

Reoffence Risk in Intrafamilial Child Sexual Offenders

Jane Goodman-Delahunty
Kate O'Brien

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Researchers

Principal Researchers:

Professor Jane Goodman-Delahunty
School of Psychology and Australian Graduate School of Policing
and Security, Charles Sturt University

Kate O'Brien, Doctoral Candidate
School of Psychology & Psychiatry, Centre for Forensic Behavioural
Science, Monash University

Co-Investigators:

Anne Lucas, Forensic Psychologist

Dr Rhianna Shi

Consultants

Dr Stephen Wong
Institute of Mental Health, Nottingham, UK, and University of
Saskatchewan

Dr Mark E. Olver, Department of Psychology, University of
Saskatchewan,

Research Assistance

From the School of Psychology and Australian Graduate School of
Policing and Security, Charles Sturt University

Samara Barchet

Timothy Carey

Melissa Martin

Natalie Martschuk

Ida Nguyen

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Samara Barchet
Timothy Carey
Anne Lucas
Melissa Martin
Natalie Martschuk
Ida Nguyen
Dr Rhianna Shi

Executive Summary

The sexual abuse of children by a parent is one of the most serious crimes in Australian society. Because of the covert nature of the crime, misperceptions of parental offenders and victims are widespread and traditional criminal justice responses are ineffective. As a result, assessing risk, selecting appropriate rehabilitative interventions, and managing parental offenders in the community has been problematic. Child sex offenders are universally reviled, but data on the parental subgroup of intrafamilial offenders are extremely limited. Although significant differences between intrafamilial and extrafamilial sex offences and offenders have been observed, these distinctions are rarely considered by policy makers. Parental offenders are typically viewed as low risk and amenable to treatment, but little systematic empirical research on this topic exists to verify these presumptions. The current study filled this gap in the literature.

Rehabilitation

Treatment for sex offenders is offered in custodial and community-based programs. Treatment programs are most effective when tailored for different subtypes of sex offenders to specifically address their respective criminogenic needs. Placement of parental offenders, typically rated as low risk, with extrafamilial offenders whose reoffence risk exceeds 50 percent, as often occurs in custodial settings, is counterproductive, and can increase the risk of reoffending. A better understanding of the criminogenic needs of parental offenders is necessary to tailor interventions and treatment programs more appropriately.

Standard risk instruments used in forensic settings are insensitive to key features of the profile of parental offenders. These instruments also rely on historical factors which are of little or no value in assessing parental risks of reoffending. For example, many parental offenders have stable employment, are married or in long-term intimate relationships with age-appropriate adults, factors which typically reduce the risk of sexual offending. Thus, reliance on these factors can obscure risks of reoffending in parental offenders. By comparison, test instruments that include the assessment of factors that can change over time (dynamic factors) such as cognitive distortions and offence planning, are more predictive of recidivism. The Violence Risk Scale: Sex Offender version (VRS:SO) is a contemporary risk instrument that incorporates both static and dynamic factors to assess offender suitability for treatment based on their criminogenic needs. The current study applied the VRS:SO to assess a sample of parental child sex offenders to develop a more accurate profile of this subgroup of child sex offenders and to gain more insight into their distinctive criminogenic needs.

Diversion versus Standard Criminal Prosecution

The acknowledged failure of standard criminal prosecution for specific groups of offenders, including parental child sex offenders, has sparked renewed interest in diversion programs. Offenders who sexually abuse children are rarely eligible for diversion primarily because few diversion programs for parental child sex offenders have been systematically evaluated and treatment outcomes are lacking. One diversion program for parental child sex offenders is the New South Wales Pre-Trial Diversion of Offenders Program (Cedar Cottage) established in 1989 and managed by Sydney West Area Health Service. It was developed to treat child sex offenders in a parental role who plead guilty when charged and to prevent them from repeating their offences by providing “for the protection of children who have been victims of sexual assault by a parent or a parent’s spouse or de facto partner” (Pre-Trial Diversion of Offenders Act 1985 (NSW)). Primacy is given to the needs of the victims. The

program also treats the victim and family members. On average six family members are treated for every one offender referred to the program.

Parental offenders are referred to this program by police, prosecutors and courts. After screening by the Clinical Director, parents who are accepted for treatment enter a guilty plea and remain in the community throughout treatment lasting a minimum of two years. Offenders who are declined or fail to complete treatment return to the courts for standard criminal prosecution.

Aims of the study

The study objectives were to:

- extend current knowledge about parental child sex offenders by identifying common features pertinent to this subpopulation of sex offenders, including their static and dynamic risk profile
- explore the potential for an objective risk assessment instrument such as the VRS:SO to assist in placing offenders in the most appropriate treatment based on their specific needs and risk of reoffending.
- promote effective and appropriate treatment planning and assist in the prioritisation of criminal justice, health and welfare resources to achieve the greatest reduction possible of cases of parental child sex abuse.

Method and Approach

A sample of parental child sex offenders was retrospectively assessed using the VRS:SO. Analyses were conducted using traditional VRS:SO dynamic factors and newly identified dynamic factors within this sample. Scores of offenders who were declined treatment and returned to court for standard criminal prosecution were compared with those of offenders accepted into the program. The study examined whether:

- Dynamic and static risk factors in the VRS:SO were predictive of recidivism for parental child sex offenders
- Rates of recidivism differed in offenders rated high versus low risk
- Offenders diverted from standard criminal prosecution benefited from community-based treatment

Participants

Clinical files of a cohort of 213 male parental offenders referred to Cedar Cottage in the 14-year period between 1989 and 2003 were reviewed.

Reoffending data and follow-up period

The observation period for the offender sample following last contact with Cedar Cottage ranged from 4–18 years. Conservative measures of reoffending were applied, *that is*, official reports to the police, charges and convictions. Reoffences were classified as sexual, violent, or general (overall/total).

Results

Distinguishing features of parental sexual offenders in this sample included the higher likelihood to abuse a single female victim, and to offend against that victim more regularly for a protracted period, often years. The child victims were generally prepubescent; with a sizable proportion under five

years of age. Offences involved coercion and threats rather than violence or force. The offenders were older than extrafamilial offenders and had committed other crimes in addition to the index offence. Cognitive distortions were commonplace, as among other child sex offenders, but few offenders suffered from diagnosable mental health problems other than substance abuse.

Predictive validity of the VRS:SO scores

- The original VRS:SO three dynamic factor structure derived from extrafamilial and mixed-type custodial offender samples did not fit this parental offender sample. A new three-factor structure provided a better fit for the data and predicted general and violent reoffending.
- Dynamic risk factors provided additional predictive validity over and above static risk factors.
- VRS:SO scores did not predict sexual reoffending, most likely due to low observed base rates of sexual reoffending in the average follow-up period of 9 years; only 12 percent of the sample recidivated sexually.
- Given that dynamic factors by definition are subject to change, the VRS:SO was most accurate at predicting general reoffending in the shorter term.
- Pre-treatment and post-treatment risk measured by VRS:SO total scores or risk categories, was significantly predictive of general and violent reoffending.
- High scores on the 'Sexual Deviancy' factor predicted sexual recidivism among low risk, but not high risk offenders. Contrary to expectations, higher scores were associated with lower rates of sexual recidivism, suggesting increased disclosure of sexual offending was a protective factor for intrafamilial child sexual offenders.

Validity of VRS:SO to assess suitability for diversion

- The VRS:SO accurately predicted placement in treatment and treatment completion. Lower risk offenders were more likely to be accepted into the program (100% versus 24% of high risk offenders) and to complete treatment (95%). No high risk offender completed treatment.
- The VRS:SO predicted reoffending among offenders diverted into the community, but not those returned to the courts for standard criminal prosecution, suggesting that the more limited information about dynamic variables in assessment files for declined offenders may have reduced the accuracy of VRS:SO scores in the latter group.
- Diversionary treatment significantly reduced sexual reoffending rates for offenders rated low in risk on the VRS:SO, but not high risk offenders.
- Low risk offenders showed the most dramatic reductions in risk following treatment; offenders rated as moderate risk showed more substantial reductions in risk following treatment than did high risk offenders.
- The community-based treatment program was effective at reducing sexual reoffending.

Discussion and Implications

Considerable differences in precursors and patterns of offending and reoffending exist between subgroups of child sex offenders.

- Rates of relapse following conviction observed in this sample of parental offenders were less than half the rate observed in past research among extrafamilial sex offenders (12% of the sample sexually recidivated the mean follow-up period of 9 years)
- Empirical analysis confirmed the existence of a unique static and dynamic VRS:SO risk profile for parental sex offenders. The static findings indicated that parental offenders perpetrated particular types of sexual offences predominantly against their prepubescent daughters. These offenders posed a significantly reduced risk to nonfamilial children.
- The dynamic factors assessed in the VRS:SO provided more fine-grained predictions of offender behavior. The factor Desistance was significantly predictive of overall changes in risk following treatment: offenders with lower pre-treatment Desistance scores achieved significantly higher overall changes in risk scores. This finding has important implications for treatment responsivity and future screening decisions regarding the placement of parental offenders.
- Use of the dynamic factors further revealed that offenders whose pre-treatment scores on the factor Sexual Deviancy were lower had higher rates of violent and sexual reoffending than their counterparts with higher pre-treatment Sexual Deviancy scores. Higher Sexual Deviancy scores reflected more extensive disclosures by the offenders of their sexually abusive conduct. Disclosure indicated more willingness to accept responsibility for the offending behaviours and to change them.
- Offenders who achieved low Sexual Deviancy scores tended to minimize and to deny their sexually abusive conduct.
- The act of disclosure and self-reporting by offenders of their sexually abusive behaviours was itself protective against reoffending.

The findings have several important implications for policy and practice, most notably the need for recognition of the substantial differences between parental and nonparental child sex offenders. The observed differences suggested that parental sex offenders require treatment programs tailored to their unique behaviours and criminogenic needs and that low risk parental offenders benefit most from treatment that can be provided in community-based diversion programs. The low observed recidivism rates among parental offenders who completed treatment confirmed that community-based treatment was more effective for these offenders than standard criminal prosecution.

The findings contributed to the body of research showing that community-based treatment programs can achieve a significant reduction in sexual recidivism for low risk parental offenders. The VRS:SO can be used to assess offenders' level of risk as well as the likelihood that a particular offender will comply with and complete a community-based treatment program. Knowing the actuarial risk of different groups facilitates better prioritisation of resources, and improves the assessment of risk for low probability but high consequence offences, such as repeated sex offending.

The findings of this report contribute to the understanding by policy-makers and the public of parental child sex offending. By improving the ability to predict completion of a community-based program such as that at Cedar Cottage, and by improving the ability to identify offenders who will receive the greatest benefit from treatment, this report contributes to a more-informed allocation of resources in the rehabilitation of child sex offenders. In addition, the findings will assist in improving the rehabilitation process for these offenders, their child victims and families, and ultimately reduce the number and degree of trauma experienced.

