury.⁶ Because previous cases had already determined that notification and registration do not constitute punishment, it was decided that there is no right or need for the juvenile to have a trial.⁷ A focus on public protection was emphasized in *Wisconsin v Jeremy P.* where the court determined that children have no *right* to have their best interests considered in any government decision about their lives (p 24, emphasis added). Though the courts still consider the juvenile’s best interests, it is not a fundamental right.

The response by the justice system may be causing a rebound effect in the system. There is evidence that viewing these statutes as punitive may cause prosecutors to adjudicate fewer offenders, and that judges and juries may be less likely to find the offender guilty (or “adjudicated delinquent”; Letourneau, 2006). This evidence indicates that a number of people in the justice system are less likely to charge and convict juvenile sex offenders while statutes are in place that penalize juvenile sex offenders in what is viewed as an excessive manner (Letourneau, 2006). It has also been noted that the official rates of arrest suggest that the legal prohibitions on peer sex among juveniles are not enforced broadly (Zimring, 2004), reinforcing the idea that those

⁶ In *Wisconsin v. Jeremy P.* [2005], it was argued that requiring juvenile sex offenders to register without a proper trial subjects them to “adult ‘collateral consequences’ of criminal prosecution without the adult’s right to a jury trial” (p 20) and in fact they can be imprisoned for not abiding by the reporting requirement even though they were not found guilty of the original offence.

⁷ It was also argued that because *Wisconsin v Cesar G.* [2003] gave the lower courts authority to waive the registration requirement under certain conditions if requested by the juvenile, there was no need for the juvenile to have a trial as registration may be avoided. The primary consideration in the decision to waive the registration requirement is whether it is in the interest of public protection.

in the criminal justice system avoid charging juveniles with sexual crimes (especially those involving peers) because of the consequences.⁸

The Effect of SOR and Notification on Recidivism

Because these laws aim to protect the community through the prevention of recidivism (Martin & Pruett, 1998), an appropriate measure of their effectiveness would be to evaluate the level of sexual recidivism found in sex offenders subjected to these laws. At this time, however, there have been few studies on the effects of these laws on recidivism in adults and none on juvenile sex offenders (Letourneau, 2006; Zimring, 2004).

These laws may in fact be beneficial in other ways. Though burdensome for police officers, they have been shown to aid law enforcement with tracking and investigating these offenders (Letourneau, 2006). In particular, it appears that after the implementation of a registry, sex offenders listed on the registry were re-arrested faster than those offenders who were not, even though re-offence rates stayed the same (Logan, 1998). However, it is not certain what is creating this effect. If it is not extra vigilance on the part of the community due to notification, then the validity of disclosing the offender's information to the community should be questioned. There is some evidence however, that the community uses the information to help identify sex offenders who visit or live in high risk areas related to children (Letourneau, 2006). Interestingly, this does not appear to be the case for women as the safety of women has not been shown to be impacted by the use of registries or notification (Letourneau,

⁸ Sexual assault charges decreased for minors in two states when the sex offender registry laws were modified to include minors, with a simultaneous increase in cases being diverted out or adjusted to reflect a less serious charge. For states such as South Carolina and Illinois, where juveniles have always been included, there was a decrease in the conviction rate after the enactment of the laws and a further reduction once the registry was put on the internet (Letourneau, 2006).

2006). While this is important information to help evaluate the use of these laws, it is still unclear if the laws are effective at reducing recidivism. As one author notes:

The singular consideration should be whether community notification will in fact reduce victimization rates or whether it will merely provide a dangerous false sense of security. Because there is no compelling or empirical evidence to suggest that community notification is a constructive response to the problem, the only conclusion I am left with is that the latter must be true" (Prentky, 1996: 297).

A fundamental assumption of these laws is that sex offenders (of whatever age) are likely to re-offend. However, Zimring (2004) notes that most studies show low rates of recidivism and that only 4-8% of juvenile sex offenders are repeat sex offenders. Zimring further notes that arrests for sex crime make up a smaller proportion of all juvenile arrests than for adult arrests (2004; 43). The legislative inclusion of juveniles is based on the idea that juveniles are similar to adult sex offenders. Legislation seems to ignore whether the sexual behaviour of adolescent is significantly different from that of adults and "no thought about whether the age, experience, or biology of children and adolescents makes their sexual behaviour significantly different from that of adults" (Zimring, 2004, 11). Despite this, very little has been found to establish the similarities (or dissimilarities) between the juvenile and adult sex offenders (Zimring, 2004). However there is another view of juvenile sex offenders that suggests that these offenders are actually very similar to other juvenile offenders. Considering that juvenile sex offenders appear to be more likely to re-offend generally (Caldwell, 2002; Cottle, Lee, Heilbrun, 2001), this view may hold some validity. Yet, very few studies have examined the similarities between non-delinquent juveniles, or generally delinquent juveniles and juveniles who commit sexual crimes (Zimring, 2004). Without this information, identifying what factors separate sexual recidivists from those who do not commit sexual crime will be difficult.

Hindering the process of evaluating these laws is the problem of predicting recidivism. As with previous legislation, the key to effective implementation and maintenance are accurate risk assessments. At this point, most studies evaluating both the tools and the risk factors used within the instruments have suffered from small sample sizes and low base rates of re-offending making it difficult to isolate the risk factors that are most effective. Without accurate assessments of the offenders, determining what offender requires which intervention becomes ineffective and possibly harmful. Though assessments are used throughout the judicial process (Witt et al, 1997), especially for juvenile offenders, the low rate of sexual offending in both adults and juveniles means that prediction is extremely difficult (Letourneau, 2006; Witt et al, 1997; Proulx, Tardif, Lamoureux, Lussier, 2000). In fact, the best prediction is that the juvenile will not sexually re-offend (Caldwell, 2002; Witt et al, 1997; Wienrott, 1996). This is not to say that there are no dangerous juveniles who need to be closely monitored but rather that there is a need to differentiate those few juveniles who are dangerous to the general population from those who are not. Professionals attempting to identify juveniles who are high risk to re-offend face a serious challenge as knowledge about what characteristics are indicative of a high potential to sexually re-offend is minimal. So little is known in fact, that "therapists may be relying on 'irrelevant information' in their predictions of risk" (Vizard, Monck & Misch, 1995; 750). At this time, there are very few studies which have examined which factors increase the risk of sexually re-offending in juveniles. Far more studies have focused on the sexual recidivism of adults (see Hanson and Bussière, 1998 or Hanson & Morton-Bourgon, 2004, for reviews).

Risk Assessment with Adult Sex Offenders

In response to the legislation that requires designation of risk to offenders, a number of studies have examined the factors which predispose an offender to be more likely to re-offend sexually or violently. From these studies, a number of tools to assess risk have been developed to help professionals more accurately gauge the level of danger the offender presents to the community. There has been a move towards actuarial instruments that seems to be driven by the idea that clinician judgements are no better than chance at accurately assessing risk for any offender; unstructured clinical judgements were found to only be moderately related to sexual recidivism (Hanson & Bussière, 1998). Barbaree, Seto, Langton, and Peacock (2001) argue that clinical ratings are more subjective whereas actuarial tools use objective criteria and scoring guidelines to reduce bias in the resulting assessment and prevent the use of irrelevant information. Most instruments created have utilized a few key risk factors that are supported by empirical research. The major criticism of this approach has been that the risk factors chosen typically are static in nature, and therefore focus on historical aspects that the offender cannot change, or that are difficult to change. Some have argued that these factors are not effective for treatment or intervention purposes (Worling & Curwen, 2001). Instruments such as the Sexual Violence Risk-20 (Boer, Hart, Kropp, & Webster, 1997) or the Risk of Sexual Violence Protocol (Hart, Kropp, Laws, Klaver, Logan, & Watt, 2003) have been developed using more dynamic, or changeable aspects of the offender's life, thereby becoming more useful to clinicians and intervention as well as more accurately reflecting the risk the offender presents at the current time. However, many of the instruments used still focus on static factors of risk. The Violence Risk Appraisal Guide (VRAG; Harris, Rice & Quinsey, 1993), the Sex Offender Risk Appraisal Guide (SORAG; Quinsey, Harris, Rice, & Cormier, 1998), the Rapid Risk Assessment of

Sexual Offence Recidivism (RRASOR; Hanson, 1997), and the Static-99 (Hanson & Thornton, 1999) are able to predict sexual, violent and general recidivism in adults though none are 100% accurate. All of these instruments focus on criminal history, victim characteristics and some demographic characteristics (particularly marital status and age; Barbaree et al, 2001).

Risk Assessment with Juveniles

There is little agreement over what constitutes a “good” evaluation of risk for juveniles. Though there are two risk assessment tools created specifically for use with those between the ages of 12-18, there is still doubt over their validity and reliability (Worling, 2004, Prentky & Righthand, 2003). For some authors, a good evaluation of risk with juveniles is made up of knowing the following things: offence scripts of behaviour before, during and after the offence, feelings of responsibility and accountability, attribution of the offence, cognitive distortions regarding justification, empathy displayed and the patterns of behaviour leading to a loss of control over behaviour (Bruinsma, 1995). For others, important risk factors relate to social skills, sexual deviance (i.e. sexual arousal to deviant stimuli), antisocial behaviour and personality, offence characteristics, victim characteristics, previous victimization, criminal history and treatment outcome (Worling & Långström, 2006). With this many options, it is still unknown which of these factors are most useful in determining risk in juvenile sex offenders, and little conclusive evidence has been found.

Perhaps the biggest problem facing the prediction of recidivism is the low rate of sexual re-offending in both adults and juveniles (Caldwell, 2002; Cottle, Lee, Heilbrun, 2001; Hanson and Bussiere, 1998; Proulx, Tardif, Lamoureux, & Lussier, 2000; Witt et al, 1997; Letourneau, 2006). In addition to this low level of re-offending is the problem that comes from using official data. Proulx et al (2000) explain that only about 10% of

sexual assaults are reported to police and of these only about half result in convictions for sexual crime. For juveniles, the re-offending rates are expected to be underestimates because in many states police and attorneys will not press charges against juveniles engaging in (prohibited) peer to peer consensual sex (Zimring, 2004). Surely for both adults and juveniles, underreporting of sexual crime is an important consideration. It is possible that this is an even more serious problem for juvenile offenders because of the fear of the consequences to the offender by parents or authorities, or even because the victim does not recognize the behaviour as criminal (e.g. consensual sex between teenagers) and thus does not report it. Clearly, establishing a "true" level of sexual recidivism is impossible for both adults and juveniles. This lack of an accurate base rate makes it very difficult to evaluate the effectiveness of registration and notification laws at reducing recidivism. Even more importantly, it makes it very difficult to identify factors that increase the risk of re-offending without very large sample sizes and very long follow up periods as so few adults or juveniles re-offend sexually.

RISK FACTORS OF SEXUAL RECIDIVISM IN JUVENILES

With the development and recognition of risk factors that increase the potential of re-offending, risk assessment tools have been created to help identify those offenders who are dangerous. However, risk assessment tools have typically been criticized for two main reasons. First, most of the risk factors are historical, or unchangeable (so-called static factors), meaning that individuals who are assessed as high risk, will always be assessed as high risk. Because of this, the second criticism of these instruments is that they provide little guidance to clinical professions attempting to treat offenders. Instead, factors that are conducive to change and appropriate targets for intervention are more desirable by clinicians (Worling, 2004). There are two instruments used for assessing risk in juveniles. Both of them use static and dynamic (i.e. changeable characteristics) risk factors as part of their protocol. However, both are quite new and are lacking in evidence of predictive validity (Worling, 2004; Prentky & Righthand, 2003).

The Estimate of Risk of Adolescent Sexual Offence Recidivism (ERASOR) by Worling and Curwen (2001) is a 25 item assessment tool based on static and dynamic risk factors for use with 12-18 year olds who have previously sexually offended. The instrument is designed only for the prediction of sexual recidivism and does not purport to assess risk of any other type of re-offending by a juvenile. The authors specifically note that the assessment of risk should be considered a short term assessment. Re-assessment is important and should be done after any changes in the adolescent's life, and on a regular basis due to the ever changing nature of adolescence. The instrument is made up of 5 scales: sexual interests, attitudes, behaviours, historical sexual assaults, psycho-social functioning, family/environmental functioning, and treatment. There is also

a section for "other" allowing clinicians to note other observations of particular note relating to risk (e.g. offender states an intention to re-offend).⁹ Evidence is showing acceptable levels of inter-rater reliability for the instrument (Worling, 2004). Worling suggests that the results of his study may be an underestimate of the instrument's reliability because many of the clinicians involved separated out the assessment and thus did not have access to identical information in all cases.

The other instrument, the Juvenile Sexual Offender Assessment Protocol (J-SOAP-II) by Prentky and Righthand (2003) is the newest version of the J-SOAP created in 1994. It was designed for use with juveniles aged 12-18 who either have been involved with the justice system for sexual offences, or those who have a history of sexually coercive behaviour but who have not been adjudicated for the behaviour. The J-SOAP-II has four scales: sexual drive/preoccupation, impulsive/antisocial behaviour, clinical/treatment and community adjustment. The first two scales are considered static factors because they are historical, and less easily changed. The latter two scales are more dynamic and the authors of the instrument note that these two scales should be re-evaluated regularly, particularly during treatment. In total, the J-SOAP-II is made up of 28 items. It is not, however, considered an actuarial instrument at this point because there is still too little data to support its use in that way (Prentky & Righthand, 2003). Reliability and validity are still in the process of being determined, though the instrument does look promising.¹⁰ Total scores can be given, but there are no risk cut off categories

⁹ Scoring is done by noting whether the behaviour is present, partially present, not present or unknown. There is no total score, and there is no "score" attributed to a behaviour being present. Instead, clinicians are asked to use the risk factors and the combinations therein that the offender presents to make an empirically guided clinical judgement about whether the juvenile is a high, moderate or low risk to re-offend. There are no fixed rules to determine the category most appropriate for the offender.

¹⁰ To score the J-SOAP-II, each item is given a value of 0 if the information is unknown or the characteristic is absent. A score of 2 is given if the characteristic is present and a score of 1 is given if there is some evidence that the characteristic is present, but information is lacking to confirm it.

at this time. Instead, the authors suggest using ratios to determine the proportion of characteristics the juvenile is exhibiting.

Already these instruments are being used in the assessment of juvenile sex offenders; however caution must be used because reliability and validity are still in the process of being confirmed. Furthermore, the lack of depth in the current empirical literature on the risk factors of juvenile sex offenders raises some issues. For many of the risk factors, there is not a clear basis for selecting some factors while dismissing others. The predictive validity of these instruments is still in question. Few studies have used these instruments with follow up periods longer than 3 years (Worling, 2004) and therefore assessments based on either instrument should be considered short term projections of risk. The question remains however, as to which of these factors that are showing relationships to sexual re-offending are the best at predicting recidivism.

Previous Meta Analyses of Risk Factors of Sexual Re-offending

In an effort to answer that question, there have been three relevant meta analyses published. The first, by Hanson and Bussière (1998), analysed the results of 61 studies. These studies were predominately based on adult sex offenders and found that sexual deviance and antisocial behaviour were most predictive of sexual recidivism. In a follow up, Hanson and Morton-Bourgon (2004) analysed 95 studies and found once again that deviant sexual interests and antisocial orientation were the best predictors of sexual recidivism. However, neither of these studies focused specifically on juvenile offenders or examined them separately. In 2001, Cottle, Lee, and Heilbrun decided to examine the risk factors of sexual recidivism in juveniles, but found that there were not enough studies investigating the relationship between risk factors and sexual re-offence. Instead they focused on general re-offence and found that the strongest predictor was offence history. However, they also found that family problems, inappropriate use of

leisure time, having delinquent peers, conduct problems and non-severe pathologies (i.e. stress and anxiety) were also strong in their predictive ability. This is interesting because most sex offenders re-offend generally (Caldwell, 2002) and so the factors which predict any kind of recidivism are clearly important in an assessment of the level of risk the individual presents to the community.