Introduction

Background

Accurate and robust data regarding the prevalence and incidence of child sexual assault in Australia are lacking (Council of Australian Governments 2009). Commentators have cautioned that “any data on the prevalence of sexual offending must thus be considered to represent a conservative estimate of the realities of these crimes” (Gelb 2007: 4). Methodological and practical impediments to the accurate prevalence estimates of child sexual abuse include variance in the definition of what constitutes an incident of child sexual abuse. In national surveys, the Australian Bureau of Statistics (ABS) defined child sexual abuse as “any act by an adult involving a child (under the age of 15 years) in sexual activity beyond their understanding or contrary to currently accepted community standards” (ABS 2005:54).

The costs of child sexual assault are numerous and well documented (Taylor et al. 2008). Survivors of child sexual abuse risk a wide range of health problems (Roberto 2009), resulting in higher costs to the community as a result (Mayhew 2003). Consequences include a host of intangible costs to which a dollar amount cannot be readily attached, including the dissolution of family relationships, psychological problems and the need for treatment, developmental delays and problems in child victims, future relationship impairment, employment difficulties and more (Gelb 2007). A recent longitudinal study confirmed that in comparison with their peers in the general population, victims of childhood sexual abuse were five times more likely to be charged with a criminal offence, and one out of 20 male victims was subsequently convicted of sexual offending, a rate far higher than their counterparts in the general population (Ogloff et al. 2012). The impact of the many individual, familial and social costs associated with child sexual abuse have been described as ‘substantial and oppressive’ (Broadhurst 1992).

An extensive body of research has documented characteristics of sexual offenders, their responses to treatment and risks of future offending, but most studies have been confined to examinations of custodial samples of sexual offenders. The proportion of convicted child sexual offenders receiving a custodial sentence varies across studies. Investigation of sentencing outcomes reveals that from one-third (28.7%, Patrick & Marsh 2011) to two-thirds (63.2%, NSW Bureau of Crime Statistics and Research 2011) of offenders convicted of a child sexual offence receive a prison sentence. Thus, to learn more about sexual crimes perpetrated against children, and in particular by intrafamilial child sex offenders, research must be conducted using samples in the community. The current study reports on findings gathered from a community-based sample of parental child sexual offenders.

The Prevalence of Child Sexual Abuse in Australia

Prevalence statistics on child sexual abuse vary widely due to a number of methodological issues, including inconsistent definitions of child sexual abuse, variations in the materials and questions used to collect prevalence information, and the population from which data are gathered (Price-Robertson et al. 2010; Ferguson & Mullen 1999). Official statistics significantly underestimate the rate and incidence of child sexual abuse. A major contributor to underestimates of intrafamilial child sexual abuse is the reluctance by victims to report, particularly when the offender is a close family member such as a parent (Butler et al. 2011; Parkinson 2002). Significant time delays in reporting

these offences to authorities are common in child sexual abuse cases (Lewis 2006; Pipe et al. 2007), adding to the difficulty in estimating the true prevalence rate.

Comprehensive measures of the prevalence of penetrative child sexual abuse yield prevalence rates of 4-8 percent for males and 7-12 percent for females; and higher rates for nonpenetrative abuse: 12-16 percent for males and 23-36 percent for females (Price-Robertson et al. 2010). The Australian Institute for Health and Welfare (AIHW 2011) reported that as many as 41 percent of all sexual assault victims are under the age of 15 years. Overall, women are more likely than men to report having been sexually abused before the age of 15 years; 12 percent or 956,600 women surveyed reported experiencing sexual abuse during their lifetime compared to 4.5 percent or 337,400 men (ABS 2005).

The most common age range for the initiation of sexual abuse against females in Australia is 11-14 years, although a sizeable proportion of victims reported abuse commencing when they were about seven years of age (ABS 2005). Fewer (10%) reported that the abuse commenced when they were three or four years old (ABS 2005). Sexual abuse of infants and toddlers is not uncommon, and cases involving victims as young as two to three months have been reported (Firestone et al. 2005). However, these figures reflect the number of victims of child sexual assault, not the number of incidents of assault. Incidents of sexual abuse against an individual victim may be frequent and can occur over a protracted period (Fahrudin & Edward 2009).

Prevalence of child sexual abuse by family members

Despite public perceptions that children are more vulnerable to sexual assault by strangers (Gelb 2007; Titcomb et al. 2012), research has indicated that children are much more likely to be sexually assaulted by someone known to them or their family (Gelb 2007; Richards 2011). Studies on core groups of intrafamilial sex offenders are lacking (Kingston et al. 2008), although the known prevalence of intrafamilial child sex abuse is alarming (English et al. 2003). Finkelhor (2009) estimated that one fourth of reported sexual abuse victims were assaulted by a family member. Australian sexual assault prevalence statistics confirmed that the perpetrator was known to the victim in the majority of sexual assault incidents (ABS 2004). This is especially true of child sexual assault, with less than 10 percent of child sexual abuse cases perpetrated by strangers (Richards 2011; Smallbone & Wortley 2001). More than half of the offenders known by the child victims were their parents (30% of the entire child sexual assault sample; ABS 2004). Although stepfathers or de facto fathers are somewhat more likely to be perpetrators of child sexual assault than biological fathers, research has shown negligible differences between these types of parental offenders (Titcomb et al. 2012; Greenberg et al. 2005).

Two retrospective self-report studies offered further insight into the prevalence of child sexual abuse perpetrated by family members. The Australian Temperament Project (ATP), a large scale, longitudinal study has collected data for almost 30 years, yielding prevalence estimates of childhood experiences of abuse and neglect (Quadara et al. 2009). Retrospective data regarding childhood experiences of neglect and abuse were gathered from 1000 participants aged 23-24 years. Overall, four per cent reported intrafamilial abusers, two per cent reported extrafamilial perpetrators. An earlier study explored the prevalence of child sexual abuse in a community sample of 710 Australian women. Sexual abuse was defined as "any sexual abuse or unwanted sexual experience during childhood" (Fleming 1997: 65). The results indicated that 35 percent of women experienced at least one incident of child sexual abuse before the age of 16 years. Only eight per cent of abusers were reported to be strangers, while 41 per cent were identified as family members. The frequency of experiences of sexual abuse varied depending on relationship between the perpetrator and victim. Women who reported a single incident of abuse were most likely abused by someone outside the

family (70%), whereas women reporting regular sexual abuse (daily, weekly, monthly) were more likely to have been abused by a relative (56% - 68%).

Characteristics and Types of Child Sexual Offenders

The goal of much research on sex offender characteristics and patterns of criminal behaviour is to identify factors which assist in the prevention of these crimes. The vast majority of child sex offences are committed by men (Gelb 2007; Richards 2011). Onset age of offending varies, although child sex offenders tend to be older than many other categories of offenders at the time they are sentenced for child sexual assault (Smallbone & Wortley 2001). Many intrafamilial child sex offenders are noted to be married or in a de facto relationship and have prior criminal convictions for nonsexual offences (Smallbone & Wortley 2001).

Patterns and precursors to offending may vary among different subgroups of child sex offenders (Craig et al. 2003; Gelb 2007). One aspect distinguishing subtypes of child sex offenders is their relationship to the victim. Intrafamilial, extrafamilial and mixed type child sexual offenders are distinguished on this basis (Smallbone, Marshall & Wortley 2008).

- Intrafamilial child sex offenders offend exclusively against children who reside with or are related to them. This includes direct biological relationships (fathers, mothers, siblings, grandparents, uncles) and nonbiological parents and family members, such as a stepparent, foster parent, de facto spouse of a nonoffending parent, and relatives by marriage.
- Extrafamilial child sex offenders are individuals outside the family unit who may or may not be known to the victim/family.
- Mixed type child sex offenders offend against both children with whom they have a familial relationship and also against children who are unrelated or with whom they do not have a familial role. These children may or may not reside with them.

Versatile versus specialist offenders

Research has indicated that sexual offenders are unlikely to limit their criminal activity to sexual offences (Harris et al. 2010). In particular, an Australian study strongly suggested that as a group, child sex offenders were not specialist offenders (Smallbone & Wortley 2001). Rather, child sexual offenders showed versatility in their criminal behaviours and had a high incidence of nonsexual prior offences (60%). Comparisons between subtypes of sexual offenders revealed that extrafamilial child sexual offenders were most likely to be specialist offenders (to reoffend sexually rather than nonsexually), while adult rapists were less prone to be specialist sexual offenders (Lussier 2005). Surprisingly, sex offenders are more likely to be convicted of a nonsexual offence than a sexual one, both prior to and after their index sexual offence (Smallbone & Wortley 2004). Findings showing low levels of specialization and persistence in sexual offending in absolute and relative terms have been replicated (Miethe et al. 2006).

A recent study investigated whether recidivist sexual offenders were more likely to sexually reoffend upon release, or whether their post-release offences were more criminally versatile (Harris et al 2010). The sample of 243 sexual offenders (rapists, child molesters, incest only and mixed offenders) were referred to the Massachusetts Treatment Center for Sexually Dangerous Persons (MTC) between 1959 and 1984. The sample was divided into two groups based on the nature of their prior offending history, into specialist sexual offenders and versatile offenders. Specialisation was defined by a threshold of 50 percent or more of the prior offences that were sexual in nature. The results revealed that the majority (5%) of the offenders with a specialized sexual offending history prior to entry to the MTC did not maintain this pattern following release into the community. Of the 41

percent of offenders classified as specialist reoffenders, half had a specialised criminal history. Specialist sexual offenders were four times more likely to specialize in sexual reoffending upon release (41%) compared to versatile offenders (15%); whereas sexual offenders with a versatile criminal history were most likely to also engage in versatile post-release offending (85%). Child molesters (32%) were significantly more likely to specialize in sexual reoffending upon release, than were rapists (9%). None of the intrafamilial offenders specialized in sexual reoffending following release. The researchers concluded that “the offending tendencies that were established in the criminal histories of the sample were generally replicated when each participant’s post release offending was examined” (Harris et al. 2011: 254). If these outcomes generalise to parental child sex offenders, one can predict that they will engage in more nonsexual criminal conduct than sexual criminal conduct following their release into the community.

The image of the persistent and specialised sex offender may derive from misconceptions associated with stereotypical beliefs that all sex offenders have pathological sexual orientations with fixed sexual proclivities resulting in high levels of sexual dangerousness to others (Miethe et al. 2006). Researchers have cautioned that while this may be true for a small percentage of sex offenders, for others, sexual offending is just one “type of behaviour ... within a broad criminal repertoire” (Soothill et al. 2000: 56). Recidivism and criminal history trends show that sexual offenders may or may not specialise in sex offending within their overall criminal careers, and that they may or may not specialise in specific kinds of sex offending within their sexual criminal careers (Soothill et al. 2000). By overgeneralising or oversimplifying offender characteristics and patterns of offending, attempts at prediction, prevention and treatment may be compromised.

Intrafamilial vs. extrafamilial sexual offenders

Although a large percentage of child sex offences occur in the home, relatively little specific information about parental sex offending has been published (Kingston et al. 2008). This dearth of information has been attributed in part to underreporting of the phenomenon, to small sample sizes of incarcerated intrafamilial offenders, and even smaller samples of parental child sexual offenders. Moreover, many studies fail to differentiate intrafamilial from other sex offenders (Finkelhor 2009; Goodman-Delahunty 2009). One literature review suggested that adult intrafamilial child sex offenders are unique and distinct from other subtypes of sex offenders (rapists, extrafamilial child sex offenders, and hands-off offenders including voyeurs and exhibitionists) and therefore they should be investigated as a discrete group (Finkelhor, 2009; Stalans, 2004).