While significant developments have been made in assessing risk in juvenile sex offenders, knowledge of what risk factors are best for this age group is still lacking and evidence is contradictory for many risk factors. It quickly becomes clear with a review of the literature that the risk factors used to assess the risk of sexual re-offence with juvenile sex offenders are quite diverse. Furthermore, the measurement of these risk factors differs considerably between studies. These limitations are made exponentially more problematic by the small sample sizes typical of these studies, little use of control groups and the low base rates of sexual re-offending.

Worling and Långström (2006) recently reviewed the literature and classified the risk factors into groups based on their potential predictive value. They noted that there is empirical evidence for deviant sexual interest, previous sexual offending, offending against more than one victim, having a stranger victim, being socially isolated and failing to complete treatment as good risk factors for sexual re-offending. They suggest that contradictory evidence for these factors is low to none existent. However, the authors also noted that while often used in assessments, there are a number of risk factors that may be predictive of future sexual re-offence but which have not been consistently shown to be good predictors of recidivism. These include impulsivity, antisocial personality orientation, negative peer influences, having a male or a child victim, using threats or weapons in the offences, interpersonal aggression, living in a high stress family environment or in an environment supportive of offending. Worling and Långström (2006) also argue that a history of victimization, history of non-sexual offences,

penetration used in the offence, denial, and low victim empathy should not be used in assessments because of the contradictory evidence supporting their use. They do acknowledge that these items may become more useful with better techniques to measure them.

While many studies use the same concepts, few studies use the same method of measurement. As suggested by Worling and Långström (2006), this causes problems when comparing results and making conclusions regarding the efficacy of these variables in assessing risk. Despite this, some relationships are beginning to become apparent. The risk factors studied thus far can be categorized as follows: criminal activity parameters, demographic factors, offence characteristics, victim characteristics, childhood experiences, psychopathology, sexual deviance, and cognitive/ emotional characteristics. Each of the above areas will be discussed in terms of what kind of relationship each factor has to sexual, violent and general re-offending.

Criminal Activity Parameters

Prior Sexual Offending

It has been hypothesized that past sexual offending and future sexual offending are positively related. Four studies have found that prior sexual offences increase the likelihood of re-offending sexually in juveniles (Långström, 2002; Hagan, Gust-Brey, Cho & Dow, 2001; Kahn & Chambers, 1991, Schram, Milloy, & Rowe, 1991). However, the type of sexual offence (child molestation or rape) may have some impact on this relationship. When the juvenile had committed offences against a child, they were more likely to commit another sexual offence as an adult (Sipe, Jenson, & Everett, 1998). This relationship has not been consistently found; one study found no relationship between the type of prior sexual offence and sexual recidivism (Hagan, Gust-Brey, Cho, Dow, 2001).

These results are in line with what Hanson and Bussière (1998) found in their meta analysis of adult sexual offenders. They found that there was a moderate relationship between prior sexual offending and future sexual offending, but prior sexual offences were not as strongly related to general re-offending. Being a rapist in adults was moderately related to violent re-offending, though it was weakly related to sexual or general offending.

Number of Prior Sexual Offences

Of the three studies examining the number of previous sexual offences, only one found a positive relationship to sexual re-offending as an adult (Nisbet, Wilson and Smallbone, 2004), however, the reported relationship is a small one. The other two studies found that juveniles with higher numbers of offences in their history did not differ from those who had fewer previous sexual offences (Allan, Allan, Marshall and Kraszlan, 2003; Sipe, Jensen and Everett, 1998). These results may be due the small numbers of juvenile sexual recidivists. In previous meta-analytic studies with samples of adults and juveniles, it appears that there is at least a small relationship between prior offence history and sexual recidivism and a moderate relationship with general recidivism (Hanson & Bussière, 1998; Cottle, Lee, and Heilbrun, 2001). In particular, in the analysis of juveniles, the number of prior arrests and prior commitments were related to future re-offending. Overall, it appears that prior offending is indicative of future offending in both adults and juveniles.

Prior Non-Sexual Offences

The evidence supporting a relationship between prior non-sexual offences and sexual recidivism is minimal. Only one study found that a history of non-sexual offences was related to sexual and violent recidivism in juveniles (Allan, Allan, Marshall and

Kraszlan, 2003). Two studies found that the risk of re-offending sexually was not increased by a history of non-sexual offences (Långström, 2002; Sipe, Jensen, & Everett, 2001; Kahn & Chambers, 1991). However, previous offending was related to general/non-violent re-offending in one study (Nisbet, Wilson, and Smallbone, 2004). Miner (2002) however, reported no relationship between having any prior non-sexual convictions and future recidivism. It is possible that Miner's (2002) study (n=86) had lower statistical power as compared to Nisbet et al (2004, n=303) and this is the reason behind the different results attained by these authors. Milloy (1995) found that in her sample of juvenile sex offenders, the mean number of convictions for any offence for those juveniles who recidivated generally was significantly higher than those juvenile sex offenders who did not recidivate at all, suggesting that those with a history of offending are more likely to recidivate. Surprisingly, Långström (2002) found that having 3 or more prior convictions was not related to recidivism of any kind. While the research in this area is unclear, it does suggest that there may be a relationship between previous offending and re-offending non-sexually. None of these studies look specifically at the number of previous crimes as compared to the number of previous violent crimes, an area that may help explain the discrepancies in the results found thus far.

Age

Age is commonly thought of as a good predictor of recidivism but this factor has been looked at in terms of age at first arrest, conviction, assessment, or sex crime. Despite this diversity of measurement, younger age is typically found to be related to a higher risk of re-offending. Being of young age at initial assessment was found to increase the likelihood of adult offending (Nisbet, Wilson, and Smallbone, 2004). Smith and Monastersky (1986) looked at whether the age of the offender (assumed to be at assessment) was related to recidivism and found that it was not related to re-offence of

any kind. Långström, (2002) however, found that the age of the offender at assessment was related to sexual re-offence, suggesting that those at a younger age were more likely to re-offend. Alternatively, Allan, Allan, Marshall, and Kraszlan (2003) found that a younger age at first sex crime did not increase the risk of sexual recidivism but was significantly related to violent (non-sexual) re-offending. Miner (2002) found that a younger age at first offence was predictive of violent or property re-offence. Similarly, Milloy (1995) found that the mean age at first conviction of those sex offenders who recidivated generally was significantly lower than the mean age of those who had not recidivated. She also found that those who had recidivated generally at follow up had a younger mean age at their first commitment and a higher mean number of prior commitments than those sexual offenders who did not recidivate. Boyd (1994) also found that higher numbers of arrests were related to sexual re-offending, but interestingly, she found that an *older* age at first arrest was related to sexual re-offending (mean of 13.8 years for sexual recidivists versus 12 years for all of her sample).

According to Hanson and Bussière's (1998) meta analysis on adult sex offenders, being of young age (at an unspecified time) was related to sexual recidivism, non-sexual violent recidivism and general recidivism. Cottle, Lee, and Heilbrun (2001) looked at the age at first contact with the law, and age at first commitment. They found that both of these were significantly related to re-offence but note because the samples are only juveniles, the variable "age" would be an "artificially limited age range" typically cut off when the risk of offending is highest (around age 18), limiting the amount of recidivism found in the sample.

Overall, the results suggest that early and chronic criminal behaviour is a good indicator of future criminal behaviour though not sexual recidivism per se. However, these results are based on small samples, different forms of measurement, and only a few studies.

Demographics

Race

Milloy (1995) investigated the relationship between race and general recidivism in juvenile sex offenders. She found that minority sex offenders were more likely to be recidivists than Caucasian sex offenders. She suggests that this is further evidence that juvenile sex offenders are typical in profile to general juvenile offenders. However, with only one study on this area, it is difficult to determine why minorities would be more likely to be sexual recidivists.

Hanson and Bussière's (1998) study of adults also found that non-violent and general offending were related to being of a minority race. This was also the case with Cottle, Lee and Heilbrun's (2001) meta analysis, where individuals who were of a minority group were more likely to re-offend generally.

Offence Characteristics

Use of Threats/Weapons

The offence characteristics studied in relation to sexual re-offending are the use of threats or weapons in the commission of the offence, and level of aggression. Generally, it is thought that the level of violence involved in the offence is predictive of future offending, though evidence remains inconclusive. Schram, Milloy and Rowe (1991) suggest that juveniles who, according to clinical files, committed offences using threats of violence were not more likely to commit sexual offences later on. However, Kahn & Chambers (1991) found that verbal threats of violence were in fact significantly related to sexual recidivism in the future. Langstrom & Grann (2000) found that the use of death threats or weapons in the index crime were predictive of general re-offence but not of sexual re-offence. In Långström, (2002), further analysis of this area showed that

using death threats, weapons, or force were inversely related to sexual re-offence, but the effect was small.

Auslander (1998) examined offence characteristics a bit differently by looking at aspects of the offence behaviour and recidivism. The factors included are the following: a) degree of aggression/overt violence, b) frequency and duration of offences, c) length, nature, and progression of history of sexual aggression, d) offence characteristics other than sexual aggression, e) number of victims in relation to amount of victim access, and f) victim selection characteristics. The combination of these factors was not related to any type of re-offence but the first factor, degree of aggression, significantly increased the risk of being arrested for a violent crime. This factor is described as referring to the amount of force used to incite the offence and those offences involving weapons would receive higher scores. This suggests that while all aspects of the offence may not be related to future general offending, the use of violence in the offence appears to be indicative of violent, rather than sexually deviant, tendencies.

Cottle, Lee, and Heilbrun (2001) also found that the more serious the index crime, the more likely it was that the juvenile would re-offend. Interestingly, Hanson and Bussière (1998) found that there was no relationship between the degree of force or injury to the victim and sexual re-offending in adult sex offenders but there was an association to general offending. More recent analysis suggests that it may have a small relationship with sexual and violent re-offending (Hanson and Morton-Bourgon, 2004). The differences in the type of recidivism could be influenced by the sentence length as those who have violent sexual offences often get longer sentences. Without controlling for this, it is hard to determine what effect "force" has on sexual recidivism. With an adult sex offender population, the degree of force and injury has some influence on the prediction of re-offending behaviour and research suggests this is true for juveniles as well.

Victim Characteristics

For the most part, studies dealing with victim characteristics examine the age of the victim, the gender of the victim, the relationship between the offender and the victim and the total number of victims of the offender. The associations between these variables and recidivism however, are very inconsistent.

Age of Victim

The age of the victim is operationalized differently in almost every study. The actual age(s), the average age of the victim(s) in either the index offence or overall, or categories of the victim's age such as child, peer, and adult are used. This means that the results of these studies are more difficult to compare and therefore it is harder to make conclusions about the effect of victim age. There is some evidence that offending against a child, or younger, victim is related to sexual re-offence (Sipe, Jensen & Everett, 1998; Boyd, 1994), to general recidivism (Rasmussen, 1999) and to violent non-sexual recidivism (Långström, 2002). Smith and Monastersky (1986), however, found that having a younger victim actually put the juvenile at a lower risk for re-offending both sexually and non-sexually than those juveniles who had older victims. To further confuse the issue, Nisbet, Wilson, and Smallbone (2004) found that having an adult victim as a juvenile sex offender was related to sexual offending as an adult. Furthermore, juveniles who offended against adults or peers were more likely to be charged for sexual offences as adults compared to those who victimized children (Nisbet, Wilson & Smallbone, 2004). Two studies have found that there is no relationship between the age of the victim categories used and the risk of re-offending sexually, violently, or non-violently (Auslander, 1998; Kahn & Chambers, 1991).

At this point in the research, studies are pointing towards the presence of a relationship between age of victim and re-offence. The reasons for the discrepancies in

the results are unclear but if it is true that child molesters are more likely to re-offend, then these results may be due, at least in part, to the proportion of juveniles in each study who offend against children versus those who offended against peers or adults, and the method of measurement. Those studies with higher proportions of juveniles who offend against younger victims may be more likely to have associations with young victim age simply due to increased statistical power. At this point, it is difficult to know because most studies do not give enough detail to determine this.

Gender of Victim

The focus in this area is predominately on offenders having a male victim. Three studies found no relationship between having a male victim and general or sexual recidivism (Auslander, 1998; Nisbet, Wilson, & Smallbone, 2004; Långström, 2002). This is interesting because having a male victim is considered an important risk factor in adult sex offenders (Hanson & Bussière, 1998). Conversely, Miner (2002) found that having a male victim put the juvenile at a decreased risk for re-offence of any kind, but also noted that the number of male victims and the number of female victims were not related to any type of recidivism. Giving some evidence to the idea that having a male victim is in fact important to risk assessments, Smith and Monastersky (1986) found that juveniles who had a "recent" male victim were at a higher risk of sexual recidivism than those juveniles who had victimized only females. It is unclear at this point what the true relationship between the gender of the victim and the potential for re-offending is with juvenile sex offenders. Explanations for the discrepancies in the findings are lacking, leaving this an area that requires more investigation before victim gender is used in assessments, as Worling and Långström (2006) suggest in their review.

Relationship of Victim to Offender

As with other victim characteristics, there is evidence to suggest both that there is a relationship and that there is not. Smith and Monastersky (1986) argued that there was no relationship between having a stranger victim and re-offending. Kahn and Chambers' (1991) study also found that juveniles who offended against non-relative children were not more likely to re-offend. Rasmussen (1999) found that if the offender had no relationship with the victim, it was more likely that the offender would re-offend non-sexually but not sexually. However, Långström (2002) found that having a stranger victim was moderately related to re-offending sexually. As with the other victim characteristics, the relationship between the victim and the offender and its impact on recidivism is not at all clear.

Number of Victims

Four studies examined the relationship between the total number of victims and sexual recidivism. Two studies found that there was no link between the number of victims and recidivism (Nisbet, Wilson, & Smallbone, 2004; Miner, 2002). Rasmussen (1999) however, found that the number of female victims was related to both sexual and non-sexual re-offending and Långström (2002) found that offending against 2 or more victims was predictive of sexual re-offence. Auslander (1998) found that the scale referring to the number of victims in the Seriousness of Sexual Offending Behaviour scale (which included items referring to the motivation to find victims) was inversely related to being convicted for a violent re-offence suggesting that the more victims a juvenile has, the less likely he is to be convicted of a new violent offence. The number of victims in Auslander's study however, was not related to sexual re-offence. This relationship may be mediated by the type of offender involved; it has been suggested that child molesters show more specialization in sexual crimes (and therefore have

higher numbers of victims) and less chance of being involved in violent crime (Hanson & Bussière, 1998; Lussier, 2005).

For adult sex offenders, this area seems to be a bit clearer, with those offenders who chose strangers, extra familial victims and male victims at a higher risk of re-offending sexually (Hanson & Bussière, 1998). It was also found that offenders who did not target children were more likely to be general recidivists (Hanson & Bussière, 1998). Though ambiguous with juveniles, signs are suggesting that there are potential similarities to adults in this area.

Childhood Experiences

Sexual victimization

The impact of sexual victimization on recidivism has been looked at in four studies. Definitions of sexual victimization are generally not given; however, in general clinical records are used to identify those who have a sexual abuse history. An addition to this is Miner (2002), who also ascribed victimized status to those juveniles whose first sex partner was in a different developmental stage than the juvenile (e.g. child with adult). According to Rasmussen (1999) having a history of sexual victimization was significantly related to sexual recidivism. Auslander (1998) found that while sexual victimization was related to being arrested for a non-violent offence, it was not related to violent or sexual re-offending. However, Miner (2002) found that a history of sexual abuse actually decreased the risk of general recidivism. The research by Schram, Milloy and Rowe (1991) found no relationship between victimization and re-offence. It is difficult to determine why these results are so inconsistent.

Victim of Neglect/ Physical Abuse

Offenders who were victims of physical abuse were not found to be more likely to re-offend generally or sexually (Miner, 2002; Smith & Monastersky, 1986). There was also no relationship between the victimization of someone else in the family (e.g. sibling) and the juvenile's re-offending behaviour (Smith & Monastersky, 1986). Boyd (1994) however, found that witnessing and/or participating in intra-family violence was related to future sexual offending.