Where differences between intrafamilial and extrafamilial child sex offenders have been examined, mixed results have emerged (Goodman-Delahunty 2009). Intrafamilial offenders may tend to have fewer victims but may offend against those victims more frequently. They tend to offend over a shorter average period than extrafamilial or mixed type offenders, and may have younger victims overall than extrafamilial offenders (Abel 1987; Fischer & McDonald 1998; Smallbone & Wortley 2001). Intrafamilial offenders use less violence or force when offending (Johnson 2007). The average age of intrafamilial offenders is higher than that of the other subtypes of child sex offender (Titcomb et al. 2012; Smallbone & Wortley 2001). In addition, involvement in an intimate relationship operates as a protective factor against sexual offending in some populations, but among intrafamilial sex offenders, this may be a risk factor (Stalans 2004; Stinson et al. 2008).

Intrafamilial sex offenders have been found to have a less extensive criminal history prior to their index sexual offences compared to other groups of sex offenders (Herman 2000) and more specifically, fewer prior convictions for sexual offences than extrafamilial offenders (Beggs 2008; Smallbone & Wortley 2001). Consistent with this trend, intrafamilial offenders were often noted to have lower rates of sexual reoffending than extrafamilial child sexual offenders. For instance, in a

study that included a 12-year observation period, Firestone et al. (1999) found that intrafamilial sex offenders were less likely to sexually recidivate (6%) compared to extrafamilial sex offenders (15%).

These differences suggest that risk factors for intrafamilial sexual offenders may differ to existing models of sex offender risk assessment, and thus the specific risk profile for this subtype of sexual offenders requires investigation (Stalans 2004). The validity of risk assessments is key to a number of services across the criminal justice system (sentencing, treatment indications, probationary conditions). Knowing the actuarial risk of different groups can allow better prioritisation of resources and improve the assessment of risk and treatment efficacy for low probability but high consequence incidents, such as repeated sex offending.

Limited Research on Parental Child Sex Offenders

Most research involving intrafamilial sexual offenders has failed to distinguish parental and nonparental intrafamilial offenders (Greenberg et al. 2000; Titcomb et al. 2012). Therefore, it is difficult to determine whether parental sexual offenders differ from other intrafamilial sexual offenders, and whether unique factors should be examined when determining their risk of reoffending. The few studies that have explored this issue have reported inconsistent findings. Further research is needed to determine whether parental offenders are similar to or different from other intrafamilial offenders (Greenberg et al. 2000; Blanchard et al. 2006).

A recent Australian study of parental sexual offenders participating in a community-based treatment program demonstrated that biological fathers were characteristically similar to nonbiological fathers, with respect to their demographic features, the nature of the index offence, victim type and prior offending history (Titcomb et al. 2012). Additionally, the nature of the parental relationship was not associated with treatment completion or sexual recidivism rates in that sample. These results suggested that biological and nonbiological parental child sexual offenders were not distinctly different and should therefore be offered similar treatment or opportunities for legal diversion.

Legal Issues Regarding Sexual Offenders

Considerable differences have been observed between recidivism rates, as well as precursors and patterns of offending, between groups of sex offenders generally, and specific subgroups. Both Soothill et al. (2000) and Gelb (2007) identified theoretical and policy dangers in treating sex offenders as a homogeneous group. The implication of the abovementioned differences observed among child sex offending subpopulations is that particular and appropriate risk assessments and treatment programs may be required.

Strong empirical evidence exists documenting different rates of offending and recidivism among homosexual, bisexual and heterosexual child sex offenders compared with adult rapists, and between intrafamilial and extrafamilial offenders (Wood & Ogloff 2006). Repeat offenders of serious crimes are perceived to pose an unacceptable threat to members of the public (Figgis & Simpson 1997). Community concerns about perceived risk posed by sexual and violent offenders has increased the adoption of preventive risk management strategies by legislative bodies and criminal justice participants to meet public expectations to protect community members, especially children (Ronken & Johnson 2008). Criticism has followed recent legislation which focuses on perceptions of the danger posed by extrafamilial child sexual offenders (Gelb 2007; Titcomb et al. 2012), while ignoring research demonstrating that sexual offenders are a heterogeneous population with varying recidivism patterns.

'Dangerous offender' legislation

A range of legislative measures were introduced to protect the community from dangerous sexual and violent offenders and to prevent these offenders from causing further harm in the community (Figgis & Simpson 1997). These protective measures are implemented at several different stages in the criminal justice process, e.g., at time of (a) sentencing, (b) consideration for parole, or (c) the conclusion of an offender's sentence of imprisonment (post-sentencing). First, sentencing measures designed to control serious or dangerous offenders include 'protective sentencing' approaches, which involve sentencing dangerous offenders based on special sentencing principles (Figgis & Simpson 1997). Protective sentencing can also include mandatory or minimum sentences, cumulative sentences for a series of crimes or life imprisonment without parole, which often means that the length of sentences is more than an offender's initial offence would otherwise justify. Second, an alternative to protective sentencing, involves intervening at the parole eligibility stage to prevent an offender from release from prison. This may entail restrictive management practices during an offenders' sentence that make it more difficult to establish eligibility for parole, or constraining parole criteria or abolishing parole altogether, making it more difficult for an offender to be released (Figgis & Simpson 1997). These alternative strategies target not only protection of the community but can also provide dangerous offenders the opportunity to rehabilitate (Figgis & Simpson 1997), for example through the provision of sexual offender treatment programs. In contrast to post-sentencing measures, both sentencing and parole eligibility measures are determined before the end of an offender's sentence.

Post-sentence legislation, on the other hand, allows for the continued imprisonment or supervision of 'dangerous' sexual offenders after their sentence has expired, without any limitation to the length of the detention (Doyle & Ogloff 2009). There are two types of post sentence legislation: (a) post release supervision, which includes ongoing community-based supervision and management, and public notification about offender's presence and convictions, or (b) 'preventative detention', which allows the criminal justice system to continue to detain 'dangerous' offenders past the expiration of initial sentence (Figgis & Simpson 1997). These post-sentencing measures were justified on grounds of community protection, providing community members notice to recognize dangerous others, and to reduce re-offending by preventing offenders from committing further offences.

Sexual offender registries play a particular role in post sentencing management of dangerous offenders. These registries allow community members and law enforcement agencies to gather information about convicted sex offenders in their community, to assist them to protect themselves and/or their children (Tewksbury 2006). Unfortunately, the impact on individual registered sex offenders is often a series of counterproductive consequences that increase their vulnerability and place them at risk, including verbal and physical assaults, loss of family support, friends and community relationships, employment and housing (Tewksbury 2005).

Controversy over risk assessment and preventive detention

To meet the legal standards for preventive detention, a prediction about the probability that the offender will reoffend in future is required. The legal test is met by a 'high degree of probability' of committing the 'relevant offence' (*Serious Sex Offenders Monitoring Act 2005* (VIC), s 11) or a 'further serious sexual offence' (*Crimes (Serious Sex Offenders) Act 2006* (NSW), s 17), which poses a 'serious danger to the community' (Doyle & Ogloff 2009). This assessment must be provided in writing by a qualified expert (psychologists or psychiatrists), and must specify a prediction regarding future risk of sexual offending. An underlying assumption in this legislation is that forensic clinicians can accurately predict the likelihood that a specific offender will reoffend (Doyle & Ogloff 2009), but predicting reoffending is not a precise or easy determination. Justice Kirby noted in *Fardon v*

Attorney-General [2004] HCA 46 (1 October 2004: 52) that “predictions of dangerousness have been shown to have only a one-third to 50 percent success rate.” To correctly identify a single reoffender, the concurrent false identification of many more non-reoffenders occurs (Doyle & Ogloff 2009).

Justice Kirby criticised the prediction of dangerousness on grounds that it was based more on the opinions of psychiatrists than accurate assessment tools (Doyle & Ogloff 2009). Psychologists have noted that in this context, mental health professionals often make conservative decisions, possibly because of the serious consequences (potential false imprisonment of a nonoffender or further serious sexual offences that may have been preventable) and overpredict the probability of re-offending when assessing individual offenders (Ogloff & Davis 2005).

Thus, judgments about future risk and dangerous have often been criticized for being too subjective and unstructured. In response, researchers have developed more objective procedures and risk assessment tools to aid these determinations and to correct errors that arise when experts rely only on unstructured clinical judgment (Ogloff & Davis 2005). These structured and unstructured risk assessment instruments are based on statistical analyses of existing data from sexual offenders (Hart et al. 2007), extracting factors that differentiate best between reoffenders and non-reoffenders (Prentky et al. 2006).

Despite advances in the use of objective risk assessment tools, risk assessment in the context of preventive detention remains a controversial issue, in part because preventive detention has only a marginal effect on overall rates of sexual offending in the community (Doyle & Ogloff 2009). In accordance with probabilistic theory, the ability to predict is not only dependent on the risk assessment, but also on rates of occurrence of the event. The lower the base rate of an event (in this case sexual reoffending), the more difficult it is to accurately predict if and who will sexually reoffend (Ogloff & Davis 2005). Most sexual offences, in particular intrafamilial sexual offences, remain unreported (ABS 2005). In addition, most sex offences appear to be committed by offenders without previous convictions (Walker 1990), while reoffending rates for sexual offences are low, typically around 13 percent within four to five years after release (Hanson 2003; Hanson & Morton-Bourgon 2005) and 23 percent in a follow-up period of 15 years (Harris & Hanson 2004). An additional difficulty is that experts are expected to predict the recidivism within an unbounded time period, whereas all research yields prediction rates based on specific limited follow-up periods.

For these reasons other options to reduce reoffending should be explored and developed that offer offenders the opportunity to rehabilitate without increasing risks to the community. Sex offender treatment programs have been developed to address these issues and to help reduce the ‘dangerousness’ and risk released sexual offenders may pose to the community.

Treatment for Child Sexual Offenders

Research has suggested that “incest” offending may be amenable to treatment (Gelb 2007). Most Australian criminal jurisdictions offer prison-based sex offender treatment programs (Lievore 2005) and some community-based programs (Butler et al. 2012). Involvement in the programs may be voluntary or court-mandated. For incarcerated offenders or those facing incarceration, participation in treatment may offer a substantial incentive to either reduce or avoid a custodial sentence (McSherry et al. 2006).

A comprehensive description of the various programs available for the treatment of child sex offenders is beyond the scope of this report. Of particular relevance is the role of risk assessment in placing offenders in the most appropriate treatment based on their specific needs, potentially moderated by the risk they present for reoffence. For programs to be effective they need to be tailored to different types of sex offenders (Lievore 2005). For example, treatment that addresses

the criminogenic needs of rapists may not be appropriate for intrafamilial sex offenders, the treatment needs of a first-time offender may differ from those of a repeat offender; and the treatment needs of a 'low risk' offender may differ from those of a 'high risk' offender (Andrews & Bonta 1998). Additionally, the treatment needs of the individual offender may change over time in response to various internal stressors or external conditions (Hanson & Harris 2000).