Parental Marital Status

Only one study looked at the relationship between having divorced parents and recidivism. Rasmussen (1999) found that this was related to nonsexual re-offence but not to sexual recidivism. These results match those of Cottle, Lee and Heilbrun (2001) who found that juveniles who were living in single parent families were more likely to re-offend.

These studies do not present a clear picture of the association between victimization and recidivism. Being a victim of physical or sexual abuse was found to be associated with general and violent recidivism in the meta analysis by Cottle, Lee and Heilbrun (2001) on juvenile re-offending. This was not the case in Hanson and Bussière's (1998) analysis of adults; sexual victimization was not associated with sexual re-offence, or with general or violent recidivism. In an updated meta analysis, Hanson and Morton-Bourgon (2004) found that "adverse childhood environment" indicators such as separation from parents, neglect, sexual or emotional abuse, negative relationship with parents, had very weak associations to sexual recidivism; sexual abuse as a child was not related to sexual recidivism, violent non-sexual recidivism, any violent recidivism and only a small relationship to general recidivism.

Psychopathology

Antisocial Personality

As yet, the relationship of psychopathy and antisocial behaviour to sexual offending in juveniles is not well understood. Gretton, McBride, Hare, O'Shaughnessy and Kumka (2001) found that psychopathy as measured on the Psychopathy Checklist: Youth Version (PCL-YV) was related to all forms of recidivism except sexual re-offending. This study used a very broad definition of failure, including breaches and custody escapes in their data so the relationship may be different using arrests and convictions only. Interestingly, in a ten year follow up with the same sample, Gretton, Catchpole, McBride, Hare, O'Shaughnessy and Regan (2005) found that this pattern did not change over time. Auslander (1998) also looked at the role of psychopathy in recidivism. She found that the total score on the PCL: YV was related to violent arrest and conviction, but not to sexual or non-violent recidivism. Factor 1 on the PCL-YV (which includes items such as impression management, pathological lying, lack of remorse, shallow affect, lacking empathy) was found to be unrelated to any form of recidivism, but Factor 2 (which includes items such as stimulation seeking, poor anger control, lacking goals, impulsivity, serious criminal behaviour) was related to violent convictions and non-violent arrests. This is not all that surprising considering that criminal behaviour is part of Factor 2. This suggests that re-offence is predicted more by the behavioural aspects of psychopathy in the juvenile than the affective aspects. Miner (2002) examined the role of impulsivity in predicting re-offence and found that it was related to recidivism of any kind, suggesting that the more impulsive the juvenile is, the more likely it is that he will re-offend. He also found that antisocial behaviour (as measured by fighting and destruction of property) was not significantly related to any kind of re-offence. Worling (2001) examined the role of personality issues by utilizing

the California Personality Inventory (CPI) and cluster analysis. It was found that the antisocial group was more likely to re-offend violently and non-violently but not sexually than the other groups. However, this finding may have failed to find a relationship because antisocial personality traits were combined with another set of traits (isolated).

It appears that the evidence is fairly consistent in suggesting that having more psychopathic traits makes the juvenile more likely to re-offend non-sexually. Because personality is still developing throughout adolescence (Waite, Keller, McGarvy, Wieckowski, Pinkerton & Brown, 2005) evaluating juveniles for psychopathy or antisocial personality may be less accurate than with adults. This may be part of the problem in evaluating its usefulness in predicting sexual recidivism in juveniles. It is difficult to know if the traits are fully developed in youth and are stable or if they are still in flux as part of growing up.

Depression

Smith and Monastersky (1986) looked at the effect depression and being defensive had on recidivism using the Decision Criteria Scale. They found that the absences of depression and non-defensive discussions of the offence, though only marginally related, actually increased the likelihood of sexual re-offence. However, Hanson and Morton-Bourgon (2004) found a very small relationship with depression in adults, suggesting as Smith and Monastersky have, that the absence of depression increases the chances of re-offending.

Substance Use

Research on substance use with juveniles and its relationship to juvenile sexual recidivism is limited to two studies. Auslander (1998) looked at use and frequency of drug and alcohol use and found that substance abuse was not related to any kind of

recidivism. The frequency of using cannabis was inversely related to violent convictions suggesting that juveniles with high levels of use are at a decreased risk of violent convictions. As well, Miner (2002) examined the role of alcohol use and recidivism and found that there was no relationship between the frequency of alcohol use and any kind of offence.

Social Competence

Schram, Milloy and Rowe (1991) investigated the relationship of truancy and social isolation with sexual recidivism in juveniles. Truancy from school was found to be significantly related to sexual recidivism while social isolation, measured in terms of peer relationships, was not found to be related. Miner (2002) also found that juveniles who were lacking in social competence (as measured by items examining peer relationships) were not more likely to re-offend with any kind of offence than those with more social competence.

With juveniles, the review here has not shown a definitive conclusion with regard to depression and substance use. High levels psychopathy, impulsivity, antisocial traits and low levels of social competence however, seem to be more clearly defined, if only because there are so few studies which look at these factors making it less likely that there are inconsistent results. None of these factors seem to be related to sexual offending. These results seem to follow those found by Hanson and Bussière (1998) with adults and Cottle, Lee, and Heilbrun (2001) with juveniles. Hanson and Bussière's (1998) meta analysis, found that psychopathy or antisocial personality was a moderate predictor of sexual, violent and non-violent offending. The more recent meta analysis of adult offenders showed the same tendencies for those individuals who are high on scales of antisocial personality and psychopathy to be more likely to re-offend sexually,

violently and generally, though this relationship is stronger for violent and general offending than for sexual recidivism.

In adult samples, depression, substance abuse, and social competence were not found to be related to recidivism, however, alcohol abuse was related to non-violent re-offending (Hanson & Bussière, 1998). Cottle, Lee and Heilbrun (2001) found that substance abuse (undefined) was related to re-offending, substance use (also undefined) was not. They also found that while severe pathology (e.g. psychosis, being suicidal) was not related to re-offence, non severe pathology (e.g. stress, anxiety) and conduct problems (e.g. "presence of conduct disordered symptoms") were related to re-offence. Thus, the results of the studies with juveniles and adults strongly resemble each other in the association that these factors have with recidivism.

Sexual Deviance

Sexual Arousal

Deviant sexual arousal in the juvenile sex offender and its relationship to recidivism is not yet well understood. In Kahn and Chambers' (1991) study, therapist rated deviant sexual arousal was not related to sexual recidivism, but this relationship was approaching significance. The authors note that the clinicians were asked their opinion regarding the pattern of arousal for the juvenile, and no formal assessment was completed. Similarly, Schram, Milloy and Rowe (1991) found that no relationship was found between deviant arousal and recidivism. The method of measuring deviant arousal is unclear, but appears to be based on a clinician's informal assessment. Gretton, McBride, Hare, O'Shaughnessy and Kumka (2001) used penile plethysmographic data from 186 offenders in their sample to evaluate deviant sexual arousal, but this is the only study to use this method in association with recidivism. They were more definitive in their assessment of the relationship between sexual deviance

and recidivism, stating that it was not related to any outcome measure they utilized (arrest, conviction, breaches and escapes).

Paraphilias

Miner (2002) examined the role of a paraphilia in re-offending. Specifically, fetishism, transvestitism and promiscuity (many sex partners, obsession with sex, and/or prostitution) were combined to represent paraphilia. Interestingly, having a diagnosed paraphilia actually decreased the likelihood of recidivism. This is interesting because the research on adults has shown that one type of paraphilia, pedophilia, is one of the strongest predictors of sexual recidivism (Hanson & Bussière, 1998).

Sexual Preoccupation

Miner (2002) found that sexual preoccupation with children was related to both any kind of re-offence and violent/property re-offence. With adults, deviant sexual preference is one of the best indicators of future risk of sexual re-offence (Hanson & Bussière, 1998). This remained true in the updated meta analysis by Hanson and Morton-Bourgon (2004) where the results suggested that all measures of sexual deviance (deviant sexual interests, sexual interest in children, paraphilic interests and sexual preoccupations) except those relating to rape were significantly related to sexual re-offence. In juveniles however, the measurement and interpretation of deviant sexual arousal becomes particularly problematic. In his review, Caldwell (2002) notes that there are a few studies which suggest that deviant sexual arousal is weakly related to offence history, though unclear, both in terms of self report and phallometric assessments. At this time it is not known how well this relationship holds when applied to recidivism in juveniles. If the juvenile's preferences are unstable, or even undetermined at the time of testing, it is unlikely that a concrete conclusion could be made about the association

between arousal and recidivism because of the amount of variability in the sexual arousal patterns. Perhaps this is only a good indicator of risk in adults because it is more stable and less variable in the patterns of arousal.

Cognitive/Emotional

Victim Blaming/Denial

The cognitive/emotional domain has not been well researched despite the focus on these factors by cognitive-behavioural treatment approaches. There are a few areas of note however. Kahn and Chambers (1991) found that juveniles who blamed their victims (definition of measurement was not clear) re-offended sexually at a significantly higher rate than those who did not. They also found that there was actually a reverse relationship between denial and recidivism. Their results suggested that those who denied offending were actually less likely to re-offend sexually than those juveniles who admitted to their offence. This was a significant finding; however, the authors note that because of small sample size this finding should not be considered conclusive. In addition, Auslander (1998) found that juveniles who denied their index offence in pre-treatment were at a higher risk of being arrested and convicted of a non-violent offence. Denial was measured from file data on a scale of "complete admission", "partial admission" (admitted offence but blamed victim for example) and "complete denial". Levels of denial post treatment suggested that offenders who maintained their denial through treatment were more likely to be arrested for a violent offence and to be convicted of a non-violent offence (Auslander, 1998). Denial pre- or post-treatment was not related to sexual re-offending.

Empathy/Remorse

There have been many contradictory findings about the role of empathy in sexual aggression. Schram, Milloy, and Rowe (1991) looked at the level of empathy and remorse displayed by the juvenile and its impact on recidivism. Empathy and remorse appear to have been evaluated by clinicians, but this is not clear from the study. They found that sexual recidivists were not more likely to show remorse, and no less likely to show empathy for their victims. The study used non-standardized measures of empathy and remorse, meaning that a shift in the method of measurement may change the relationship found between empathy and remorse and future re-offending. At this point however, these are not promising predictors of recidivism and Worling and Långström (2006) note that these areas should not be used in assessments because of the inconsistent evidence supporting their use.

Sexual Knowledge/Cognitive Distortions

Schram, Milloy and Rowe (1991) also looked at deficits in sexual knowledge as well as cognitive distortions. Sexual recidivists were no different in levels of sexual knowledge than non-recidivists, but cognitive distortions were significantly related to sexual recidivism. Smith and Monastersky (1986) found that in their use of the Decision Criteria Scale, there were three items that were related to sexual recidivism. First, if the juvenile understood the exploitive nature of their behaviour and/or had unhealthy attitudes towards sex (e.g. sex is abnormal behaviour), there was a decrease in the chances of re-offending sexually. Lastly, those juveniles who had a poor self image were more likely to re-offend sexually. Whether these cognitions are causes, correlates or consequences of sexual aggression remains to be determined.

These results suggest that there is no clear association between emotional and cognitive aspects of offending and recidivism. While Hanson and Bussière (1998) did not

find any significant relationships for denial, remorse, or cognitive distortions, these areas were followed up in Hanson and Morton-Bourgon's (2004) review. Social skill deficits, loneliness, low sexual knowledge, lack of empathy, remorse and denial were all found to be weakly related to sexual, violent and general re-offending. Considering the focus of treatment with sex offenders is typically on these areas, the poor predictive ability of these risk factors is disappointing. At this point, the research on adults suggests that there is little relationship between these factors and recidivism of any kind and the research with juveniles appears to be following the same patterns.

Purpose of Current Research & Hypotheses

The aim of the present study is to establish what factors have been shown in the literature to be best at predicting sexual re-offence in juvenile sexual offenders. Although the literature on juveniles is still growing, the research thus far has been plagued by methodological limitations. Most of the studies have been based on small samples of juvenile sex offenders, utilized mixed age samples of offenders and analyzed a limited number of risk factors. Even worse, studies have been inconsistent in what risk factors are found to be important in predicting sexual and general recidivism. Because of these limitations, it is more difficult to draw conclusions across studies about the risk factors of sexual and general recidivism in juveniles. One way to deal with this issue is to conduct a meta analysis of the literature (Lipsey & Wilson, 2001) on the risk factors of juvenile sexual and general recidivism. Issues of methodological quality are important considerations of the meta analysis, and results are only as good as the quality of the studies included. An inclusive approach has been taken in this review, and results should be considered with this in mind. Both sexual and general recidivism will be examined because of the hypothesized link between the two; it has been suggested that

the factors which predict general re-offending also are relevant for predicting sexual re-offending (Hanson & Bussière, 1998, Caldwell, 2002, Zimring, 2004).

It is expected that, as with adults, measures of sexual deviancy, antisocial behaviour or personality traits and prior sexual offending will be the strongest predictors of sexual recidivism. Risk factors for general re-offending will also be analyzed to allow for comparison to risk factors for sexual recidivism as there is an expectation that they are similar. It is expected that criminal history and antisocial personality traits will be the best predictors of general offending. In addition, studies with the longest follow-up periods are also expected to have higher levels of recidivism because it will reflect more time to offend while in the community.

METHOD

A quantitative, meta analytic review of the literature was done to establish what risk factors are related to sexual and general recidivism in juvenile sexual offenders. Although the public seems to be the most fearful of sexual re-offending, some authors have argued that most sexual offenders are more likely to commit other types of crime than sexual crimes (Caldwell, 2002). As well, it has been argued that adult sexual offenders are very similar to other types of offenders and do not specialize in sexual crime (Lussier, 2005). This suggests that risk factors for both sexual and general recidivism should be similar as well and indeed evidence is building to support this argument (Hanson & Bussière, 1998). For this reason, risk factors for general criminal behaviour were examined to identify any similarities to those predictive of sexual re-offending in juveniles.

Sample

The studies were located through an extensive literature search using research databases (i.e. PsychINFO, Social Citation Index, Dissertation Abstract International et cetera). The search words used were the following: sex(ual) offender, juvenile, adolescent, youth, predictor, predict, prediction, factors, risk, recidivism, re-offending, re-offence. Studies that were included were characterized by: a) a sample of juveniles (up to age 20) from either the community or an institution at the time of the first assessment; b) a longitudinal study design with a follow up period; c) a definition of sexual recidivism as a sexual crime that resulted in contact with the authorities, i.e. referral, arrest, charges or conviction; d) risk factors that were assessed for their relationship to sexual

recidivism (however, risk factors defined as an assortment of multiple constructs were excluded), and e) empirical information regarding sample size, rates of recidivism, and effect size for the risk factors were provided or allowed for calculation of same. Multiple sources known to be derived from the same sample were not counted separately. Instead, the source with the most information and longest follow-up time was used. Risk factors relating to treatment will not be discussed, so studies related solely to treatment of juvenile sexual offenders were excluded (see Alexander, 1999 for a review).

To avoid the "file drawer" problem, or publication bias (Lipsey & Wilson, 2001), unpublished research was also included in the present study. It has been noted that published studies are more likely to have larger effect sizes (Lipsey & Wilson, 2001), so a review including only published work "may be upwardly biased towards the size of the effect size found" (p19). The inclusion of unpublished work helps to combat this problem. Attempts to find unpublished research by other researchers were made, and dissertations have been included in the analysis. As well, Lipsey and Wilson (2001) note that scatterplots can be used to detect potential bias in the sample of studies. Scatterplots showing a funnel shaped distribution where the effect sizes for studies with small sample sizes vary greatly (top of the funnel) and the effect sizes for studies with large sample sizes vary little (bottom of the funnel) would be expected. If publication bias is a problem, a lower number of effect sizes would be found in the top region of the funnel, with less variability. Furthermore, they note that a "fail safe n" calculation can be used to determine how many unpublished studies with null results would be needed to erode the effect size found in a meta analysis to zero. In this case, a criterion effect size is used to find the number of studies with a null result needed to negate the findings of the meta analysis. Both of these methods to test for publication bias cannot be used as there were so few effect sizes contributing to each risk factor.

The methodological quality of the studies included was also a concern. Lipsey and Wilson (2001) note that with a more inclusive approach to selecting studies, the research may be more representative of the area and opportunities to empirically examine relationships between study characteristics and outcomes are available. However, by including methodologically “poor” studies, the data may be biased and create erroneous results. Of course, by excluding these studies, the sample necessarily becomes smaller in size and may accidentally exclude potentially useful studies as well. Because judgement of methodology is often difficult (Lipsey & Wilson, 2001) and because the population of studies available was already quite small, a more inclusive approach was used in the current review. Characteristics of the studies thought to have a possible impact on the outcome of the study were investigated to control for alternative explanations of the results. In particular, the studies’ sample locations, ages, follow up time, and their use of control groups were analyzed. These analyses were done for the proportion of sexual recidivism as well as the proportion of general recidivism found across the studies.

Data Collection

According to Lipsey and Wilson (2001), the coding protocol for a meta analysis should specify the important information from each study. Generally, they suggest that coding forms should incorporate two main areas: a) study characteristics and b) empirical findings from each study. This is the approach taken to the coding form for the current research (see Appendix B), where the first section of the coding form relates to study characteristics (e.g. study design, use of control groups, sample size, sample

location) and the second section relates to the empirical findings of the study in relation to each of the risk factors being examined (e.g. results and effect sizes).¹¹

To create the closed ended questions, a number of studies were examined to establish what risk factors have been studied and what kind of information was available in each study. This follows the recommendation of Lipsey and Wilson (2001) who suggest that a review of the literature will aid in determining appropriate options to closed ended questions and allow the analyst to see what kind of information is available to reduce unproductive coding. After this review, 48 risk factors were selected for inclusion in the coding form. These risk factors were grouped into categories to facilitate coding (see Table 1). A category called “other” was also included to capture any risk factors not specifically listed in the coding form.

Table 1: The Risk Factors

Category	Risk Factors	
<i>Criminal History</i>	Prior sexual offences Prior nonsexual offences Number of convictions for any crime Total number of victims	Age at intake Age at first contact with authorities Age at first sex crime
<i>Index Offence Characteristics</i>	Threats or weapons involved Penetration in offence	

¹¹ For easier coding, tables were formulated for each group of risk factors that asked for statistical relationships (or lack thereof) between general, violent and sexual recidivism and the risk factor. Closed ended questions were used as much as possible to reduce error and increase the usability of the coding form. In cases where information is missing or unknown, “888” or “999” respectively were used to represent this in the coding.

Category	Risk Factors	
<i>Victim Characteristics</i>	Victim female Victim male Both male and female victims Age of victim (continuous) Mixed victim age Child victim Peer victim	Adult victim No physical injury to victim Physical injury to victim Victim stranger Victim acquaintance Victim relative Victim stranger and relative
<i>Socio-Economic Factors</i>	Non-Caucasian Low socio-economic status of parents Parents separated	
<i>Family Characteristics</i>	Victim of physical abuse Victim of neglect Victim of sexual abuse Exposed to family violence	
<i>Psychological/Personality Characteristics</i>	Psychopathy Antisocial Personality Anxiety/depression	Low intelligence Neurological deficits
<i>Behavioural Factors</i>	Deviant sexual arousal Paraphilia diagnosis Conduct disorder	Aggressive behaviour Lack of discipline Social isolation Drug use
<i>Cognitive/Emotional Characteristics</i>	Social skills deficits Sexual knowledge deficits Cognitive distortions Lack of empathy	Denial Lack of remorse

Analysis

First, descriptive statistics on the sample were calculated. Second, effect sizes were calculated for both levels of general and sexual recidivism and where possible, for each risk factor. In addition to effect sizes (ES), the corresponding variance of the effect size (SE) and the inverse variance weight (w) were calculated (see Table 2). In the case

of a control group being present, the formula used was different than if there was no control group, in order to reflect proportions in each group.

Table 2: Formulas

For no Control Group*:	For Control Group**:
$ES_p = p = k/n$	$ES_{pd} = p_{g1} - p_{g2}$
$SE_p = \sqrt{(p(1-p)/n)}$	$SE_{pd} = \sqrt{[p(1-p)(1/n_{g1} + 1/n_{g2})]}$
$W_p = 1/SE_p^2 = n/(p(1-p))$	$W_{pd} = 1/SE_{pd}^2 = n_{g1}n_{g2}/[p(1-p)(n_{g1} + n_{g2})]$

*Where p =proportion, n =number of subjects in total sample, k =number of subjects in category of interest

** Where p =mean proportion for each group, n =number of subjects in each group

The proportion of recidivism and mean effect sizes were then analyzed for homogeneity (Q statistic) using the formula given by Lipsey and Wilson (2001, p116):

$$Q = (\sum w_i(ES_i^2) - (\sum w_i ES_i)^2 / \sum w_i)$$

where ES_i = the individual effect size for $i=1$ to k (the number of effect sizes), w = inverse variance weight. This helped to determine whether the effect sizes were estimating the same population effect size. A homogenous distribution suggests that the variance around the mean was no greater than that expected by sampling error, whereas a heterogeneous distribution suggests that more than sampling error was at work (Lipsey & Wilson, 2001). If Q is significant, meaning it is a heterogeneous distribution, Lipsey and Wilson (2001) note that the analyst has three options in dealing with the data. First, the analyst can assume that the disparity in the variance beyond sampling error is random and from unidentifiable sources. Second, the analyst could assume that the variability is from identifiable, systematic sources. Third, the analyst could assume the

variability is due to both systematic and random factors. Each of these paths suggests a different model of analysis (see Table 3). One caution to this is that with small samples, such as the one used in this review, it is very difficult to show any heterogeneity because it becomes harder to distinguish outlier values (Hunter & Schmidt, 2004). In the case of heterogeneous effect sizes for the proportions of recidivism found, follow-up analyses were run to determine which characteristics of the studies were causing the heterogeneity in the sample. Correlations, using Z transformations, between the mean effect sizes of the risk factors and recidivism were performed using macro programs for SPSS provided by Lipsey and Wilson (2001) to determine whether any significant relationships were present.

Table 3: Models of Analysis

<i>Q</i> Statistic Result	<i>Assumption</i>	<i>Model of Analysis</i>
Homogeneous effect size	Variability due to sampling error alone.	Fixed Effects
Heterogeneous effect size	1. Variability due to random sources	Random Effects
	2. Variability due to systematic sources	Fixed Effects, Partitioned Variance
	3. Variability due to both systematic and random sources.	Mixed Effects

In addition, the risk factors that were able to be analyzed were combined into domains to increase small sample sizes and to tap different developmental factors. Analyses were then run on these domains to determine if the effect size/relationship to sexual re-offending increased when risk factors were combined. The following domains were analyzed: sexual deviancy, antisociality, negative childhood experiences, and psychosocial characteristics. The risk factors included in each domain were logically derived. This strategy meant that using different combinations of the risk factors may

result in different effect sizes. However, these domains reflected other studies' groupings of risk factors in scales and thus could be considered somewhat comparable. All of these analyses were done for both general and sexual re-offending. For those studies contributing multiple effect sizes to the domain, an average of the effect sizes contributed was used to avoid giving too much weight to any one study. One study was added to the sexual deviancy domain that was not used in the previous analysis. This study, by Prentky, Harris, Frizzell and Righthand (2000), used scales for their analysis which were not able to be separated out into separate risk factors; however, the sexual preoccupation scale was used in the domain analysis.

RESULTS

For this review, 50 studies related to juvenile sexual recidivism were located. Fifteen were excluded because they were related to treatment only. Eleven were excluded because they lacked follow up data or did not examine risk factors related to recidivism. Seven studies were unable to be located for this review which left 18 studies that met all the inclusion criteria (Appendix A). Determinations of publication bias were unable to be made due to the small sample size for each risk factor's mean effect size.

The 18 studies included in the review were published or written between 1986 and 2005. The majority of the studies came from the USA (n=11). Canada contributed 3 studies and New Zealand/Australia and Europe contributed 2 studies each. Only 3 studies used a control group (Allan, Allan, Marshall, & Krazlan, 2003; Sipe, Jensen & Everett, 1998; Hagan, Gust-Brey, Chow & Dow, 2001), ranging in size from 50-213 juveniles (mean=135, SD=81.7). This is interesting considering that twice that number of studies (n=7) investigated factors related to treatment in addition to the risk factors analyzed in this review. The type of design used most by the studies was a retrospective one (n=9, 53%), though 4 studies used a combination of retrospective and prospective design elements. These studies typically used samples of juveniles already in the location as well as incoming juveniles. The remaining 5 studies used a prospective only perspective.

Sample Description

Overall, 3189 offenders were used in the review, with the 18 studies varying in sample size from 56 to 326 juvenile offenders. The mean sample size was 177 juveniles

(SD=87). In the studies where an age range of the sample was provided, the age range of the juveniles ranged from 6-20 years old (n=14) at assessment. For those studies which noted a mean age of sample, the mean age was 16 years (SD=1.66, n=13). Of the 13 studies that described the racial breakdown of their sample, 11 (84.6%) were described as having predominantly Caucasian samples. One study (Boyd, 1994) described the sample as predominantly Black and one study (Auslander, 1998) described the sample as mixed. Four of the 16 studies included female sex offenders in their sample though in all four of these studies female offenders made up a very small proportion of the sample (Kahn & Chambers, 1991, n=11; Långström & Grann, 2000, n=2; Rasmussen, 1999, n=3; Långström, 2002, n=2). Fifty three percent of the studies utilized an institutional sample (total: n=9, correctional: n=6, psychiatric: n=3), 23.5% used court records or multiple sources (n=4) and 23.5% used samples who were under community supervision (n=4). One study was not clear in the location of its sample (Allan, Allan, Marshall, & Krazlan, 2003). Most studies used samples of convicted juvenile sex offenders (55.6%, n=10), though 27.8% (n=5) used samples of referred as well as convicted juvenile sex offenders, and 16.7% (n=3) used juveniles who were referred to agencies for sexual conduct.

Follow Up

The length of time the juvenile sex offenders were followed after their initial assessment differed significantly across studies. As this information was reported in different ways, it was not easy to calculate a simple average length of time for the follow up. Of the 12 studies reporting a maximum time for their follow up, the range was 36 months (3 years) – 228 months (19 years), with a mean of 110 months (SD=54.4), or almost 10 years. However, it should be noted that only one study had a follow up longer than 154 months (Långström 2002). Eight studies reported a mean time of follow up

instead of a range, though some listed both. Of these 8, the range of the means given was 28 months to 115 months, with a mean of 61.6 (SD=35.2). Finally, in 7 studies, time at risk was calculated to reflect the actual time the juveniles had opportunity to re-offend (i.e. not in prison or dead). For these studies, the range was 20-88 months, with a mean of 57 months (SD=26.6). Overall, the average time the juvenile was followed seems to fall around 5 years, though some studies clearly had longer follow up periods.

Offence Characteristics of the Sample

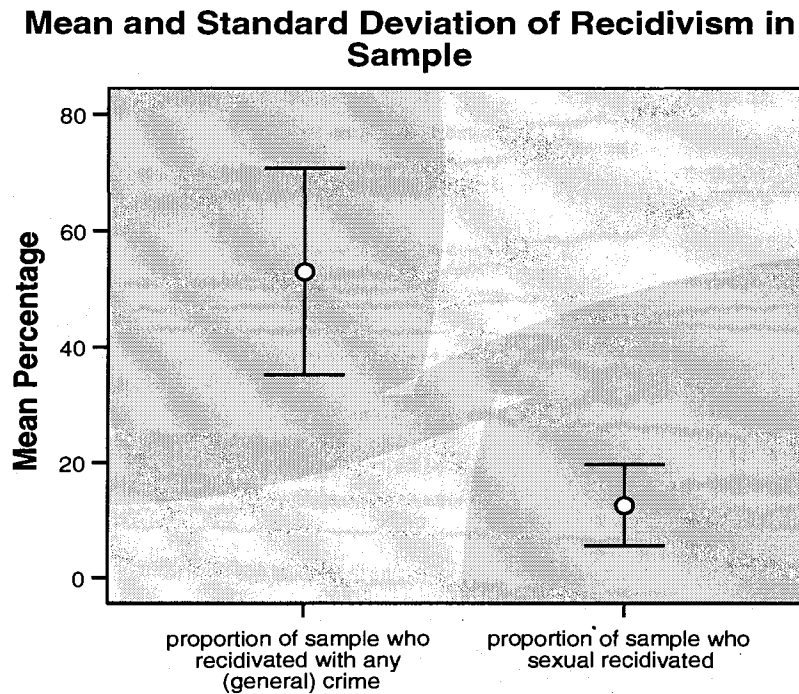
In 53% of the studies (n=9), these offenders had committed both hands off and hands on offences, however, in 41% (n=7), the type of sex crime committed by the sample was unknown. One study used a sample of juveniles who had committed hands off offences only (Sipe, Jensen & Everett, 1998). Of the studies reporting the background of their sample, most utilized a sample made up of both first time offenders and repeat sex offenders (47.1%, n=8). However, for six studies (35%) this information was unknown.

In the six studies where the relationship between the offender and victim was reported, the juveniles had sexually offended against intra-familial and extra-familial victims (35%); however, for the remaining 11 studies this information was not given (65%). Similarly, the age of the victim was quite diverse in the samples, with 13 studies reporting that their sample had offended against children, peers and/or adults (76%). Proportions of the number of offenders who offended against each type of victim in each study were not available. Four studies did not report this information (24%) and the remaining study utilized a sample who had offended only against children (Sipe, Jensen, & Everett, 1998).

Proportion of Recidivism

The proportions of violent and general (any) recidivism was not always available for analysis, however, where it was reported, the average amount of recidivism of any kind (general) was 53% ($n=14$, $SD=17.77$, range: 8.3-78.6%; see Figure 1). On average, 60.9% of the juveniles re-offended non-violently ($n=6$, $SD=20.17$, range: 31.4-93.0%), and a much smaller number of juveniles re-offended violently (28.5%, $n=11$, $SD=15.15$, range: 5.6-54.1%). It should be noted that in 3 of the 11 studies reporting violent recidivism included sexual crimes in their definition of violent crime (Långström & Grann, 2000; Gretton, McBride, Hare, O'Shaughnessy, & Kumka 2001; Worling, 2001) and only 8 studies reported what definition was used at all. To be included in this review, all studies had to report the amount of sexual recidivism in their sample. In all 18 studies, the proportion of the sample who re-offended sexually ranged from 1.6%-29.9%, with an average of 12.2% ($SD=6.53$). In a small number of studies, recidivism was reported in a sexual/non-sexual dichotomy. For those studies, non-sexual included non-violent and violent crime if it was not sexual in nature. The average proportion of non-sexual recidivism was 41.7% ($n=6$, $SD=22.07$, range: 5.20-66.3%).

Figure 1: Recidivism in the Samples



Because the proportion of recidivism varied quite considerably, analysis was done to examine the heterogeneity of the proportion of recidivism reported across studies. However, this was only done for the proportion of recidivism found for sexual re-offending and for general (any) re-offending. Due to the smaller numbers of studies reporting non-sexual and non-violent crime and the small number of effect sizes found for those studies reporting violent recidivism, these categories of re-offence were not examined further. To examine the degree of variability found in the proportions of general and sexual recidivism, the Q statistic was used to test the null hypothesis that the effect sizes of the proportions were homogeneous, suggesting that the proportions found are estimating the same population mean. If homogeneous, the effect sizes of the proportions could be considered to be varying from the true mean because of sampling error. If the proportions were found to be heterogeneous, then it is more likely that there

is a source of error apart from sampling that is causing the proportion to vary from the true mean.

The effect sizes of the proportions of any kind of recidivism were found to be heterogeneous ($Q=508.8$, $df=13$, $p<0.001$). Characteristics of the studies were examined to determine if there were factors related to the study design that contributed to the heterogeneity found. Specifically, the mean age of the sample, the year of publication, whether a control group was used, the location of the sample, whether females were included in the sample, the type of sample (referred or convicted offenders), whether the study looked at treatment as well as other types of factors, and the type of design used (prospective, retrospective or both), were examined. None of these factors were identified as contributing to the variation in the proportion of general recidivism found in the studies, suggesting that unknown or random factors were influencing this outcome instead (Table 4).