At various stages of the criminal justice process, mental health professionals may provide opinions on an offender's treatment needs, amenability to rehabilitation, and risk to the community. A thorough assessment which considers risk and offender typology can provide guidance on the type of treatment that will be most beneficial and the nature of any recommended external controls. Assessment applied at the presentencing phase can identify lower risk offenders suitable for diversion to community-based programs, and appropriate treatment throughout incarceration for higher risk offenders (Becker & Murphy 1998).

Community-based vs. custodial sentencing and treatment

Few sentencing policies implemented to reduce reoffending by emphasising retributive, deterrent or rehabilitative goals are evidence-based (McDougall et al. 2008). After child sex offenders are sentenced, questions arise about the provision of appropriate treatment, and the placement of offenders in general offender treatment or programs that were developed especially for sex offenders or for child sex offenders. Custodial therapy programs often target cognitive distortions, thoughts and problem behaviours, independent of treatment approaches.

Many contemporary sex offender treatment programs that target community protection rather than offender rehabilitation are ineffective (Birgden & Cucolo 2011). Comparisons between approaches distinguished as treatment-as-management and treatment-as-rehabilitation have illustrated this problem. Treatment-as management approaches apply external pressure to control sexual offending by emphasising risk management to increase public safety. In addition to cognitive behavioural treatment, incapacitation is practiced in the form of sex offender registration, community notification, and civil commitment. This approach fosters violence and vigilante activity due to labelling and stigmatisation, and has yielded small or nonsignificant effects on re-arrest or reconviction for sexual offending (Adkins et al. 2000; Berliner et al. 1995).

In comparison, community-based treatment programs address cycles of sexual violence using multimodal approaches. For example, the New South Wales Pre-Trial Diversion of Offender Program (Cedar Cottage), based in Sydney, was developed to reduce sexual recidivism by treating parental offenders who plead guilty to sexually abusing a child in their care. In addition to treatment of the offenders, Cedar Cottage offers treatment to the victims and their families, strengthening relationships between victims and non-offending parents and siblings. Offender treatment consists of a combination of evocative therapy, Cognitive Behavioural Therapy, and psychosocial education. The 'invitational' approach to therapy provides a positive framework in which men acknowledge and take responsibility for their behaviour in order to address it (Jenkins 1991; Laing 1996). Program participants attend group therapy and individual therapy on alternating weeks.

Other Australian community-based programs for intrafamilial child sex offenders include the Pastoral Counselling Institute in New South Wales which uses a cognitive-behavioral therapeutic approach within a Christian theological framework; SafeCare Families Program in Western Australia for intrafamilial sex offenders (Cant & Penter 2006) and the Sex Offender Treatment and Assessment Program in South Australia for adults who offend against children and young people (Layton, 2002). Likewise, community-based treatments for child sex offenders were developed in New Zealand, (Auckland SAFE Adult Program, Christchurch STOP and Wellington STOP) each offering individual and family therapy to increase awareness of the start of cycles of offending behaviour, mood

management, victim empathy, and relationships (Lambie & Stewart 2003). These programs are delivered by multidisciplinary teams consisting of psychologists, psychotherapists, family therapists, social workers and/or counsellors to meet the needs of families and offenders and to decrease recidivism (Lambert & Stewart 2003).

In the United Kingdom, probation-based sex offender treatment programs (Community Sex Offender Groupwork Program; Thames Valley Sex Offender Groupwork Program; Northumbria Sex Offender Groupwork Program), focus on victim empathy, life skills, and cognitive distortions (Beech et al. 2012). Offenders assessed as high and low-risk are offered treatment programs that differ in length and intensity, i.e., high-risk offenders undergo longer and more intensive therapy than low-risk offenders.

Meta-analytic reviews demonstrated that effective correctional treatments significantly reduced sexual, violent and general (overall) recidivism (Andrews et al. 1990; Dowden & Andrews 2000; Hanson et al. 2009). In contrast to the management approaches, rehabilitation treatment often implemented more holistic approaches, assisting offenders to re-establish a stable and productive life, rather than ostracising them from the community (Birgden & Cucolo 2010). Research has demonstrated that community-based programs are more effective than treatment-in-management programs in reducing risks of reoffending. In a systematic review, McDougall et al. (2008) assessed different sentencing alternatives by comparing their costs and benefits. The strongest cost-benefits (benefits of the treatments exceed their costs) emerged for custodial sex offender treatment. However, most custodial treatment programs were developed for all sexual offenders or all types of child sex offenders. The absence of much research on effective custodial treatment for intrafamilial or parental child sex offenders raises questions about the benefits of these programs for this subtype of child sexual offender.

Prior evaluations of the NSW Pre-Trial Diversion Program

A previous study explored the effectiveness of the NSW Pre-Trial Diversion Program in reducing reoffending rates (Butler et al. 2012). The program had positive treatments effects, and the overall effect size for treatment was large. Differences in reoffending rates emerged for offenders accepted into the program versus those who were declined treatment, showing that treatment reduced rates of reoffending by 50 percent and the treated group took twice as long to reoffend than the untreated group. However, these differences were not statistically significant (likely a consequence of the low base rates of reoffending in this sample).

Assessing Risks of Reoffending

To prevent child sexual assault, effective identification of those who present risk is of major concern to the community. This is reflected in Australian government campaigns to increase awareness and reporting of child sexual abuse, the formation of specialist police taskforces, changes in policing practices to target active child sex offenders and reviews of penalties, sentences, offender registration, community notification and employment screening (Smallbone & Ransley 2005).

Risk assessment is a probabilistic estimate of an event (e.g., sex offending) drawing on information about both individual and situational features (Borum 1999). Risk assessment is applied to identify factors known to be associated with increases or decreases in offending to provide information which can guide effective treatment and intervention (Canales et al. 2009; Craig & Beech 2010; Vess et al. 2011). Certain risk factors that predict sexual recidivism are distinct from factors that predict other forms of violence. For example, sexual deviancy, treatment failure, victimization of strangers, extrafamilial victims, male victims and increased diversity of sexual crimes, along with other general criminogenic factors, increase the risk of sexual reoffending (Wood & Ogloff 2006).

Assessment of risk at the time of sentencing can influence the placement of an offender within the correctional system, or the restrictions placed on an offender who is released conditionally into the community (Barbaree et al. 2001; Beggs & Grace 2010; Janus & Prentky 2003; Swinburne et al. 2012). By matching levels of risk to treatment intensity or duration, reoffence rates may be reduced (Beech et al. 2012).

The Risk-Needs-Responsivity model and risk prediction

One of the most influential theories regarding the assessment and treatment of offenders is the Risk-Needs-Responsivity (RNR) model. The model proposes three principles that have important implications for the assessment and treatment of offenders: (1) the *risk* principle argues that the level of treatment provided to an offender should match their level of recidivism risk, and that intensive services should be directed towards moderate and higher risk offenders, with minimal services provided to low risk offenders; (2) the *needs* principle contends that treatment programs should target criminogenic needs in order to reduce reoffending (*that is*, factors related to reoffending), and (3) the *responsivity* principle argues that treatment should be responsive to the individual capacities of the offender and adhere to cognitive social learning principles, based on research demonstrating that these strategies are the most powerful in reducing criminal behavior) (Andrews & Bonta 2010).

A meta-analysis (Hanson et al. 2009) supported the applicability of the RNR model with sexual offenders, finding that programs which adhered to all three principles had the greatest impact on sexual recidivism rates, and can reduce reoffending by up to 35% (Andrews & Bonta 2010). The RNR principles presuppose that (a) risk for recidivism can be reliably and validly assessed using current assessment instruments, (b) treatment providers utilise risk assessment instruments to match offenders to appropriately intensive rehabilitation programs (c) dynamic risk factors are changeable and that treatment can reduce reoffending risk, and (d) reductions in risk as a consequence of treatment result in reductions in the rate of reoffending (Andrews & Bonta 2010; Olver & Wong 2011).

Accuracy of risk assessment instruments

Over the past twenty years, forensic mental health practitioners have made advances in measuring, managing and predicting the risk posed by sex offenders, but further work is needed to improve the accuracy of actuarial risk assessment instruments when group probability estimates are applied to inform decisions about individual offenders (Doyle & Ogloff 2009). Type I error predictions or false positives in risk assessment are overestimates of the probability of danger. Low base rates of child sex offending, especially among some subtypes of offenders, increase the likelihood of false positive errors (Wood & Ogloff 2006). As a consequence, a low risk offender may be placed in treatment that is expensive and prolonged, or may be subject to restrictions requiring input from various agencies. Conversely a high risk offender whose probability of re-offending is underestimated may present a real risk to the community. Sex offender laws in North America, the United Kingdom and Australasia have created a need to more accurately and efficiently screen large numbers of offenders for their risk of sexual re-offending (Vess & Skelton 2010). The higher the perceived risk, the greater the cost in terms of commitment and management (Craig et al. 2004).

Given the importance of decisions informed by risk assessment for victims and the community, applying the appropriate measure and knowing its limitations is crucial. Some experts have noted that there appears to be more empirical support for risk assessment to design treatment programs and identify treatment needs than for assessing the absolute risk of reoffending (Becker & Murphy 1998). Because actuarial risk measures typically provide assessment of whether an offender falls

into a category of risk (i.e., high or low), numerous experts have cautioned that it is important to avoid reporting outcomes that may be interpreted as indicating whether specific behavioural predictions (reoffending) will occur. Bearing this in mind, risk assessment should be reported in a manner which identifies the instrument's specific limitations and qualifications (Vess 2011).

Experts have further cautioned that no single generic risk assessment instrument can be applied under all conditions (Wong et al. 2003), nor is there conclusive evidence that applying a combination of risk assessment tools improves predictive accuracy (Seto 2005). Despite acknowledgment of a need to accurately assess risk among different subtypes of sex offenders, no consensus exists in respect to the best way to achieve this (Mann et al. 2010).

Variability as to how child sex offending is defined, and how recidivism is measured over time (Wood et al. 2000) complicate conclusions about risk and the generalisability of findings to specific offender populations. Offenders whose profiles fall outside the actuarial validation sample for a particular risk assessment instrument based on their individual characteristics (e.g., sex, age or ethnicity) may compromise the predictive ability of the instrument (Vess 2011). This limitation may apply to an assessment of future dangerousness that requires an accurate prediction of the likelihood that a given offender will commit a particular type of offence (e.g., a contact sexual offence with a child) upon release into the community. Experts caution that evaluators must be aware of the limitations of specific tools used, the appropriateness of the tool for the individual offender, and take into account the type of prediction in question (Wood & Ogloff 2006).

Risk assessment instruments and typology

The expanding variety of risk assessment tools available can make it difficult for an assessor to discern which instrument is most applicable, especially in the absence of data reflecting the superiority of one test instrument over another (Looman & Abracen 2010). The predictive accuracy of specific instruments can vary according to the sexual offender subtype to which they are applied (Rettenberger et al. 2010). Notwithstanding these shortcomings, mental health professionals generally agree, that if properly applied, risk assessment can help to identify offenders likely to be reconvicted and offer a probabilistic estimate of likelihood of reconviction for a sexual offence (Craig & Beech 2010).

In an examination of risk assessment instruments, Andrews et al. (2006) categorised the existing models by typology or generation. First generation risk assessments rely exclusively on unstructured clinical judgment and are limited by factors such as the assessor's training, background and experience. This model of assessment provides marginal predictive ability for violent and general recidivism (Blasko et al. 2011; Wong & Gordon 2006). Second generation assessments use actuarial data. Actuarial (empirically-based) prediction methods have generally been associated with the strongest evidence of predictive accuracy (Smallbone & Ransley 2005). Second generation tools enable higher predictive accuracy of future recidivism than clinical judgement alone. They focus on historical or static factors which are not amenable to change (e.g., offence history, age at first sexual offence).

Static or immutable factors are broadly associated with determinations of probabilities of reoffending and are a core feature of many second generation risk assessment instruments (Andrews et al. 2006). Examples of test instruments that incorporate static factors are the Sex Offender Risk Appraisal Guide (SORAG) and the Static-99 (Hanson & Thornton 1999). The Static-99 is purportedly the most commonly used assessment tool for sex offenders (Allan et al. 2007; Smallbone & Ransley 2005). A series of meta-analytic reviews established the predictive ability of a number of static risk factors and a number of actuarial instruments have been developed to assist in predicting future sexual offending (e.g. the Static-99, the SONAR, the SORAG). However, these

instruments have limitations. Because second generation risk instruments focus on attributes of the offender that are not amenable to change, they offer clinicians no guidance in treatment planning and intervention (Mann et al. 2010; Wong & Gordon 2006). Moreover, many static risk assessment instruments do not take into account protective factors (Rogers 2000) that reduce the likelihood of sexual reoffending. A balanced risk assessment should assess both risk and protective factors to avoid promoting a misperception of chronic and irreversible risk (Rogers 2000: 599).

One comparison of second generation risk assessments strongly suggested that each instrument's relative predictive ability was influenced by the subpopulation of child sex offenders to which it was applied. For example, the Static-99 and SORAG significantly predicted recidivism among extrafamilial child sex offenders; only the Static-99 significantly predicted reoffending in a group of intrafamilial offenders (Bartosh et al. 2003). Failure to account for changing or dynamic qualities of reoffence risk may explain why the predictive quality of actuarial instruments for child sex offenders was not robust (Looman & Abracen 2010). The static nature of the variables offers limited use in identifying rehabilitation targets, outcomes and reductions in risk as a result of treatment (Olver et al 2007). In support of this critique, Olver and Wong (2011) found that the Static-99 was unable to capture change as a function of treatment and thus was not able to accurately predict sexual reoffending rates for high risk offenders who 'changed' in response to treatment. They concluded that "as the level of therapeutic change increased, the Static-99's predictive accuracy for sexual recidivism appeared to decrease", thus dynamic measures were required to capture changes in treatment (Olver & Wong 2011: 120).

Third generation assessment, improved on the shortcomings of the second generation instruments by including consideration of an offender's criminogenic needs (Ogloff & Davis 2005). Criminogenic needs are dynamic risk factors known to be associated with offending which change over time (at least in principle), or which can be made to change through treatment (Beggs & Grace 2011; Hanson & Harris 2000). In addition to providing indications of risk, dynamic risk factors identify and address the offender's current functioning to guide therapeutic intervention. An advantage of assessment tools that incorporate dynamic variables can inform treatment planning by identifying targets for change and then measuring change in risk over time allowing for adjustments to be made to treatment plans to ensure that interventions are responsive to individual needs and circumstances (Hanson & Morton-Bourgon 2009; Olver et al. 2007)

Dynamic risk factors have the potential to capture reductions in risk as a consequence of treatment, and thus, to predict reductions in reoffending that could not be predicted by static factors alone. According to research findings, dynamic factors can be as predictive as static variables in assessing risk of recidivism (Gendreau et al. 1996; Olver et al. 2007) and can contribute incremental validity beyond static factors (Craissati & Beech 2003). For example, adding dynamic risk factors such as deviant sexual interests, pro-offending attitudes, socio-affective functioning and self management have been shown to improve reconviction prediction when combined with the Static-99 (Beech, et al. 2002). Additionally, Olver and Wong 2011 found that dynamic VRS:SO scores remained predictive regardless of changes in treatment because they were captured reductions in risk, unlike static factors.

Given that many identified risk factors fluctuate, analysis of dynamic risk factors provides additional information about an individual's risk of offending and can help to indicate *when* re-offending may occur in addition to *whether* re-offending is likely to occur. In other words, dynamic factors can improve predictions of sexual reoffending over short follow up periods, and while on community supervision (Rettenberger et al. 2010).

Furthermore, the division of dynamic factors into stable and acute factors can enhance the clinical utility of assessment by identifying long-term and short-term treatment goals. Stable dynamic risk factors represent more enduring but malleable factors, such as emotional stability, impulsivity or hostility, sexual interests and sexual regulation, interpersonal functioning, emotional identification with children and attitudes supportive of sexual offending (Allan et al. 2007; Hanson & Harris 2000). Acute dynamic risk factors are rapidly changing or situational risk factors believed to be more proximally related to sexual offending. Negative emotional states, physiological arousal, substance misuse, opportunity for victim access, relationship conflict and lack of co-operation with supervision have been identified as acute dynamic predictors (Beech & Ward 2004; Craig & Beech 2010; Hanson & Harris 2000).

Most research examining dynamic predictors of sexual reoffending has assumed that dynamic variables are changeable and that treatment results in reductions in risk, without providing data to confirm these assumptions (Beggs & Grace 2011; Olver & Wong 2011). Only a few studies have recently investigated whether dynamic variables actually change over time or in response to treatment, indicating a reduction in risk, and whether these risk reductions are associated with lower sexual reoffending rates. For example, in a Canadian custodial sample, Olver et al. (2007) found that a sex offender treatment program significantly reduced VRS:SO dynamic risk scores, and that changes in dynamic risk scores were related to reductions in sexual recidivism. Additionally, Beggs & Grace (2011) investigated dynamic risk changes among a sample of child sexual offenders in New Zealand. A similar pattern of results was observed regarding VRS:SO change scores, especially on the Sexual Deviance factor, such that higher change scores were associated with lower rates of sexual reoffending. Self-reported psychometric measures of change also provided incremental predictive validity beyond that predicted by static and dynamic risk factors (Beggs & Grace 2011).

Some research comparing the predictive accuracy of risk assessment tools has revealed no consistent pattern supporting the use of any one risk assessment instrument over another (Hanson & Morton-Bourgon 2009). This may in part be a consequence of failure to take into account differential validity among subtypes of offenders (Bartosh et al. 2003; Looman & Abracen 2010; Rettenberger et al. 2010). For example, Olver et al. (2007) showed that dynamic factor scores on the VRS:SO differentiated offender subtypes: rapists and mixed-type offenders scored higher on the factor Criminality (generalised antisocial lifestyle) than did child sex offenders and intrafamilial offenders; whereas child sex offenders scored higher on the factor Sexual Deviance (deviant sexual interests, lifestyle and preoccupations) than did rapists, mixed-type offenders and intrafamilial offenders.

A particular difficulty in selecting a risk assessment instrument for use with intrafamilial child sex offenders is that this subgroup of offenders has a comparatively low base-rate for reoffending (Bartosh et al. 2003). Current research has indicated that the majority of intrafamilial offenders will not go on to reoffend sexually, but the low base rate estimates may underestimate true recidivism rates when underreporting and undetected offences are taken into account (Mercado & Ogloff 2005). Rettenberger et al. (2010) proposed that the accuracy of prediction rare events, such as sexual reoffending, could be improved by using instruments which incorporate dynamic factors. Contrarily, Knight and Thornton (2007) recommended more attention to offending profiles of subgroups of sex offenders, such as preferences for victims in a certain age-range, to enhance the predictive capacity of risk assessment instruments.

Both static and dynamic factors have consistently been associated with general and sexual reoffending (Andrews & Bonta 2006, 2010; Gelb 2007). A more comprehensive assessment of risk considers actuarial estimates, stable and acute dynamic factors specific to that individual and tracks

changes in these factors over time. The need to match risk assessments to sex offender subtypes is consistent with trends to use risk assessment not only to *predict* recidivism but also to reduce recidivism by identifying specific criminogenic needs in treatment. Overall, it appears that both static and dynamic variables can predict sexual recidivism, and in particular, that reductions in dynamic risk scores following treatment have been associated with reductions in sexual reoffending rates. However, exploration of these findings suggested that risk assessment measures and changes in risk may not be equally predictive for all offenders. The generalisability and validity of risk assessment instruments as they apply to parental sex offenders, who are typically classified as low risk on most risk assessment instruments, remains unclear.

High versus low risk offenders

The risk principle of the RNR model asserts that offenders should be matched with appropriate treatment programs based on their level of risk, and that more intensive treatment programs should be reserved for moderate or high risk offenders and minimal intervention should be provided for low risk offenders (Andrews & Bonta 2006). These assertions were based on a number of early research findings showing (a) poorer outcomes for offenders who participated in treatment programs that were incompatible with their level of risk; and (b) treatment often had a minimal impact on reoffending rates of low risk offenders.

There is little contention about the need to match offenders to treatment programs compatible with their level of risk and criminogenic needs. Early research established that placement of high risk offenders in more intensive treatment programs significantly reduced reoffending rates, whereas providing low risk offenders with greater intensity treatment had a minimal impact on reoffending (Bonta et al. 2000). Results of some studies suggested that this increased recidivism rates (Wakeling et al. 2012). Similar investigations with sexual offenders showed that moderate-to-high risk sexual offenders benefited from more intensive residential treatment, whereas “low risk offenders fared better when receiving less intensive interventions in the community” (Wakeling et al. 2012: 290; Lovins et al. 2009). Research from two prison-based sexual programs (Beech et al. 1998; Bourgon & Armstrong, 2005) determined that “generally low risk offenders require no more than 100 hours of treatment, unless they hold entrenched defensive views about the acceptability of sexual offending” (Wakeling et al. 2012: 293). In sum, convergent evidence established that low risk offenders benefited most from less intensive interventions.

Although consensus exists that intensive treatment services should be diverted to higher risk compared to lower risk offenders, the level or dose of treatment appropriate for lower risk offenders remain uncertain as some studies have yielded a negligible impact of treatment on recidivism rates among low risk offenders. An extensive review of 273 general offender rehabilitation studies showed that treatment programs resulted in an 11 per cent reduction in recidivism by high-risk offenders, but only a three per cent reduction in reoffending by low-risk offenders (Andrews & Bonta 2006). To some degree this pattern was replicated when considering research on treatment effect on sexual offenders: a number of studies reported significant reductions in sexual recidivism rates among high risk, but not low risk sexual offenders. An evaluation of prison-based treatment programs showed that the sexual reconviction rate after two years among low risk treated offenders was 1.1 per cent versus 1.2 per cent among untreated low risk sexual offenders (Friendship et al. 2003). Changes in dynamic risk (as measured by the VRS:SO) following participation in a prison-based treatment program predicted reductions in sexual recidivism among high risk offenders but not low risk offenders in two separate studies (Olver et al. 2007; 2011). Together, these findings suggest that minimal or low-intensity interventions should be provided to low risk offenders.