The effect sizes of the proportions of sexual recidivism were found to be heterogeneous as well ($Q=142.9$, $df=17$, $p<0.001$). The same characteristics examined for general recidivism were examined for sexual recidivism. The design of the study was found to be influencing the level of heterogeneity ($Q_{\text{between}}=16.98$, $df=2$, $p<0.001$; $Q_{\text{within}}=13.96$, $df=15$, $p>0.05$), suggesting a difference in the amount of recidivism found in studies using a retrospective, or prospective approach. Studies using both approaches together had significantly higher mean levels of sexual recidivism (20%) than a prospective (7%) or a retrospective (12%) approach alone [Levene's $F(2, 15)=0.877$, $p>0.05$; $F(2, 15)=8.76$, $p<0.01$].

Table 4: Heterogeneity Follow Up Analysis

<i>Study Characteristic</i>	<i>Mean ES Sexual</i>	<i>Q Sexual</i>	<i>Mean ES General</i>	<i>Q General</i>
Study design	.1081	16.98***	.4999	1.17
Treatment Related	.1123	2.61	.5000	.001
Females included in sample	.1139	2.92 ⁺	.5000	1.37
Location of Sample	.1151	2.97	.4857	.93
Type of Sample	.1149	.46	.5002	3.35
Control Group	.1145	.001	.4999	1.67
Year of Publication	.1140	.32	.5000	.03
Mean Age of sample	.1123	.88	.5488	1.02
Mean length of Follow Up	.1264	10.3**	.4915	.58
Mean time at Risk	.1106	3.55 ⁺	.6088	.21
Mean Age of Sample at Follow Up	.1264	.55	.3361	.11

⁺ p<.10; * p<.05; ** p<.01; ***p<.001

The mean follow up period also influenced the level of heterogeneity found ($Q_{\text{model}}=10.3$, $df=1$, $p=0.001$), suggesting that the amount of time the juvenile had to re-offend was reflected in the amount of sexual recidivism found by the study. Bivariate regression analysis showed that the maximum length of the follow up period was significantly predictive of the level of sexual recidivism found in the sample ($R=.67$, $R^2=.45$, $F(1, 11)=8.93$, $p=0.01$), suggesting that the longer the follow up period the higher the level of sexual recidivism in the sample. No other factors were found to have an influence (Table 4), at the 0.05 level of significance. However, the inclusion of females in the sample and the mean time at risk are approaching significance and thus may also be relevant factors.

The Risk Factors

Twenty-six of the original 48 risk factors were able to be analyzed. Though a greater number of the risk factors were examined in various studies, they used multivariate analyses that made it impossible to use in this review. As well, many factors were only examined in one study, making inclusion impossible. Some of these, however, have been included in the domain analyses as they can be combined with others in the appropriate domain because they were conceptually related to one of the domains under study. A list of the risk factors, the number of studies included in that analysis, and the definition used by the study has been provided (Table 5).

Table 5: Risk Factors used in Analysis

Domain/Variable	Study
Prior Sexual Offences	n=4
1st documented offence, no developing pattern	Smith & Monastersky (1986)
Sex offences: prior offence type	Kahn & Chambers (1991)
Prior sex offence conviction	Schram, Milloy & Rowe (1991)
Any previous sex offending behaviour	Langstrom (2002)
Prior Non-Sexual Offences	n=2
Prior non-sexual offence convictions	Allan, Allan, Marshall & Krazslan (2003)
Previous nonsexual offences	Nisbet, Wilson & Smallbone (2004)
Number of Convictions	n=3
Prior Offences: All	Kahn & Chambers (1991)
Prior Convictions: any kind	Schram, Milloy & Rowe (1991)
≥ 3 prior convictions (any crime)	Langstrom (2002)
Age at intake	n=2
Age at assessment	Nisbet, Wilson & Smallbone (2004)

Domain/Variable	Study
Young offender age (15-17)	Langstrom (2002)
Use of Threats or Weapons	n=4
Use of verbal threats	Kahn & Chambers (1991)
Threat or use of force (coercion)	Schram, Milloy & Rowe (1991)
Use of force: verbal, physical or weapon	Boyd (1994)
Used threat or force	Langstrom (2002)
Physical Injury to Victim	n=2
Harm to victim	Boyd (1994)
Physical victim injury requiring medical care	Langstrom (2002)
Number of Victims	n=2
Total number of victims	Nisbet, Wilson & Smallbone (2004)
Offended against ≥ 2 victims	Langstrom (2002)
Male Victim	n=4
Sex of victim: Male	Smith & Monastersky (1986)
Having a male victim	Nisbet, Wilson & Smallbone (2004)
Victim gender	Boyd (1994)
Any male victim	Langstrom (2002)
Child Victim	n=4
Younger (>4 years)	Smith & Monastersky (1986)
Having a child victim	Nisbet, Wilson & Smallbone (2004)
Offence type: child molester	Boyd (1994)
Any victim <12 years old	Langstrom (2002)
Adult Victim	n=2
Having an adult victim	Nisbet, Wilson & Smallbone (2004)

Domain/Variable	Study
Offence type: rape	Boyd (1994)
Stranger Victim	n=3
Relationship to victim: Stranger	Smith & Monastersky (1986)
Victim relationship: stranger	Boyd (1994)
Any stranger victim	Langstrom (2002)
Relative Victim	n=2
Relationship to victim: Relative	Smith & Monastersky (1986)
Victim relationship: family	Boyd (1994)
Acquaintance Victim	n=2
Relationship to victim: Acquaintance	Smith & Monastersky (1986)
Victim relationship: acquaintance/friend	Boyd (1994)
Victim of Physical Abuse	n=3
History of abuse: offender	Smith & Monastersky (1986)
History of physical abuse	Auslander (1998)
Physical abuse	Kahn & Chambers (1991)
Physical abuse: Infrequent, often, continuous	Boyd (1994)
Victim of Sexual Abuse	n=2
History of sexual abuse	Auslander (1998)
Sexual abuse history	Kahn & Chambers (1991)
Sexual abuse: passive, active, both	Boyd (1994)
Psychopathy	n=2
PCL-YV: Total score	Gretton, McBride, Hare, O'Shaughnessy, & Kumka (2001)
PCL-R: Hare-Total score	Auslander (1998)
Aggressive Behaviour	n=2
History of aggressive/destructive behaviour	Smith & Monastersky (1986)

Domain/Variable	Study
Seriousness of Offending Behaviour Scale: Aggressiveness scale	Auslander (1998)
Social Isolation	n=2
Loner	Schram, Milloy & Rowe (1991)
Number of Friends: none	Boyd (1994)
Drug Use	n=2
Substance abuse	Kahn & Chambers (1991)
Alcohol/Other drug abuse	Boyd (1994)
Non-Caucasian	n=3
Race: aboriginal or non-aboriginal	Allan, Allan, Marshall & Krazslan (2003)
Race of Offender	Kahn & Chambers (1991)
Race: Minority or Caucasian	Milloy(1995)
<i>Used in Domain Analysis only</i>	n=1
Social Skill Deficits	
Functional Deficits (Social Skills)	Kahn & Chambers (1991)
Antisocial Personality Disorder	
California Personality Inventory: Antisocial/Impulsive (low factor 1)	Worling (2001)
Lack of Discipline	
School Truancy	Kahn & Chambers (1991)
Exposure to Family violence	
Intra-family: witnessed, witnessed & intervened.	Boyd (1994)
Age at first sex crime	
Age at first sex offence	Allan, Allan, Marshall, & Kraszlan (2003)

Domain/Variable	Study
Deviant Sexual Arousal (Scale)	
Prior charged sex offences, history of predatory behaviour, evidence of sexual preoccupation, duration of sex offence history.	Prentky, Harris, Frizzell, & Righthand (2000)

Risk Factors of General Recidivism

Of the 48 risk factors coded, only 5 were able to be analyzed in terms of their relationship to general (any) recidivism due to the small number of studies reporting the required information to find effect sizes for general recidivism. These five risk factors were: being non-Caucasian, being a victim of physical abuse, being a victim of sexual abuse, psychopathy, and using drugs. Only two risk factors were found to be significantly related to general recidivism: being a victim of sexual abuse (n=3, mean ES=0.16, p=0.001) and psychopathy (n=3, mean ES=0.29, p=0.0001).

These results suggest that juveniles who have been sexually victimized and those who have psychopathic traits are the most likely to re-offend. This seems to be particularly true of those juveniles who have been identified as psychopathic, where a stronger relationship was found. While the other three risk factors were found to be insignificant (see Table 6), caution should be taken when interpreting these results as the sample sizes are very small for all five risk factors analyzed.

Table 6: Risk Factors of General (any) Recidivism

<i>Risk Factor</i>	<i>Mean ES (p value)*</i>	<i>Q (p value)**</i>	<i>N (studies)</i>
Non-Caucasian	.3869 (.14)	106.5 (.001)	803 (3)
Psychopathy	.2908 (.0001)	6.17 (.05)	828 (3)
Victim of sexual abuse	.1576 (.001)	2.27 (.32)	418 (3)

Risk Factor	Mean ES (p value)*	Q (p value)**	N (studies)
<u>Less than 3 studies:</u>			
Drug use	.0821 (.16)	.045 (.83)	294 (2)
Victim of physical abuse	.0401 (.50)	.838 (.36)	294 (2)

* The significance of the Mean ES was calculated using Z (mean ES/se).

** A non-significant Q suggests that there is no more variability in the data than expected by sampling error.

Domain Analysis

In addition, risk factors were grouped into four domains for analysis. These domains were logically derived, and reflected developmental factors. It was hoped that the groupings would increase sample size for the risk factors and thus increase statistical power to identify any relationships between the risk factors and recidivism. This also allowed for the addition of risk factors examined in only one study, thus increasing the sample size. The four domains were: Sexual Deviancy, Antisociality, Psychosocial Deficits, and Negative Childhood Experiences (see Table 7).

Table 7: Variables in Domains

Domain Risk Factors	
Sexual Deviancy	<i>Prior sexual offences, age at intake, age at first sex crime, total number of victims, child or adult victim, stranger victim, deviant sexual arousal</i>
Antisociality	<i>Prior non-sexual offences, number of previous convictions, threats/weapons used, psychopathy, antisocial personality disorder, aggressive behaviour, lack of discipline, drug use</i>
Psycho-Social Deficits	<i>Social isolation, social skills deficits</i>
Negative Childhood Experiences	<i>Exposed to family violence, victim of physical abuse, neglect, or sexual abuse.</i>

Sexual deviancy was not found to be predictive of general recidivism (n=2, mean ES=0.04, p=0.46). The psychosocial deficits domain was also not significantly related to general recidivism (n=2, mean ES=0.10, p=0.09), however because the sample size is only 2 studies and it is approaching significance, it is possible that with a larger sample size, this result could change. Reflecting the findings of the risk factors on their own, the antisociality domain (n=6, mean ES=0.22, p<0.001) and the negative childhood experiences domain (n=3, mean ES=0.13, p=0.01) were both significantly related to general recidivism in the samples of juvenile sex offenders(

Table 8).

Table 8: Domains and General Recidivism

<i>Domain</i>	<i>ES Range</i>	<i>Mean ES (p)</i>	<i>Q (p)</i>	<i>N (studies)</i>
Antisociality	.096 - .417	.2235 (.001)	13.54 (.02)	988 (6)
Childhood Negative Experiences	.089 - .224	.1294 (.009)	1.53 (.47)	639 (3)
<u>Less than 3 studies:</u>				
Sexual Deviancy	.018 - .122	.0432 (.46)	.58 (.44)	294 (2)
Psycho-social Deficits	.017 - .129	.1014 (.09)	.66 (.42)	294 (2)

Risk Factors of Sexual Recidivism

Eighteen of the 48 stand alone risk factors were able to be analyzed. The other 30 risk factors either had no studies, or only one study which examined that factor, and thus was not appropriate for analysis. In many cases, more than 2 studies had investigated the risk factor's relationship with sexual recidivism. However, many of these studies utilized multivariate techniques that were inappropriate for use in the meta

analysis. This is true of almost all risk factors and therefore, the sample size for each risk factor remains quite low. Nevertheless, risk factors in the following four areas were able to be analyzed: criminal history, offence and victim characteristics, victimization, and psychological and behavioural characteristics (see

Table 9).

Table 9: Risk Factors for Sexual Recidivism

<i>Risk Factor</i>	<i>Mean ES (p value)*</i>	<i>Q (p value)**</i>	<i>N (studies)</i>
<u>Three or More Studies:</u>			
Stranger victim	.2776 (.0001)	1.828 (.40)	302 (3)
Child victim (categorical)	.1488 (.001)	.5308 (.91)	594 (4)
Threats/weapons used during offence	.1374 (.001)	.8285 (.84)	791 (4)
Prior sexual offences	.1071 (.007)	3.538 (.32)	647 (4)
Male victim	.0946 (.02)	.9060 (.82)	594 (4)
Victim of physical abuse	.0605 (.29)	.3256 (.85)	309 (3)
<u>Less than 3 studies:</u>			
Intake age	.1653 (.001)	.2199 (.64)	409 (2)
Adult victim (categorical)	.1521 (.003)	.1358 (.71)	365 (2)
Number of victims	.1403 (.27)	4.931 (.03)	409 (2)
Acquaintance victim	.1286 (.09)	.5496 (.46)	185 (2)
Prior non-sexual offences	.1141 (.004)	.1092 (.74)	618 (2)
Victim of sexual abuse	.1138 (.12)	.9547 (.33)	197 (2)
Relative victim	.0865 (.25)	.0002 (.99)	185 (2)
Physical injury to victim	.0859 (.24)	.0057 (.94)	190 (2)

Risk Factor	Mean ES (p value)*	Q (p value)**	N (studies)
Psychopathy	.0794 (.14)	.0707 (.79)	345 (2)
Aggressive behaviour	.0663 (.31)	.0037 (.95)	236 (2)
Number of previous convictions	.0466 (.29)	1.346 (.25)	535 (2)
Social Isolation	.0376 (.54)	.0128 (.91)	270 (2)

* The significance of the Mean ES was calculated using Z (mean ES/se).

** A non-significant Q suggests that there is no more variability in the data than expected by sampling error.

Criminal history

Having previous sexual offences (n=4, mean ES=0.11, p<0.01) and previous non-sexual offences (n=2, mean ES=0.11, p<0.01) were found to be predictive of sexual recidivism. However, the number of previous convictions a juvenile had on record was not found to be predictive of sexual re-offence (n=3, mean ES=0.05, p>0.05). The juvenile's age at intake was a predictor of sexual recidivism (n=2, mean ES=0.17, p<0.001), suggesting that the older the juvenile at intake, the more likely it was that they re-offended. This is likely reflective of the age-crime curve where early adulthood shows a peak in offending. No other risk factors for criminal history were able to be analyzed.

Offence Characteristics

The offence characteristics that were able to be analyzed were the use of threats or weapons and causing physical injury to the victim. Juveniles who used threats or weapons were significantly more likely to re-offend (n=4, mean ES=0.14, p<0.001) but causing physical injuries to the victim was not predictive of sexual re-offence (n=2, mean ES=0.09, p>0.05) though this may be due to the small sample size for this risk factor.

Victim Characteristics

The gender and age of the victim as well as the relationship between the victim and the offender are the primary areas of investigation regarding victim characteristics. The number of victims an offender had was not related to sexual re-offence (n=2, mean ES=0.11, $p>0.05$). However, the gender of the victim was related to sexual recidivism; a juvenile offender who had ever had a male victim was found to be more likely to re-offend sexually (n=4, mean ES=0.09, $p<0.05$). The age of the victim was also an important factor. Specifically, those juveniles who had a child or an adult victim (as opposed to a peer) were more likely to commit a future sex crime (child victim: n=4, mean ES=0.15, $p<0.001$; adult victim: n=2, mean ES=0.15, $p<0.01$). This suggests that the larger the discrepancy between ages of the offender and the victim, the more likely it is that the juvenile will continue his offending. The relationship between the juvenile and the victim was also important. Juveniles who offended against a stranger were significantly more likely to re-offend sexually in the future (n=3, mean ES=0.28, $p=0.0001$). Offending against someone related to the juvenile was not predictive of re-offence (n=2, mean ES=0.09, $p>0.05$); nor was offending against an acquaintance (n=2, mean ES=0.13, $p>0.05$). It is possible that because offending against a stranger is a far riskier behaviour than offending against someone known to the juvenile, sexual fantasies may be playing a role in the instigation and continuation of the offending behaviour.