Intrafamilial vs. extrafamilial offenders

Few studies have investigated the differences between intrafamilial and extrafamilial child sexual offenders to determine whether they have different rates of sexual reoffending, whether different risk profiles apply to these offenders and whether treatment programs may be differentially effective among these two groups. A meta-analysis of ten follow-up studies of sexual offenders revealed that although adult rapists and a combined sample of child molesters had similar rates of sexual reoffending (24% and 23% over 15 years), there were significant differences between subtypes of child molesters (Hanson & Bussiere 1998). That is, extrafamilial offenders were more than twice as likely to be reconvicted for a new sexual offence over a five year period when compared with intrafamilial offenders. These comparative figures appeared to remain stable over longer periods with extrafamilial male-victim child molesters reoffending at a much higher rate than incest offenders, 35 per cent compared to 13 per cent respectively over 15 years (Harris & Hanson 2004; Wood & Ogloff 2006).

Research suggested that intrafamilial offending was amenable to treatment (Gelb 2007), as shown in the New Zealand sample described above (Beggs & Grace 2011). Significant reductions in risk for sexual reoffending (measured by the VRS:SO) followed participation in a prison-based treatment program) and significant changes on self-reported measures of social inadequacy, sexual interests, anger/hostility and pro-offending attitudes were noted. Positive treatment change in the four self-report scales and changes in the VRS:SO sexual deviance factor were significantly associated with sexual recidivism.

Limitations of risk assessment and low risk offenders

Although it might be tempting to accept that low risk offenders require little or no intervention, and that rehabilitative resources should be directed more exclusively to higher risk sexual offenders, a number of issues need to be considered before such a conclusion is drawn. First, Barbaree (1997) noted that low base rates of reoffending have a significant influence on the sensitivity of statistical analyses which may lead researchers to commit Type II errors (*that is*, incorrectly conclude that treatment does not reduce reoffending, when it does). Low base rates of reoffending are most likely to occur among low risk offenders, particularly intrafamilial child sexual offenders. Thus, multiple measures exploring the impact of interventions may be required, to look beyond absolute recidivism rates (*that is*, relative reductions in recidivism, effect sizes in addition to statistical significance, other measures of program success). Second, excluding low risk offenders from treatment may not be in the offenders or society's best interests. That is, low risk does not imply "no risk." Low risk offenders are nonetheless present with criminogenic needs and thus require some intervention. Third, few studies have investigated the predictive accuracy of risk assessment measures and the ability of treatment programs to reduce risk among low risk offenders (Finkelhor 2009); most studies include lower risk sexual offenders with other sexual offenders and consider their outcomes only in comparison to higher risk offenders (Butler et al. 2012). Thus, limited evidence exists of the effectiveness of risk assessment instruments and intervention programs that target solely low risk offenders (e.g., intrafamilial or parental child sexual offenders). Until such research is conducted, it is difficult to draw conclusions about the predictive accuracy of risk assessment instruments for lower risk offenders and the ability of treatment programs to reduce risk of future offending.

Violence Risk Scale: Sex Offender Version (VRS:SO)

The Violence Risk Scale: Sex Offender version (VRS:SO) (Wong et al. 2003) is a 24-item clinician rated sex offender risk assessment and treatment planning tool designed to assess risk, identify targets for treatment and changes in risk. Because the VRS:SO was designed to integrate sex offender risk

assessment with treatment planning, it includes features that enable treatment progression to be objectively monitored, by incorporating a Stages of Change model adapted from Prochaska et al. (1992) to capture changes in the dynamic risk factors.

The instrument is comprised of seven static items and 17 dynamic items. The seven static components of the VRS:SO were developed through a statistical-actuarial procedure from a pool of items derived from a review of relevant research (Olver et al. 2007). The dynamic components of the VRS:SO were developed through a review of sex offender prediction and treatment literature to capture theoretically, empirically and treatment-relevant dynamic risk variables (Olver et al. 2007).

Each Static and Dynamic item is rated on a four point scale. Higher scores indicate increased risk of sexual recidivism. Dynamic items rated at 2 or 3 are considered to reflect criminogenic needs of the individual and therefore should be targets for treatment (Wong et al 2003). Total static item scores can range from 0 - 21, dynamic item total scores can range from 0 - 51, and VRS:SO total scores can range from 0 - 72. Additionally, VRS:SO total scores can be divided in to levels of risk, using four VRS:SO risk groups proposed by Olver et al. (2007): Low risk offenders with VRS:SO total scores of 0 - 20, Moderate-Low risk offenders with VRS:SO total scores of 21 - 30, Moderate-High risk offenders with VRS:SO total scores of 31 - 40, and High risk offenders with VRS:SO total scores of 41 - 72.

The dynamic items of the VRS:SO scale can be summarized by three factors proposed by Olver et al. (2007), labeled (i) Sexual Deviance, reflecting deviant sexual interests, lifestyle, and preoccupations; (ii) Criminality, comprising items that reflect a generalized antisocial lifestyle or orientation; and (iii) Treatment Responsivity, reflecting “distorted attitudes and beliefs supportive of sexual offending and resistance to change” that would likely contribute to noncompliance for sex offender treatment programs (Olver et al. 2007: 326). Many of the dynamic items, such as the factors Sexual Deviance and Criminality, are demonstrated predictors of sexual recidivism in custodial samples (Hanson & Morton-Bourgon 2005; Mann et al. 2010).

To date, research on the validity of the VRS:SO has demonstrated good inter-rater reliability, concurrent and predictive validity (Beggs & Grace 2010; Canales et al. 2009; Olver et al. 2007). Importantly, it appears an effective tool to assess reoffence risk in child sexual abuse offender populations (Beggs & Grace 2011). As with most contemporary risk assessment tools, most past research on the validity of the VRS:SO has been conducted on custodial samples of incarcerated offenders. Few risk instruments offer validated methods for recidivism prediction in community-based sex offender samples (Swinburne et al. 2012). This study fills that gap.

Aims of the Study

The study objectives were to:

- extend current knowledge about parental child sex offenders by identifying common features pertinent to this subpopulation of sex offenders, including their static and dynamic risk profile
- explore the potential for an objective risk assessment instrument such as the VRS:SO to assist in placing offenders in the most appropriate treatment based on their specific needs and risk of reoffending.
- promote effective and appropriate treatment planning and assist in the prioritisation of criminal justice, health and welfare resources to achieve the greatest reduction possible of cases of parental child sex abuse.

Two specific research questions were investigated:

- 1) Are static and dynamic risk factors as measured by the VRS:SO, predictive of recidivism by parental child sex offenders?
- 2) Can the selection process for offenders be enhanced by an objective risk assessment tool such as the VRS:SO? i.e., is the VRS:SO sensitive to high versus low risk parental offenders?

Method

Research Design

The research involved a retrospective quasi experimental study to investigate predictive validity of the Violence Risk Scale: Sexual Offender version (VRS:SO) among a sample of intrafamilial child sexual offenders. The study involved an archival review of clinical assessment and treatment files from the NSW (Cedar Cottage) Pre-Trial Diversion of Offenders Program. Offender files were systematically reviewed and information was extracted to code the VRS:SO. Criminal history and reoffending data was gathered from existing police, court and corrections databases, maintained by the Computerized Operational Policing System from NSW Police (COPS database), the NSW Bureau of Crime Statistics and Research (BOCSAR database) and the NSW Department of Corrective Services. The study aimed to investigate whether VRS:SO risk scores were predictive of sexual and other recidivism, and to explore the factors associated with reoffending in a sample of Australian intrafamilial child sexual offenders.

NSW Pre-Trial Diversion Program

The New South Wales Pre-Trial Diversion of Offenders Program (Cedar Cottage) established in 1989 and managed by Sydney West Area Health Service, provides community-based treatment for intrafamilial child sexual offenders. The Cedar Cottage program was developed to treat child sex offenders in a parental role who plead guilty when charged, to prevent them from repeating their offences by providing “for the protection of children who have been victims of sexual assault by a parent or a parent’s spouse or de facto partner” (Pre-Trial Diversion of Offenders Act 1985). Primacy is given to the needs of the victims. The program also treats the victim and family members. On average six family members are treated for every one offender referred to the program.

Parental offenders are referred to the NSW Pre-Trial Diversion Program by police, prosecutors and courts. Legal proceedings are adjourned until assessment is complete, and the offender’s eligibility to participate in the program is determined. Over an eight week assessment period, the program director determines if the potential applicant is suitable for the program, and the offender decides whether the program is suitable for him. To date, no actuarial risk assessment tools have been used during the extensive assessment process. After screening by the Clinical Director, parents who are accepted for treatment enter a guilty plea and remain in the community throughout treatment lasting a minimum of two years. Treatment consists of individual and group therapy sessions. Offenders who are declined treatment return to the courts for standard criminal prosecution.

Participants

Participants were individuals referred to the New South Wales Pre-Trial Diversion of Offenders (Child Sexual Assault) Program for intrafamilial offenders at Cedar Cottage in Westmead, NSW from the date of its inception in 1989 until 2003. This cohort was chosen because of extensive available information on their rates of re-offence for periods ranging from at least four years after initial referral to the treatment program, up to 18 years. A total of 213 eligible participants for this study. All of the participants in this cohort are male. Of the participants, a relatively small proportion were identified as Aboriginal or Torres Strait Islanders (5.2%, $n = 11$). At the time of the index offence, participants ranged in age from 20 to 68 years ($M = 36.2$; $SD = 7.4$). Most of the participants were legally married (64.0%, $n = 135$) or in a de facto relationship (21.6%, $n = 46$) at time of referral. Just under half of the participants were biological fathers of the victim(s) (44.6%, $n = 95$), while the rest

of the participants were not biologically related to the victim(s) (55.4%, $n = 118$). Two-fifths of the participants had previous convictions (45.5%, $n = 97$); although only a minority had a previous conviction for a sexual offence (4.7%, $n = 10$).

Offenders who were assessed for entry into the treatment program, but who were not deemed suitable for treatment or who chose not to engage in the Cedar Cottage Program (56%, $n = 120$) are referred to throughout this report as the Declined Groups. Outcomes for the declined group are compared with those for offenders who entered the program for treatment (44%, $n = 93$), referred to as the Accepted Group. Participants who were accepted into the treatment program were not significantly different on race, age, and marital status than offenders who were declined entry to the treatment program. Employment history was the sole variable that differed more widely in the two groups ($\chi^2 = 12.9$, $df = 6$, $p < .05$): that is, a higher proportion of accepted offenders were engaged in stable employment at the time of the assessment (74.7%, $n = 68$), compared to offenders declined entry into the treatment program (56.7%, $n = 68$).

Offenders accepted into the program spent an average of two years (23.4 months) in the Cedar Cottage treatment program. Offenders who completed the treatment program in either two or three years (25%, $n = 53$) are referred to as Completers, whereas offenders in the accepted group who terminated treatment prior to completion, either because they voluntarily withdrew from the program (4%, $n=8$), or because they breached the terms of the treatment agreement (15%, $n = 32$), are referred to as Noncompleters (19%, $n = 40$). Treatment completers spent significantly longer in the program ($M = 31.5$ months, $SD = 0.7$) than noncompleters ($M = 14.9$ months, $SD = 1.6$; $t(91) = -11.78$, $p < .001$).

Procedure

Both static and dynamic VRS:SO variables were coded for all 213 participants included in the research study. The static variables were coded by a postgraduate level researcher (Researcher A) and the dynamic variables were coded by two other postgraduate level researchers (Researcher B and C), all of whom received training from the test developers.

Data collection - VRS:SO static factors

The VRS:SO static factors were coded by a post-graduate level researcher (Researcher A) using an existing database of information about each offender, compiled from a previous review of Cedar Cottage files, COPS database and BOCSAR database records. The seven static factors were coded from demographic, index offence and criminal history data information, gathered during the previous review of Cedar Cottage files (Goodman-Delahunty 2009). The coding structure for the static factors is displayed in Table 1a.

Data Collection - VRS:SO dynamic factors

The VRS:SO dynamic factors were coded by two post-graduate level researchers (Researcher B and Researcher C) in compliance with the VRS:SO manual and user qualification recommendations. Data was coded using information from the Cedar Cottage files, and the COPS and BOCSAR databases. Due to the use of retrospective written records rather than viva voce interviews with the offenders, a coding scheme (Table 1) for this particular sample was developed by the raters through an assessment of adaptation of the available information for encoding as dynamic scores within the VRS:SO. This process was facilitated in part by correspondence with Prof. Stephen Wong and Dr. Mark Oliver, the authors of the VRS:SO.

Table 1a: Coding scheme for the VRS:SO static variables

Dynamic Variable	Variable Name	Variable Coded Based on
S1	Age at the time of release	<ul style="list-style-type: none"> ♦ Age of the offender at the time of referral to the Cedar Cottage Program for pretreatment coding. ♦ Age of the offender at the time of last contact with the Cedar Cottage Program for posttreatment coding (e.g. treatment exit date or treatment completion date).
S2	Age at first sexual offence	<ul style="list-style-type: none"> ♦ Age of the offender at the time of their first officially sanctioned sexual offence (e.g. index offence or prior sexual offence)
S3	Sexual offender type	<ul style="list-style-type: none"> ♦ The nature of the relationship between the offender the victim(s) of the index offences and prior sexual offences. Coded as either an incest offender, adult rapist, child molester or mixed offender.
S4	Prior sexual offences	<ul style="list-style-type: none"> ♦ A count of the number of officially sanctioned prior sexual offences (i.e. police arrests, charges and convictions). Coded from official police records, court records and from offender self-reports.
S5	Unrelated victims	<ul style="list-style-type: none"> ♦ Number of related and unrelated victims from the index offence and prior sexual offences (officially sanctioned sexual offences only).
S6	Number and gender of victims	<ul style="list-style-type: none"> ♦ The number and gender of victims from the index offence and prior sexual offences (officially sanctioned sexual offences only).
S7	Prior sentencing dates	<ul style="list-style-type: none"> ♦ The number of prior sentencing occasions; i.e. a count of the number of times an offender has been sentenced for prior criminal convictions.

Table 1b: Coding scheme for the VRS:SO dynamic variables

Dynamic Variable	Variable Name	Variable Coded Based on
D1	Sexually Deviant Lifestyle	<ul style="list-style-type: none"> ♦ Lifestyle indicators (e.g., prior sexual offences, paraphilia, the use of child pornography, etc.) ♦ Psycho-sexual history questionnaire (where available) ♦ Duration and frequency of offence
D2	Sexual Compulsivity	<ul style="list-style-type: none"> ♦ Duration and frequency of offence ♦ Self-reported level of sexual compulsion ♦ Reports of extra-marital affairs ♦ Where available, self-reported rates of sexual arousal and masturbation

D3	Offence Planning	<ul style="list-style-type: none"> ♦ Incremental severity of sexual offences ♦ Evidence of actively creating opportunities to offend ♦ Evidence of sexualisation of victim's environment
D4	Criminal Personality	<ul style="list-style-type: none"> ♦ Stated level of guilt and remorse ♦ Family reports of domestic abuse (violent or emotional) ♦ Cedar Cottage assessment of level of anti-social behaviour ♦ Number and severity of previous criminal charges and convictions
D5	Cognitive Distortions	<ul style="list-style-type: none"> ♦ Consistency between the offender and victim's statements ♦ Stated reasons for abuse
D6	Interpersonal Aggression	<ul style="list-style-type: none"> ♦ Family reports of domestic violence ♦ Reports from family members of intimidating behaviour after disclosure ♦ Cedar Cottage reports of aggressive behaviour during assessment and therapy ♦ Number of previous reports, charges and convictions for violence offences
D7	Emotional Control	<ul style="list-style-type: none"> ♦ Self-reports of problems with emotional control ♦ Self-reports of profound emotional states prior to offending ♦ Family reports of bad temper, frequent irritable or depressed moods ♦ Reports of mood disorders from health care professionals, counsellors and social workers ♦ Cedar Cottage assessment of emotional control
D8	Insight	<ul style="list-style-type: none"> ♦ Consistency between the offender and victim's statements ♦ Stated reasons for abuse ♦ Stated level of guilt and remorse ♦ Statement regarding the impact of abuse on family and victim(s) ♦ Cedar Cottage assessment of insight
D9	Substance Abuse	<ul style="list-style-type: none"> ♦ Self-reported history of substance abuse ♦ Family reports of substance abuse ♦ Reports of substance abuse from health care professionals ♦ Previous police reports, charges and convictions associated with substance abuse (including DUI, and possession and trafficking of prohibited substances)
D10	Community Support	<ul style="list-style-type: none"> ♦ Employment status ♦ Permanent residential address ♦ Contact with friends and family members ♦ Accepted or declined by Cedar Cottage^a
D11	Release to High Risk Situations	<ul style="list-style-type: none"> ♦ Completion of the Cedar Cottage program ♦ The development of an effective relapse prevention plan ♦ The development of a Maintenance and Support System ♦ Surveillance information regarding level of contact with family and victim

		<ul style="list-style-type: none"> ♦ Reported intentions in contact with family and victim ♦ Breach of treatment agreement with regards to contact restrictions, or unreported contact with children
D12	Sexual Offending Cycle	<ul style="list-style-type: none"> ♦ Self-reported sexual abuse cycle during therapy at Cedar Cottage ♦ Self-reported patterns of abuse ♦ Frequency, duration and regularity of abuse ♦ Victim and family reports of patterns of abuse
D13	Impulsivity	<ul style="list-style-type: none"> ♦ Self-reports of impulsiveness ♦ Previous employment history ♦ Police reports, charges and convictions for offences related to impulsiveness (e.g., fighting, public disturbance etc) ♦ Family reports of impulsive behaviour (e.g., financial management problems) ♦ Evidence of impulsive behaviour during assessment and therapy (e.g., inability to complete set tasks, poor time management etc.)
D14	Compliance with Community Supervision	<ul style="list-style-type: none"> ♦ Willingness to abide by treatment agreement ♦ Number and severity of breaches of treatment agreement
D15	Treatment Compliance	<ul style="list-style-type: none"> ♦ Self-reported and Cedar Cottage reported level of treatment motivation ♦ Progression through assessment and treatment
D16	Deviant Sexual Preference	<ul style="list-style-type: none"> ♦ Evidence of established sexual interest in children (possession of child pornography, extensive history of sexually offending against children) ♦ Age of victim(s) ♦ Presence of other paraphilias
D17	Intimacy Deficits	<ul style="list-style-type: none"> ♦ History of established age-appropriate relationships ♦ Self-reported problems with intimacy ♦ Spouse reported problems with intimacy

^a Acceptance into the Pre-Trial Diversion program at Cedar Cottage was coded as reduced risk in the community support variable. However, Cedar Cottage placed a number of restrictions on participants in terms of contact with their families and contact with other children, which could undermine the participants' community support. Because the effects of these restrictions were not systematically documented in Cedar Cottage files, they were not systematically reflected in the scoring for this variable.

Data from Cedar Cottage Clinical Files

A file review was conducted of archival clinical files, to gather information to code the dynamic factors of the VRS:SO. Information contained in the clinical files included pre-referral information, official correspondence regarding each offender, records of assessment interviews, and treatment notes. A detailed description of the information available in these files is included below.

Pre-referral information and official correspondence

Pre-referral information included police charge sheets, statements, and interviews, and the combined police and Department of Human Services Joint Investigative Response Team (JIRT) interview transcripts. Official correspondence included letters to Cedar Cottage from legal representatives, court orders, and letters from health care professional (including doctors, counsellors and psychologists). Cedar Cottage also maintained a record of telephone contact and written correspondence with any person associated with the case, including liaisons with social workers and the offender's family members.

Assessment interviews

Assessment interviews were recorded by Cedar Cottage staff. The assessment sessions consisted of a series of structured clinical interviews to obtain information regarding the offender's life history, family structure, sexual history and descriptions of the offence. The interviews also assessed the offender's motivation and capacity for treatment. The content and quantity of these interviews varied considerably before 1993. In 1993, a legislative amendment to the Cedar Cottage program was passed to clarify that the primary concern of the program was the best interests of the child victim, and that this prevailed over the interests of the offender. As a result, the criteria and decision making procedures regarding eligibility and suitability of offender participants were refined (for a more detailed account of the 1993 legislative amendment and the resulting changes to assessment procedures and criteria see Goodman-Delahanty, 2009).

After 1993, most offenders had a minimum of eight structured assessment interviews (unless they voluntarily withdrew before assessment was completed, or applied for re-assessment), one group session, and were required to complete and submit written (voice-recorded in case of illiteracy) assignments which were prepared daily, prior to a decision being made about their suitability to participate in the pre-trial diversion treatment program. A number of structured assessment instruments were utilised by the Cedar Cottage Program throughout the study period. Starting in June 1995, offenders were required to complete a Psychosexual Life History form (Nichols & Molinder, 2008) prior to their first assessment interview. The form required the applicant to provide a chronological account of his life, his health, personality, parental and family history, developmental history, education and employment history, substance abuse, childhood, adolescent and adult behavioural history, and sexual development and relationship history. The form included space for applicants to describe the index offence for which they were referred to Cedar Cottage. From 1996-2001 applicants were required to complete the Multiphasic Sex Inventory (MSI; Nichols & Molinder, 1984) as part of their assessment. The MSI contains 20 scales. The core scales are validity scales and the basic paraphilia scales that include Child Molestation, Rape and Exhibitionism, with additional scales assessing other paraphilias (fetishes, voyeurism, bondage/discipline), and sado-masochism, sexual dysfunction, sexual knowledge and treatment attitudes. The MSI scoring and interpretation of the MSI (including response validity and response pattern interpretation) was conducted by a registered psychologist working at Cedar Cottage.