Victimization

The effect of being a victim of sexual abuse and physical abuse on sexual recidivism was also examined. These risk factors included being exposed to the abuse, as well as directly victimized. Juveniles who were physically abused were not more likely to commit future sexual crimes (n=3, mean ES=0.06, $p>0.05$). This was also true for being a victim of sexual abuse (n=2, mean ES=0.11, $p>0.05$).

Psychological and Behavioural Characteristics

Very few of the risk factors in this area were able to be analyzed. However, of the three that were analyzed none were found to be significantly related to sexual re-offending. Interestingly, psychopathy was not related to sexual recidivism ($n=2$, mean $ES=0.08$, $p>0.05$). This is surprising considering the result for general re-offending; however, there are only two studies which assessed this risk factor. One hypothesis to explain this situation is the low statistical power of this meta-analysis in regard to that specific variable. It is also possible that psychopathy's relationship to sexual re-offending can be distinguished on the basis of victim typology. Without knowing the sample's breakdown it is impossible to conclude whether this is the case here. Aggressive behaviour was also not related to future offending ($n=2$, mean $ES=0.07$, $p>0.05$). Lastly, social isolation was also insignificant ($n=2$, mean $ES=0.04$, $p>0.05$).

Domain Analysis

As with general recidivism, the risk factors were grouped into four domains to help increase statistical power and test more theoretically based developmental areas. It should be noted that this analysis included the study by Prentky et al (2000), though this study was not included in the stand alone risk factor analysis. This is because this study utilized unstandardized scales, of which one was sexual deviancy. The items in the scales were not analyzed separately, thus it was not possible to include them with the appropriate risk factors but the scale overall was relevant to the domain analysis.

As expected, the sexual deviancy domain was found to be significantly related to sexual recidivism ($n=8$, mean $ES=0.11$, $p<0.001$) as was the antisociality domain ($n=10$, mean $ES=0.10$, $p<0.001$). This suggests that those juveniles who are sexually deviant and exhibit antisocial traits are more likely to re-offend sexually. Neither the psychosocial deficits domain ($n=2$, mean $ES=0.07$, $p>0.05$) or the negative childhood

experiences domain (n=3, mean ES=0.07, p>0.05) were related to future sexual offending (

Table 10).

Table 10: Relationship between Domains and Sexual Recidivism

<i>Domain</i>	<i>ES Range</i>	<i>Mean ES (p)</i>	<i>Q (p)</i>	<i>N (studies)</i>
Sexual Deviancy	.020 - .239	.11 (.001)	6.597 (.47)	1569 (8)
Antisociality	.062 - .132	.10 (.001)	.8772 (.99)	1805 (10)
Childhood Negative Experiences	.030 - .133	.07 (.20)	.4604 (.79)	309 (3)
	<u>Less than 3 studies:</u>			
Psycho-social Deficits	.049 - .080	.07 (.25)	.0475 (.83)	270 (2)

DISCUSSION

There are two conflicting views of juvenile sex offenders, one of which places the juvenile sex offender firmly in the realm of the adult predatory offender and the other places the juvenile with other generally delinquent juveniles. The aim of this study was to identify which factors have been shown to be best at predicting sexual recidivism in juvenile sex offenders in the literature. Specifically, the study sought to: a) answer whether juvenile sex offenders were in fact similar to adults in terms of the risk factors predicting risk, b) establish the base rate of sexual and general re-offending in juvenile sexual offenders, and c) establish whether the factors of general re-offence were similar to those of sexual recidivism. Overall, there is insufficient evidence to draw firm conclusions about the risk factors of sexual recidivism and general recidivism. However, the findings are similar to those found in the literature on adult sexual offenders (see Hanson & Bussière, 1998). Although it is not possible to draw firm conclusions, three patterns seemed to emerge from the data: 1) sexual recidivism was low, most re-offended generally; 2) general re-offending was best predicted by antisocial traits and victimization and 3) sexual deviancy and antisocial traits were significantly related to sexual recidivism, and victim characteristics were particularly good predictors.

Previous empirical studies have shown that there is much generality in the criminal activity of adult sex offender over time (Lussier, 2005) and the samples of juveniles used here reflect this as well. The majority of juvenile sex offenders did not re-offend sexually (88%); however, more than half the offenders in the current review re-offended generally (53%). This coincides with both Caldwell's (2002) and Zimring's (2004) reviews showing that most juvenile offenders re-offend non-sexually as well as

with the results found in predominately adult samples (Hanson & Bussière, 1998). Furthermore, studies on violent juvenile offenders have shown similar results (60% committing a non-violent offence, and 30% committing a violent offence; Corrado, Vincent, Hart, & Cohen, 2004) suggesting similarities to other juvenile offenders. More recent studies have also shown that most juvenile sex offenders in the samples re-offend generally (Waite, Keller, McGarvey, Wieckowski, Pinkerton & Brown, 2005; Vandiver, 2006).

Only a minority in the samples committed sexual offences (12%). This is very similar to the findings of Hanson and Bussière's (1998) meta analysis of predominately adult sex offenders (13%). The level of sexual recidivism ranged between 2% to 30%. Though it could be argued that 30% is a high level of re-offending, it reflects only 35 offenders. Because of the small sample sizes, the actual number of juveniles re-offending ranged from 3-35. It should be noted that these levels of recidivism are based on official sources, and do not account for offences that have not been brought to the attention of the authorities. The length of follow up time played a role in the level of recidivism found, where studies with longer follow up times had higher levels of sexual recidivism. As well the design of the study had an influence on the level of sexual recidivism found in the sample. Studies using both retrospective and prospective study designs had significantly higher levels of recidivism than retrospective or prospective designs alone. This overall low base rate of sexual recidivism suggests that as general re-offence is more prevalent, emphasis should also be placed on risk factors that relate to general re-offending. Certainly treatment targets related to sexual offending, and predictors which seem to be specific to sexual offending (such as sexual deviancy) should not be ignored. However, more research is needed to determine how predictors for general re-offending fit with those for sexual offending. This is important considering the high levels of general offending found in the studies, and the research showing some

commonality in the risk factors (Hanson & Bussière, 1998). While there may be offenders who “specialize” and re-offend consistently, most sex offenders, regardless of age, are unlikely to sexually re-offend making prediction very difficult.

Predictors of General Recidivism

Considering the high rates of general re-offending, risk factors for this area and for violent re-offending are very important. Very few risk factors of general re-offending were able to be analyzed and no factors relating to violent re-offending were included in the meta analysis. In spite of this, overall, the best predictors of general recidivism were antisociality and negative childhood experiences. The antisociality domain was made up of a number of risk factors: prior non-sexual offences, number of previous convictions, threats or weapons used, psychopathy, antisocial personality disorder, aggressive behaviour, lack of discipline and drug use. Specifically, psychopathy was the only factor which predicted general recidivism on its own. Given that this disorder has been shown to be related to general and violent recidivism in juvenile offenders (Corrado, Vincent, Hart, & Cohen, 2004) this is not a surprising finding. Impulsivity and hyperactivity have also been shown to have a moderate relationship with future violence (self reported and official data) as has early delinquent behaviour (Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Harachi, 1998). Antisocial personality disorder has been shown to be a strong predictor of general and non-sexual violent re-offending in studies using mainly adult samples (Hanson & Bussière, 1998) as well. In a sample of juveniles, while antisocial personality disorder was not measured, conduct disorder (effect size of .26) was found to be related to general future offending, (Cottle, Lee, Heilbrun, 2001) suggesting that behaviour problems from an early age are related to continued offending behaviour. They also found that the number of prior commitments (.17), and arrests (.06) as well as the age at first contact with the authorities (-.34) and first commitment (-.35)

were related to general offending. These factors were not analyzed on their own in the current review, but as part of the antisociality domain. The findings of Cottle, Lee and Heilbrun (2001) are similar in terms of effect sizes found to the current review in which antisociality had an effect size of .22 giving further support to the idea that general recidivism is moderately related to an antisocial lifestyle.

In contrast, the relationship between victimization and offending has often been debated, but no solid conclusions have been made. Being a victim of sexual abuse was found to be related to general recidivism though, on their own, no other kind of neglect or abuse was found to be significantly related. Interestingly, the juvenile studies reviewed here were in agreement with both the adult studies, indicating little to no relationship between victimization of any kind (physical or sexual) and sexual re-offending, and with the juvenile studies where victimization was related to both general and violent recidivism (effect size of .11; Cottle, Lee, Heilbrun, 2001). This suggests that juvenile sex offenders have aspects in common with adult sexual offenders and with other types of juvenile delinquents. It is possible that victimization has a bigger role in general re-offending than it does with sexual re-offending. Previous reviews have suggested that victimization is very weakly related to violent behaviour in adolescence (Hawkins et al, 1998). This is an interesting finding because items on the J-SOAP II (Prentky & Righthand, 2003) and the ERASOR (Worling & Curwen, 2001) ask about past victimization experiences. Though they use this information differently (J-SOAP asks specifically for victimization, ERASOR asks about "negative family environment" of which physical (not sexual) victimization is only one part), it suggests that this item is more predictive of general offending than of sexual recidivism, contrary to their stated purpose. Some research appears to support the idea that victimization is related to the onset but not the continuity of criminal or antisocial behaviour (Widom, 1989). The impact that being victimized has on future offending is clearly complex and there is not

yet enough information to effectively evaluate this area for its relationship to sexual re-offending.

The lack of emphasis on general offending by juvenile sexual offenders is somewhat surprising because of the link between past offending behaviour and future sexual offending. This has been shown in studies with adults (Hanson and Bussière, 1998) as well as with juveniles (Nisbet, Wilson and Smallbone, 2004, Allan, Allan, Marshall and Krazslan, 2003). As it has been shown that a small group of offenders are typically responsible for the majority of criminal offending (Tracy, Wolfgang, & Figlio, 1990; Moffitt, Caspi, Harrington, & Milne, 2002), it seems that risk factors reflecting this tendency towards general offending are important to identify. The number of risk factors examined here was very small and had small effect sizes so no firm conclusions should be made on the basis of this review. Far more studies are required to a) include more risk factors relating to general recidivism and b) increase the sample size of those studies examining each risk factor. Until that time, it is difficult to know how juvenile sex offenders compare to other juvenile offenders, or even adult offenders in their risk factors of re-offending generally. It does seem however, that there are likely some similarities to those groups considering the roles of antisocial tendency and victimization.

Predictors of Sexual Recidivism

Antisociality was hypothesized to be one of the best predictors of sexual recidivism. This was found to be the case with juvenile sex offenders. This domain has the highest number of studies included (10) but this is still a small sample. It is interesting to note that psychopathy was not related to sexual recidivism on its own, and only as a domain was antisocial orientation related to future offending. It should be noted that psychopathy on its own had only 2 studies, and thus the lack of significance may be related to low statistical power. However, this finding suggests that it is not only one

aspect of antisociality that is important but rather having a number of these factors in combination. It has been shown that antisocial behaviour is very stable for some individuals but unstable for others (Moffitt, 1993). It is possible that indicators of stable antisociality (i.e. over the life course) such as childhood onset, overt aggression, and violence (Moffitt, Caspi, Harrington, & Milne, 2002) are better predictors of sexual re-offending over the life span than psychopathy or antisocial personality disorder alone. It has also been noted that indications of psychopathy tend to be overestimated due to the characteristics of adolescence in general (Edens, Skeem, Cruise and Cauffman, 2001). It may be that aspects such as weapon use and prior non-sexual offences are in fact the key predictors in this domain as they were significantly related to sexual recidivism on their own. Antisocial personality disorder has been found to be a strong predictor of sexual recidivism in adults as was having prior non-sexual offences (Hanson & Bussière, 1998). Worling and Långström (2006) however, noted that antisocial traits, prior non-sexual offences and weapon use may be good predictors but should not yet be used as part of risk assessments with juvenile sex offenders because of their inconsistent results. This review gives further support to their use with predicting sexual re-offence, though should not be considered enough evidence to validate their use in the future. Though not specifically related to sexual recidivism in the juvenile sample, antisociality in general is playing a role in sexual recidivism.

Sexual deviancy was also hypothesized to be related to sexual recidivism. Though the effect size of the domain was small (.11) it was significantly predictive of sexual re-offence. The domain was made up of a number of variables: prior sex offences, age at first sex crime, total number of victims, child or adult victim, stranger victim and deviant sexual arousal. Of these, prior sex offences, child and adult victim, and stranger victim were significant on their own. Total number of victims, age at first sex crime and sexual arousal were not analyzed on their own because there was not

enough information to do so. These findings replicated that of Hanson and Bussière (1998). Both the ERASOR (Worling & Curwen, 2001) and the J-SOAP II (Prentky & Righthand, 2003) include items related to deviant sexual arousal or interests in their assessment tools. While this review gives some support for the use of these items in the instruments, all the risk factors had very small effect sizes (ranging from .09 for having a male victim to .28 for a stranger victim) suggesting the strength of the relationship is weak. The best predictors of sexual recidivism were related to victim characteristics. Though only weakly related to sexual recidivism, having a stranger victim, child or adult victim, and male victim were the best predictors of sexual recidivism. While prior non-sexual and sexual offences were also important in predicting sexual re-offence, victim characteristics had slightly higher effect sizes, particularly for stranger victim. While the results of this meta analysis suggest some similarities (e.g. antisocial orientation, previous offending history) between sex offenders who re-offend generally and those who re-offend sexually, it also suggests that sex offenders who sexually re-offend have some unique characteristics. Specifically, sexual deviancy would not be expected in those offenders who do not sexually re-offend (Hanson & Bussière, 1998) and those who sexually re-offended were more likely to exhibit elements of sexual deviancy in the current review. However, the effect size found for the juveniles in the current review (.11) is lower than those related to sexual deviancy found by Hanson and Bussière (1998; effect sizes up to .32 for phallometric assessment relating to arousal for children), suggesting that sexual deviancy may not be as powerful a predictor for juveniles. This may be due to the fact that the current review used fewer studies (18 versus 61 studies) and far fewer offenders were involved in the analysis (3189 versus 28,972). Furthermore, arousal to deviant stimuli as measured by phallometric assessment, though examined in 3 studies, was not evaluated in this review on its own because empirical information was not available for the analysis. This may be a crucial reason for

this finding as phallometric assessment has been a common method of assessing sexual deviancy in adults (Hanson & Morton-Bourgon, 2004; Hanson & Bussière, 1998). This might also reflect our limited knowledge as to the conceptualization and the measurement of sexual deviancy in youth. It has been suggested that the biggest problem with measuring this construct is that juveniles are still developing their sexual preferences. Adolescent sexual development is still in progress and adolescents are not yet fully developed in personality, and thus they often have very changeable characters (Waite et al, 2005). This may be a distinct benefit for juveniles as it suggests that there is room for change and intervention before their preferences are solidified. Furthermore, the continuity of sexual deviance is also unknown as is the link between early sexual misconduct to that in adulthood (Zimring, 2004). More simply, it is possible that sexual deviance may not be as important a factor in sexual aggression in juveniles as it is with adults. Juvenile sex offenders may not offend sexually for the same reasons adults do, making sexual deviance important but not the only factor relevant to re-offending in juvenile sex offenders. Ultimately, though this review has supported the hypothesis that sexual deviancy predicts sexual recidivism in juveniles, the strength of this risk area is still very weak, leaving room for alternative explanations of sexual recidivism that better predict the behaviour. Despite this, it appears that sexual deviancy is a promising area to help identify those offenders who are likely to sexually re-offend.

Methodological Issues/Limitations

Studies with juveniles have been plagued by a number of methodological flaws. In particular, base rates of sexual re-offending are notoriously low (mean of 12%). These results suggest that those studies with longer follow up times have the highest amounts of recidivism. Considering that the mean follow up time is 8 years (median of 6.8 years) and covers the period of adolescence, it suggests that sexual re-offending is simply a

rare event in adolescence. However, all studies used official measures of recidivism. Considering the problem of underreporting crime, especially with sexual crime, the base rate of re-offending may be increased, if not more accurate, if self-report measures and police incident reports were also used in conjunction with official data. At the very least, the use of the same definition of re-offence would allow for more comparison between studies' levels of recidivism; some studies used the more liberal measure of arrests and others used the more conservative measure of convictions. The use of official records would be recommended, and because of plea bargaining, police or arrest records would likely be best to increase base rates of sexual re-offending (Proulx, Tardif, Lamoureux, & Lussier, 2000).

Furthermore, there is a lack of consistency in the measurement of the risk factors. Clinical judgement, police records, standardized questionnaires are all used, making comparisons between studies difficult. In many cases, factors were only examined in one or two studies (particularly those related to emotional or cognitive deficits) and were not able to be compared at this time. However, of those that were able to be analyzed (either alone or in the domain analysis), very few studies utilized standardized measures of clinical factors. Furthermore, many studies utilized file information on which to base their evaluation of the juvenile. However, it is difficult to establish the accuracy, validity or reliability of this information. Both the ERASOR (Worling & Curwen, 2001) and the J-SOAP II (Prentky & Righthand, 2003) advocate the use of file data in addition to interviews with the juvenile and collateral sources to substantiate the information in the file.

It should be emphasized that the effect sizes and sample sizes for each risk factor in this review were very small and most studies differed in their measurement of the risk factors. Small sample sizes meant that it was very difficult to ascertain the true predictive value of these risk factors. Though there is no minimum number of studies

required to run a meta analysis noted by Lipsey and Wilson (2001), it was difficult to determine what values were outliers with a sample of only 2 or 3. While this problem was addressed to some extent by grouping some of the risk factors, the mean effect size was still quite small. Despite statistical significance, the practicality of utilizing risk factors because 2 or 3 studies suggest they are weakly related to a predicted outcome may not be as helpful as needed. Furthermore, identification of publication bias was not possible because of the small sample sizes involved for each risk factor. As most of the effect sizes were not significant, it is unlikely that a publication bias is at work. It seems unlikely that insignificant results here were biased by published studies' significant results. While unpublished dissertations were included and an inclusive approach was used, this meant that some studies of lesser methodological quality were included as well. In particular, few studies utilized a control group of any kind, age ranges were large, and sources of information used differed from court records to police records to clinical records. This meant that many of the operational definitions of the risk factors differed and thus comparison between these studies was somewhat debatable. However, as this review was meant to be an examination of the current state of the literature, this finding was an important one. All of these problems however mean that the results of this meta analysis should be considered tentative.

Future Research Needs

In general, the research on juveniles implies some similarity to that of adults and other juvenile offenders. However, the research on juvenile sexual offender risk assessment is still in its infancy. LeBlanc (1998) notes that there is no screening instrument for serious and violent offenders that is suitable because of a lack of knowledge about validity. He suggests that using multiple sources of information from a variety of settings (i.e. community, custody, and family) may be a more effective way of

establishing "accurate" information about the juvenile. Antisocial peers, inappropriate use of leisure time, conduct problems, and non-severe pathology such as stress and anxiety were found to be good predictors of future general offending behaviour (Cottle, Lee and Heilbrun, 2001). These are clearly important considering that most of the juvenile sex offenders in the review who re-offended committed non-sexual crimes. Furthermore, none of these have been examined in terms of sexual recidivism. Attachment and bonding, social skills, self control and sexual deviance have been studied but more is needed to develop these areas. Impulsivity and hyperactivity in childhood have been shown to be relevant in prediction of violence (Hawkins et al, 1998) and more studies are needed for sexual recidivism. Similarities between violent and sexual offenders (van Wijk, Loeber, Vermeiren, Pardini, Bullens, Doreleijers, 2005) suggest that risk factors for one group may be effective for the other. Evidence from studies on predicting violence suggests that factors relating to pregnancy, parental criminality, discipline styles and mental illness, early antisocial behaviour (e.g. prior to age 12, disobedience, destruction), dishonesty, hostility or deviant/violent attitudes as well as school factors such as attendance, truancy, achievement and involvement can be important to the prediction of violent behaviour in late adolescence and early adulthood (Hawkins et al, 1998). These are perhaps some of the most important areas because they are changeable and thus appropriate for use in interventions and treatment. However, consistency in measurement is also needed to allow for appropriate comparisons between studies. More studies are needed to examine the predictors of sexual recidivism and general recidivism in sexual offenders. It is still unclear how much the risk factors of general recidivism overlap with those of sexual recidivism because so few were able to be analyzed. If specific risk factors can be found that only predict sexual recidivism, practitioners who assess juvenile sex offenders will be able to focus on the potential for sexually re-offending outside of those factors that predict re-offending

behaviour in general. However, without knowing which factors also predict general offending, it is difficult for practitioners to identify those juveniles who are a danger to sexually re-offend specifically.

Perhaps even more influential is the argument made by some authors that predictors of violent behaviour are age graded. In no study reviewed were factors tested for differences based on age. The impact of the transitions occurring in adolescence on sexual offending is not well understood (Caldwell, 2002). Though there appears to be some similarities between adult and juvenile offenders, the strength of the risk factors in predicting future re-offence is lower for juveniles than it is for adults. Though it is unclear whether this is due to the methodological, conceptual, operational limitations of the study or a valid finding, perhaps the inconsistency in the results is due, at least in part, to the differences in the age range of the studies (range from 6-20 years old). It has been found that the best predictors of violence at age 18 for age 10 are not the same as those for age 14 or age 16, particularly with factors that relate to family attitudes towards violence, and parental violence (Hawkins et al, 1998). Further, predictors of future violent behaviour differed between 6-11 year olds and 12-14 year olds (Lipsey & Derzon, 1998). More specifically, the best predictors of violence for 6-11 year olds were (in order) general offences, substance use, being male, the family's socio-economic status and antisocial parents (effect sizes ranging from .38 to .23). However, for 12-14 year olds, the best predictors were social ties, antisocial peers, and general offences (effect sizes ranging from .39 to .26). All factors other than these listed had effect sizes below .21. These results suggest very little overlap in the risk factors at different ages and suggest that any assessment needs to acknowledge the age of the offender as part of the decision making process about what risk factors are important. The aggregation of any kind of data necessarily means that there is suppression of intra-group differences. It is possible that the weak relationships found in the current study (and their relative

weakness to those for adults), is due to the intermixing of age groups. If this is true, risk assessments will be required to take age into account to identify which risk factors are important and practitioners will be required to re-evaluate the juveniles at different periods of development.

Impact on Juvenile Justice

With research emerging that suggests that adult offenders are not as specialized as once thought (Lussier, 2005), and that sexual re-offending rates are low for both adults and juveniles, a more critical eye should be turned to legislation that assumes long term, predatory sex offending. As Zimring (2004) notes, the legal responses to juvenile sex offenders have been based on the research on adults, not on sound scientific research on juvenile sexual offending. Legislative trends for both juveniles and sex offenders in general have been moving to a view of offender management and less focus on treatment and rehabilitation. Yet due to methodological issues, there is no basis for a firm conclusion regarding risk factors of sexual recidivism in juvenile sex offenders. Garfinkle (2003) reports that slightly more than half of the states in the US include juveniles in their notification and registry laws. Judicial policy changes are moving faster than researchers are able to produce empirically sound studies on risk factors. This is creating a gap in the knowledge on risk management and its practice, meaning that effective policies may be disregarded while ineffective ones continue to be used. By decreasing the focus on rehabilitation too soon, society may be losing productive members of the community. Of those juveniles who commit sexual crimes, only a minority continue to do so, suggesting that rehabilitation would be better aimed at factors that are related to general offending, not specific to sexual offending. It also suggests that policies targeting sexual offending may in fact be ineffective and unnecessary. It has been argued that in high risk cases, registration and notification may be warranted to

protect the public (Letourneau, 2006). Though most sex offenders do not continue to offend, some sex offenders show a progression of behaviour from less serious to more serious and violent crimes (Martin & Pruett, 1998); early intervention would prevent this progression from occurring. Tracy, Wolfgang and Figlio (1990) found that only 7% of their sample was responsible for 70% of the offences committed. Similarly, Moffitt, Caspi, Harrington and Milne (2002) found that by age 26, 10% of their sample was responsible for 62% of sexual and physical offences against women. This research suggests that there is a small group of juvenile offenders who persist into adulthood and chronically commit crime. A recent study showed that juvenile sexual offenders were similar to violent juvenile offenders, and that violent juveniles offenders (sexual and non-sexual combined) were significantly different from non-violent juvenile offenders in most aspects tested (van Wijk et al, 2005). These violent/sexual juvenile offenders are those who are more likely to be dangerous to the public and need to be identified in order to reduce the levels of recidivism. They are also the group who would benefit from appropriate interventions, prevention mechanisms and treatment programs aimed at chronic re-offending, sexual or otherwise. Nevertheless, a significant problem with attempting to identify these chronic offenders is that most states do not have mechanisms in place to assess juveniles or adults and therefore simply treat all offenders in the same manner (Letourneau, 2006). Even those that have systems in place are limited by the lack of definitive research on what factors to look for in the juvenile. The policies regarding sexual offending are moving much faster than research to support it (or contradict it) has been produced. This has left a gap in the level of knowledge about sexual offenders and the methods used to deal with them. By knowing the ways in which offenders differ, and the factors which reduce or increase the risk of re-offending, the public would be better equipped to make judgements about what it means to be on a registry (e.g. degree of potential danger), and law makers would be

better able to assess the value of the laws in preventing victimization. As well, law enforcement would be better able to identify those offenders who require more monitoring and those who require less thus better allocating financial and officer resources.

Furthermore, these policies may be hindering the social development of juveniles. SORs and notification have been created under the premise of being child protection legislation but as Zimring (2004) asks, why are only some children protected? Considering what is not known about juvenile sex offenders, Zimring argues that the offenders should be protected as well. However, over the course of the last few decades, there has been a steady separation in North American legal circles between children who need protection (i.e. those in danger) and those who misbehave and are dangerous to the community (Trépanier, 1999). Whether this separation is beneficial to the children or the community is a different question. Some authors have gone as far as to suggest that these laws actually reinforce the sex offender label and thus encourage deviant sexuality in these juveniles by encouraging them to accept the deviant label (Steen, 2001). Many have suggested that more cooperation between the justice system and mental health system is needed (Task Force on High Risk Offenders, 1995; Martin & Pruett, 1998) in order to aid in rehabilitation as well as deterrence. This balance is particularly important for juveniles involved in the justice system. The Task Force on Juvenile Justice Reform (2001) notes that juvenile justice requires a balance of two opposing goals: rehabilitation and societal protection. Unfortunately, these goals can result in conflicts and ineffective responses to families and juveniles in need. This appears to be happening with the inclusion of juveniles in registration and notification legislation.

CONCLUSION

With juvenile sex offenders increasingly subjected to adult consequences under the law, it is important that researchers develop the body of knowledge on risk for juveniles by focusing on elements that are relevant to that age group and not just on those relevant to adults. In addition, research with larger sample sizes, control groups and long follow up times is needed to improve the statistical power of the studies. There is a real need for further research on the risk factors in terms of developmental age. Are the risk factors different for different ages, as research on violence would suggest? In addition, the development of sexuality and of personality and the stability of these aspects of the offender are not well understood but are needed in order to better understand the role of risk factors such as antisociality and sexual deviance. This will allow for better comparisons between adults and juvenile sex offenders.

Further, the development of standardized clinical scales is needed to allow for consistent, valid measurement of clinically relevant risk factors such as cognition, personality and emotional development. Lastly, the field requires a broader outlook on the potential risk factors that would be relevant to assessment of juvenile offenders. Many factors have been studied in relation to general or violent offending but not in terms of sexual recidivism. Given that juvenile sex offenders have similarities to both adults and other juvenile delinquents, incorporating factors related to both groups of offenders would be beneficial. This is even more important considering that most juvenile sex offenders do not re-offend sexually.

In the end, this meta analysis should not be considered conclusive evidence about the risk factors analyzed because it is too early to make solid conclusions about what is known in the field. Instead, it should be seen as a spotlight on the field of juvenile sex offending research, shedding light on what is known and highlighting the areas which are in need of attention.

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APPENDICES

Appendix A: Studies Reviewed and Sample Description

<u>Study</u>	<u>Sample Description</u>	<u>Length of Follow Up</u>	<u>Definition of Recidivism used in Analysis</u>
Allan, Allan, Marshall, & Krazslan, 2003	326 convicted male juvenile sexual offenders from court, police and psychological services records in Australia with a mean age of 15.1 years.	Mean of 4.2 years	Conviction
Auslander, 1998	124 male juveniles (both sexual and non sexual offenders) from an institution for boys in Florida with a mean age of 15 years	Mean of 2.9 years	Arrest, Conviction
Boyd, 1994	73 juveniles convicted of an offence punishable by at least 6 months custody in Milwaukee with a mean age of 15.6 and a range of 13-18 years old.	4 years	Conviction
Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001	220 males from community based sex offender treatment programs for youth by the Forensic Services Commission in British Columbia	7 months to 8.8 years	Charges, Conviction and Breach of probation

<u>Study</u>	<u>Sample Description</u>	<u>Length of Follow Up</u>	<u>Definition of Recidivism used in Analysis</u>
Gretton, Catchpole, McBride, Hare, O'Shaughnessy, & Regan, 2005	253 males discharged from sex offender treatment programs by Forensic Services Commission in British Columbia	"Almost 10 years"	Charges
Hagan, Gust-Brey, Cho & Dow, 2001	150 (100 sex offenders) male juveniles from a secure custody institution in Wisconsin between the ages of 12-19.	Mean of 8 years	Conviction
Kahn & Chambers, 1991	221 offenders, including females (ratio of 1 for every 20 males), from custodial and community treatment programs in Washington State, aged 8-18 years.	Mean of 1.7 years	Conviction
Långström, 2002	126 juveniles, 2 female, in Sweden who were referred to forensic psychiatry evaluations by the court. Mean age is 18 years (SD=1.50)	Mean of 9.5 years	Conviction

<u>Study</u>	<u>Sample Description</u>	<u>Length of Follow Up</u>	<u>Definition of Recidivism used in Analysis</u>
Långström & Grann, 2000	56 juveniles, 54 males, 2 females, in Sweden who were given referral for forensic psychiatric evaluations by the court. Mean age is 18.13 (range of 15-20)	Mean of 5 years	Conviction
Milloy, 1995	256 male juveniles, both sexual and non sexual offenders, in an institution in Washington State between the ages of 10-20.	Mean of 3 years	Arrest
Miner, 2002	86 male juveniles from a corrections based treatment program for those who were not acceptable to community based programs ages 14-19 (mean of 17.2).	Mean of 4.29 years	Arrest, Conviction, Parole Violation
Nisbet, Wilson & Smallbone, 2004	292 male juveniles in Australia in sex offender programs, mean age of 16 years	Minimum of 4 years	Arrest
Prentky, Harris, Frizzell, & Righthand, 2000	96 juvenile sex offenders from an institute in Philadelphia ranging in age from 9-20 (mean of 14.2)	Mean of 2 years	Arrest/Conviction (not differentiated), Removal from community.

<u>Study</u>	<u>Sample Description</u>	<u>Length of Follow Up</u>	<u>Definition of Recidivism used in Analysis</u>
Rasmussen, 1999	170 juveniles (3 females) in 3 counties in Utah from court records, including both custody and community sentences, ages 7-18 (mean of 14)	Up to a maximum of 5 years (when offender turned 19)	Conviction
Schram, Milloy, & Rowe, 1991	197 male juveniles from treatment programs in Washington State on referral or conviction for sexual offences, aged 8-18 (mean 14.5).	Median of 6.2 years	Arrest, Conviction
Sipe, Jensen, & Everett, 1998	306 male juveniles from an assessment and observation centre in Idaho between age of 11 and 18	Mean 6 years	Arrest
Smith & Monastersky, 1986	112 males referred to a juvenile sex offender program in Washington for a documented sexual offence aged 10-16 (mean age of 14).	Mean of 2.4 years	Charge
Worling, 2001	112 male juveniles convicted of a sexual offence or referred to a sexual treatment program in Toronto; mean age of 15.59 (sd=1.46) years	Mean of 6.23 years	Arrest, Conviction

Appendix B: Coding Form Used

Juvenile Sexual Predictors Study Review Coding Form

1. Author(s): _____
 2. Title: _____
 3. Source: _____
 4. Year of Publication: _____
 5. Country of Origin: _____ (1=U.S.A; 2=Canada; 3=UK;
4=Australia/New Zealand; 5= Europe; 99=Unknown)
 6. Location Identifier: _____ (Name of city, penitentiary, or
psychiatric facility)
 7. Type of Design: _____ (1=Prospective; 2=Retrospective; 3=both; 99=Unknown)
 8. Treatment related: _____ (1=Yes; 2=No)
 9. Females included in sample: _____ (1=Yes; 2=No)
 10. Sample offender history: _____ (1=First time Sexual offenders; 2=sexual
recidivists; 3=both; 4=Other)
 11. Proportion of recidivists in sample: _____ (percentage of sample)
 12. a) Selection Sample: _____ (1=juvenile only; 2=other _____;
99=Unknown)
b) Recidivism Sample: _____ (1=juvenile only; 2=juvenile and adult; 3=adult only;
99=Unknown)
 13. Total Sample Size: _____ (99=Unknown)
- Overall Sample Details**
14. Race of Sample: _____ (1=>60% Caucasian; 2=>60% Black 3=>60% Aboriginal;
4= Mixed, none more than 60%; 5= Mixed, cannot estimate proportions;
99=Unknown)
 15. Location of Sample: _____ (1=Institution; 2=Psychiatric facility;
3=Community, under supervision; 4=Community, unsupervised;
99=Unknown)
 16. Definition of Sexual Offender: (check all that apply)
_____ 1=referral to agency for sexual conduct

- _____ 2=hands on/hands off/both types of offences
- _____ 3=rape/serious violent offences
- _____ 4=intrafamilial/extrafamilial/both victim
- _____ 4=peer/child/adult victim
- _____ 5=unknown

17. Age Range of Sample: _____ (77=Not Given; 99= Unknown)
18. Mean Age of Sample: _____ (77=Not Given; 88=NA; 99=Unknown)
19. SD of Age of Sample: _____ (77=Not Given; 88=NA; 99=Unknown)
20. Length of Follow up period: _____ Months (77=Not Given; 88=NA; 99=Unknown)
21. Mean time at risk: _____ Months (77=Not Given; 88=NA; 99=Unknown)
22. SD time at risk: _____ Months (77=Not Given; 88=NA; 99=Unknown)
23. Mean Age at Follow up: _____ (77=Not Given; 88=NA; 99=Unknown)
24. SD of Age at Follow up: _____ (77=Not Given; 99=Unknown)

Comparison Group Sample Details:

25. Control Group: _____ (1=Yes; 2=No)
26. Total Size of Control Group: _____ (88=Not applicable)
27. Method of Assignment to Treatment conditions: _____ (1=matched sample; 2=random assignment; 3= convenience; 88=Not Applicable; 99=Unknown)
28. Make up of Control Group: (Check all that apply)
- a) _____ Violent Juvenile Offenders;
 - b) _____ General Juvenile Offenders
 - c) _____ Adult Offenders
 - d) _____ Juvenile Sexual Offenders
 - e) _____ Representative Sample of non-offending Juveniles
 - f) _____ Unknown
 - g) _____ Not Applicable
29. Treatment Length: _____ (77=Not Given; 88=Not Applicable; 99=Unknown)
30. Race of Sample: _____ (1=>60% Caucasian; 2=>60% Black; 3=>60% Aboriginal; 4=Mixed, none more than 60%; 5=Mixed, cannot estimate proportions; 99=Unknown)
31. Location of Sample: _____ (1=Institution; 2=Psychiatric facility; 3=Community, under supervision; 4=Community, unsupervised; 99=Unknown)

32. Age Range of Sample: _____ (77=Not Given; 99= Unknown)
33. Mean Age of Sample: _____ (77=Not Given; 99=Unknown)
34. SD of Age of Sample: _____ (77=Not Given; 99=Unknown)
35. Length of Follow up period: _____ Months (77=Not Given; 99=Unknown)
36. Mean time at risk: _____ Months (77=Not Given; 99=Unknown)
37. SD time at risk: _____ Months (77=Not Given; 99=Unknown)
38. Mean Age at Follow up: _____ (77=Not Given; 99=Unknown)
39. SD of Age at Follow up: _____ (77=Not Given;99=Unknown)

Recidivism Details:

40. Definition of Recidivism: _____ (1=arrest/charge; 2=conviction; 3=self reported; 4=parole revocation/breach probation; 77=Not Given;99=Unknown)
41. Definition of Sexual Offender: (check all that apply)
 _____ 1=referral to agency for sexual conduct
 _____ 2=hands on/hands off/both types of offences
 _____ 3=rape/serious violent offences
 _____ 4=intrafamilial/extrafamilial/both victim
 _____ 4=peer/child/adult victim
 _____ 5=unknown
42. Definition of Violent Crime: _____ (1=violent crimes only; 2=violent and sexual included; 88=Not applicable)
43. Total Recidivism: _____ (Rate/Proportion of Subjects; 99=Unknown)
- a)** Number of Recidivists: _____ (99=Unknown)
- b)** Number of Non-Recidivists: _____ (99=Unknown)
44. Rate of Sexual Recidivism: _____ (Rate/Proportion of Subjects; 99=Unknown)
- a)** Number of Sexual Recidivists: _____ (99=Unknown)
- b)** Number of Non-Recidivists: _____ (99=Unknown)
45. Rate of Violent Recidivism: _____ (Rate/Proportion of Subjects; 99=Unknown)
- a)** Number of Violent Recidivists: _____ (99=Unknown)
- b)** Number of Non-Recidivists: _____ (99=Unknown)

46. Rate of Non-Violent Recidivism: _____ (Rate/Proportion of Subjects;
99=Unknown)

a) Number of Non-Violent Recidivists: _____ (99=Unknown)

b) Number of Non-Recidivists: _____ (99=Unknown)

FOR CONTROL GROUP (If applicable)

47. Definition of Recidivism: _____ (1=arrest/charge; 2=conviction; 3=self reported; 4=parole revocation/breach probation; 77=Not Given; 99=Unknown)

48. Definition of Sexual Offender: (check all that apply)

_____ 1=referral to agency for sexual conduct

_____ 2=hands on/hands off/both types of offences

_____ 3=rape/serious violent offences

_____ 4=intrafamilial/extrafamilial/both victim

_____ 4=peer/child/adult victim

_____ 5=unknown

49. Definition of Violent Crime: _____ (1=violent crimes only; 2=violent and sexual included; 88=Not applicable)

50. Total Recidivism: _____ (Rate/Proportion of Subjects; 99=Unknown)

a) Number of Recidivists: _____ (99=Unknown)

b) Number of Non-Recidivists: _____ (99=Unknown)

51. Rate of Sexual Recidivism: _____ (Rate/Proportion of Subjects; 99=Unknown)

a) Number of Sexual Recidivists: _____ (99=Unknown)

b) Number of Non-Recidivists: _____ (99=Unknown)

52. Rate of Violent Recidivism: _____ (Rate/Proportion of Subjects; 99=Unknown)

a) Number of Violent Recidivists: _____ (99=Unknown)

b) Number of Non-Recidivists: _____ (99=Unknown)

53. Rate of Non-Violent Recidivism: _____ (Rate/Proportion of Subjects;
99=Unknown)

a) Number of Non-Violent Recidivists: _____ (99=Unknown)

b) Number of Non-Recidivists: _____ (99=Unknown)

Statistical Analysis:

54. Number of Factors Tested in study: _____ (99=Unknown)

55. Type of Statistical Tests Used: (check all that apply)

- a) _____ Correlation;
- b) _____ Chi-Square;
- c) _____ T-Test;
- d) _____ ANOVA;
- e) _____ F-Test
- f) _____ Odds Ratio
- g) _____ Logistic Regression – Multiple
- h) _____ Logistic Regression – Survival Analysis
- i) _____ Other _____

56. Predictors Measured:

Note. Mean NR (SD)= Mean of Non-recidivists, with the standard deviation in parentheses. Mean RE (SD)= Mean of recidivists, with the standard deviation in parentheses. X² = Chi square value. T-test=Value of the T-test. F-Test (DF)=Value of the F-Test with the degree of freedom in parentheses. r=Correlation value. 888= non significant results with no data given in the study

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Criminal History	Circled the one used in the study						
Prior sexual offences	0=not applicable 1=conviction 2=charge/arrest 3=self-report						
Prior non-sexual offences	0=not applicable 1=convictions 2=charges/arrests 3=self report						
Number of convictions for any crime	0=not applicable 1=convictions 2=charges/arrests 3=self report						
Total Number of victims	0=not applicable 1=index offence 2=prior offence 3=total number 4=self report						
Age of Intake	0=Not applicable 1=index offence 2=prior offence						
Age at first contact with authorities – nonsexual	0=not applicable 1=convictions 2=charges/arrests 3=self report						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)			
Age of first sex crime	0=not applicable 1=convictions 2=charges/arrests 3=self report				

Risk Factor	Variable used	Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Index Offence Characteristics	Circle the one used in the study						
Threats or Weapons Involved	0=not applicable 1=present						
Penetration Involved	0=not applicable 1=present						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Victim Characteristics	Circle the one used in the study						
Victim Female	0=not applicable 1=ever 2=index						
Victim Male	0=not applicable 1=ever 2=index						
Age of Victim	0=Not applicable 1=clinical file 2=police records 3=other_____						
Younger/Same/Older Aged Victim	0=Not applicable 1=clinical file 2=police records 3=other_____						
Child/Peer/ Adult Aged Victim	0=Not applicable 1=clinical file 2=police records 3=other_____						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
Child Victim	0=not applicable 1=young victim 2=child victim 3=under 13 victim 4=def'n not given						
Peer Victim	0=Not applicable 1=clinical file 2=police records 3=other _____						
Adult Victim	0=Not applicable 1=clinical file 2=police records 3=other _____						
No Physical Victim Injury	0=Not applicable 1=clinical file 2=police records 3=other _____						
Physical Injury to Victim	0=Not applicable 1=clinical file 2=police records 3=other _____						
Victim Stranger	0=Not applicable 1=clinical file 2=police records 3=other _____						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)				
Victim Relative	0=Not applicable 1=clinical file 2=police records 3=other _____					
Victim Acquaintance	0=Not applicable 1=clinical file 2=police records 3=other _____					

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Socio-Economic Factors	Circle the one used in the study						
Non-Caucasian	0=not applicable 1=present						
Low Socio-Economic Status of Parents	0=not applicable 1=social class 2=income 3=scale _____						
Parents Separated	0=not applicable 1=clinical 2=self report						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Family Variables	Circle the one used in the study						
Victim physical abuse	0=not applicable 1=self-report questionnaire 2=clinical report 3=standardized instrument/scale						
Victim of Neglect	0=not applicable 1=self-report questionnaire 2=clinical report 3=standardized instrument/scale						
Victim of sexual abuse	0=not applicable 1=self-report questionnaire 2=clinical report 3=standardized instrument/scale						
Exposed to interfamilial violence	0=not applicable 1=witnessed 2=Conflict Tactics Scale						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Psychological/Personality	Circle the one used in the study						
Psychopathy	0=Not applicable 1=PCL-R/YV						
Antisocial Personality	0=not applicable 1=California Personality Inventory 2=PCL-YV/R 3=Jesness Inventory 4=DSM 5=MMPI-A 6=Clinician Rated 7=Other _____						
Anxiety/Depression	0=not applicable 1=Beck Depression Inventory 2=DSM 3=Clinician Rated 4=Other _____						
Low Intelligence	0=Not applicable 1=WRAT-R 2=WAIS-R 3=Standardized Scale _____ 5=Other _____						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)				
Neurological Deficits	0=Not applicable 1=brain damage 2=Scale used _____					

Risk Factor	Variable used	Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Behavioural Variables	Circle the one used in the study						
Deviant Sexual Arousal	0=not applicable 1=clinician rated 2=Plethysmograph						
Paraphilia Diagnosis	0=Not applicable 1=self-report 2=clinician rated 3=DSM 4=Multiphasic Sexual Inventory						
Conduct Disorder	0=not applicable 1=DSM 2=clinician rated 3=Other _____						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
Aggressive Behaviour	0=not applicable 1=clinician rated 2=CABS 3=other measure used _____						
Lack of Discipline	0=not applicable 1=Truancy 2=suspensions 3=Other _____						
Social Isolation	0=not applicable 1=Clinician Rated 2=Loner/No friends 3=Number of friends 4=other _____						
Drug Use	0=not applicable 1=clinician Rated 2=Scale _____ 3=Other _____						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Cognitive/ Emotional	Circle the one used in the study						
Social Skills Deficits	0=not applicable 1=clinician rated 2=standardized scale 3=other						
Sexual Knowledge Deficits	0=not applicable 1=clinician rated 2=standardized scale 3=other						
Cognitive Distortions	0=not applicable 1=clinician rated 2=standardized scale 3=other						
Lack of Empathy	0=not applicable 1=clinician rated 2=standardized scale 3=other						
Denial	0=not applicable 1=clinician rated 2=standardized scale 3=other						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
Cognitive/ Emotional							
Lack of Remorse	Circle the one used in the study 0=not applicable 1=clinician rated 2=standardized scale _____ 3=other _____						

Risk Factor	Variable used	General Recidivism/ Violent Recidivism/ Sexual Recidivism (Circle One)					
		Mean NR (SD)	Mean RE (SD)	X ²	T-Test	F-Test (DF)	r
OTHER							

a) Criminal History

i. Prior sexual offences

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Prior non-sexual offences

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Number of convictions for any crime

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Number of total victims

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Age at intake

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

v. Age at first contact with authorities – non-sexual offence

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

vi. Age at first sex offence

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

b) Index Offence Characteristics

i. Threats/Weapon used

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Penetration involved

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

c) Victim Characteristics

i. Victim female

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Victim male

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Age of victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Younger/Same/Older Victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

v. Child/Peer/Adult Victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

vi. Child Victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

vii. Peer Victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

viii. Adult Victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ix. No Physical Victim Injury

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

x. Physical Injury to Victim

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

xi. Victim stranger

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

xii. Victim Relative

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

xiii. Victim Acquaintance

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

d) Socio-Economic Variables

i. Non-Caucasian

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Low Socio-Economic Status of Parents

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Parents Separated

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

e) Family Variables

i. Victim of physical abuse

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Victim of neglect

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Victim of sexual abuse

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Exposed to interfamilial Violence

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

f) Personality/Psychological

i. Psychopathy:

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Antisocial Personality

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Anxiety/Depression

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Low Intelligence:

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

v. Neurological Deficits

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

g) Behavioural

i. Deviant Sexual Arousal

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Paraphilia Diagnosis

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Conduct Disorder

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Aggressive Behaviour

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

v. Lack of Discipline

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

vi. Social Isolation

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)
Page Effect Size Data is Found: _____ (88=Not Applicable)

vii. Drug Use

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)
Effect Size: _____ (99=Unknown)
Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

h) Cognitive/Emotional

i. Social skills deficits

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

ii. Sexual knowledge deficits

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

iii. Cognitive Distortions

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

iv. Lack of Empathy

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

v. Denial

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

vi. Lack of Remorse

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)

i) Other

Multivariate Analysis Used: _____ (1=Yes; 2=No; 99=Unknown)

Effect Size: _____ (99=Unknown)

Odds Ratio: _____ (77=not given; 99=Unknown)

Page Effect Size Data is Found: _____ (88=Not Applicable)