Additionally, the assessment process might also involve interviews with the offenders' immediate family members. These additional interviews were conducted if the offender was initially assessed as suitable for the program, and if the family members were willing to participate. Child victim(s) were not interviewed during assessment because the pre-trial status of the matter (i.e. if the offender was not accepted into the program and thus not diverted from the court system, the case would proceed to trial, and the child may be required to testify).

Treatment notes

The Cedar Cottage Treatment Program employed a combination of evocative therapy, Cognitive Behavioural Therapy, and some psychosocial education. The treatment program based in part on the ideas of an Adelaide-based psychologist, Alan Jenkins (Tolliday 1991; Laing, 1996) whose approach to therapy was 'invitational'. The aim of therapy was to provide a positive framework in which men acknowledged and took responsibility for their behaviour in order to address it (Jenkins, 1991). Program participants were required to attend group therapy every two weeks and individual therapy every two weeks, on alternating weeks (Laing, 1996).

Prior to 1995, the content and quantity of the therapy notes varied greatly. After 1995, treatment notes included the following documents:

- individual and group therapy notes from the participant's therapists;
- notes from biannual workshops;
- quarterly progress reviews from the therapists and offenders;
- a diary kept by the offender throughout therapy;
- sexual arousal log;
- complete sexual history;
- crime descriptions;
- "face-ups" to family, victim(s), friends and audience members;
- Maintenance and Support System (MASS) document. The MASS is prepared by the offender at the end of the program. It outlines the offender's relapse prevention plan and includes information about early warning signs associated with reoffending. The MASS is given to designated individuals who will form the offender's support system.
- sexual offending cycle;
- relapse prevention plan.

The availability of these documents depended upon the offender's progress in treatment, and the duration of treatment. Treatment was anticipated to continue for two years, with provision of an optional third year at the discretion of the clinical director.

Therapy was provided for the immediate family members and child victim(s) if they were willing to participate in the program, and extensive therapy notes from individual and group sessions with these individuals were also included in the clinical files.

Notes on Recidivism Data

Information about new offences committed after release from prison or from last contact with the Cedar Cottage program were coded from information derived from three official data sources in New South Wales: the COPS database from NSW police, the NSW BOCSAR database and information from the NSW Department of Corrective Services regarding periods and length of incarceration.

NSW Computerised Operational Policing System database

The Computerised Operational Policing System (COPS) is a NSW Police Force Database which includes information relating to police intelligence, reports, charges, convictions and penalties. Information from this database was used to indicate whether participants reoffended following their last contact with Cedar Cottage. This database has existed since 1994. Information about offences prior to 1994 was sometimes included with less detail, or was available from microfiche records. The New South Wales Police Force used a list of participant names, dates of birth, and Central Names Index numbers (where available) to locate criminal history records for the participants. Re-offence

data were unable to be located for two participants within the study. They were withdrawn from analyses for hypotheses relating to recidivism.

NSW Bureau of Crime Statistics and Research Reoffending database

Recidivism data were obtained from the Bureau of Crime Statistics and Research (BOCSAR) Reoffending database (ROD). The database contains all finalised criminal appearances in NSW Local courts, District courts, Supreme courts, and the Children's Court from 1994 onwards. Participants were matched using five sets of criteria through a data matching system. If two court appearance records matched according to at least one of these five sets of criteria, they were deemed a match to the individual in question. Each of the five sets included a combination of surname, middle name, first name, date of birth (or two components of) and CNI (Hua & Fitzgerald, 1995). Research has indicated high rates of success for correct matching of court records to offenders. A false positive rate (i.e., linking two separate offenders) of 0.057 percent was found, and a false negative rate (failing to link two records belonging to the same offender) of 6.2 percent was identified (Hua & Fitzgerald, 1995).

Recidivism analyses

The observation period for recidivism following an offender's last contact with Cedar Cottage ranged from 3.8 to 18 years. Two measures of reoffending following the offender's last contact with Cedar Cottage were used: (a) a 'complete' measure of reoffending, calculated by counting all official police intelligence reports of reoffending in the form of intelligence information, arrests, apprehensions, charges and convictions, and (b) a more traditional measure of reoffending, counting new charges and convictions only. Both measures are conservative but reliable indicators of recidivism. All reoffences were distinguished as sexual, violent or nonsexual/nonviolent offences. Three categories of reoffending behaviour are reported in this paper: (i) sexual reoffending rates, (ii) violent reoffending rates and (iii) general or overall reoffence rate derived from a combined total of all sexual, violent and nonsexual/nonviolent reoffences.

Reoffending data were analysed in several different ways to develop a more comprehensive understanding of the predictive accuracy of the static and dynamic factors in the VRS:SO:

- Absolute rates of sexual, violent and overall recidivism
- Relative reductions in sexual recidivism rates
- Length of time before first relapse (Kaplan-Meier survival analysis)
- Predictors of reoffending (logistic regression and Cox proportional regression survival analysis to account for time to first reoffence)
- Accuracy of prediction (AUC)

Results

Characteristics of Parental Offenders

All of the 213 offenders included in the Cedar Cottage sample were male and were in a parental relationship with the victim at the time of the index offence. Just under half of the participants were biological fathers of the victim(s) (44.6%, $n = 95$), while remainder were stepfathers of the victims (55.4%, $n = 118$). The average age of offenders at the time of referral to the Cedar Cottage program was 39.5 years ($SD = 7.5$, range 23 - 68 years). An average of three years passed between the time that offenders committed their first abusive act and the time they were referred to the Cedar Cottage program ($SD = 3.3$, range 0 - 16 years). Thus, the average age of the offenders at the time of the first sexually abusive incident of the index offence was 36.3 years ($SD = 7.5$).

The majority of the offenders (82%) only had one victim associated with their index offence (i.e. the offences for which they were referred to Cedar Cottage). The remaining offenders had between two (13%) and five victims associated with the index offence (4% had 3 index offence victims, 1 offender had five index victims). The offenders primarily abused female victims (91.1%), although a small proportion of offenders sexually abuse male victims (4.7%) or both male and female victims (4.2%). On average, victims were 8.8 years old at the age of the first abusive incident ($SD = 3.4$, range 0.5 - 16 years), although were 11.7 years of age when they disclosed the sexual abuse ($SD = 3.8$, range 3 - 22 years). The majority of offenders abused victims who were aged from 5-9 years (46.3%) or 10-14 years (36.0%). A smaller proportion of offenders sexually abused very young children (15.3%).

Half of the parental sexual offenders (53.5%) in this sample disclosed their own history of childhood sexual, physical or emotional abuse (before the age of 16 years). A substantial proportion (38.5%) reported that they were victims of childhood sexual abuse and a further 3.4 per cent reported that they had witnessed the sexual abuse of another as children. Over half minimised or denied aspects of the sexually abusive behaviour or denied responsibility during the assessment period (58.6%) and 17 percent adamantly denied committing the index offence. Only one quarter of offenders (24%) fully accepted responsibility for their offending behaviour during the assessment (i.e. they provided full admissions about the index offence, matching or extending the victim's account).

Nature of the sexually abusive conduct

On average, the offenders who were referred to the Cedar Cottage program were facing 5.5 charges associated with the index offence (range 1 - 43). Relatively few offenders were referred with only one charge (9.9%); the majority were facing between two and five charges at the time of referral (55.7%) or between six and ten charges (21.7%).

A common misperception of intrafamilial offenders is that their offences are one-off events, i.e., the abuse was committed on one occasion only. This description does not fit 90% of the offenders referred to Cedar Cottage. Only 10% ($n = 23$) of offenders had committed sexual abuse on a single occasion. However, these offenders still committed a number of abusive acts during this single occasion of abuse (between 1 and 8 abusive acts), and were more likely to commit a penetrative (87.0%) than a non-penetrative (13.0%) offence during the single occasion of abuse. The majority of sexual offenders and victims disclosed that the sexual abuse occurred on a number of different occasions. One third of offenders and victims disclosed between two and ten different incidents of abuse (33.2%) associated with the index offences, although the range was broad, from a single incident to in excess of 1000 incidents. In the course of the abuse, offenders committed an average of 4.5 types of abusive acts (range 1-10 types of acts). The most common type of sexual conduct

perpetrated by offenders was sexual touching or fondling (89.7%) followed by penetrative abuse (83.1%; defined as digital and oral penetration and vaginal and/or anal intercourse). Close to one half of the offenders admitted engaging in sexual exposure and exhibition, inviting the children to touch them sexually and performing oral sex on the victim (46.7, 47.2% and 45.8%, respectively). The majority of the participants (70.5%) resorted to extortion (i.e. coercive techniques) or threats to secure compliance from victims, rather than threats of physical violence (22.9%).

Criminal history and prior sexual offences

Many offenders referred to Cedar Cottage were not one-off offenders, and their prior offending behaviour was not confined to sexually deviant acts with minors. One-third of offenders had a history of prior offending during adulthood (35.7%) and one-fifth commenced offending during adolescence and continued into adulthood (18.3%). One offender (0.5%) had a juvenile record and no record of subsequent adult offences. A substantial proportion of the parental offenders previously been convicted of a criminal offence (45.5%, $n = 97$), although only a small proportion had a previous conviction for a sexual offence (4.7%, $n = 10$) or violent offence (14.6%, $n = 31$). The majority of offenders with previous convictions had convictions for nonsexual, nonviolent offences (40.4%).

If police reports and charges were considered when counting prior criminal offending (i.e. not only convictions), a higher proportion of the sample are noted to have previous sexual offences (10.8%, $n = 23$). Half of the offenders with prior sexual offences disclose these offences during the assessment or treatment phases of the Cedar Cottage program (47.8%, $n = 11$). On average, the offenders were aged 23.5 years at the time of committing their prior sexual offences (range 12 - 38 years). Two-fifths of the offenders previous sexual offences occurred when the offender was aged 16 years or younger (39.1%).

There was only limited data available about the victims from each offenders prior sexual offences, as the research was heavily reliant on limited information available in official police and court databases to code this information (which often does not include comprehensive details about victim). The limited information that was available suggested that the offenders previous sexual offences were primarily against female victims who were under 15 years of age.

Overall sexual offending profile, as measured by VRS:SO static factors

Scores on the VRS:SO static factors were explored to describe the nature of the parental offenders overall sexual offending profile, because VRS:SO static factors include information about an offenders prior sexual offending history and current index offences. As noted above, the majority of offenders (63.8%) were aged 45 years or older at the time of the first sexual offence (i.e. the index offence). One third of offenders (28.2%) were aged 35-44 years at the time of their first sexual offence, with only 8 percent aged under 34 years at the time of their first sexual offence. The majority of offenders were classified as incest/intrafamilial offenders (94.8%); only a very small proportion were classified as child molesters who sexually offended against unrelated children as well (2.8%) or as mixed offenders who sexually offended against both adults and children (2.3%). Consistent with these results, the majority of offenders had only sexually offended against related victims (92.9%); a small proportion were noted to have one unrelated victim (6.6%), while one offender was noted to have 2-3 unrelated victims associated with his sexual offending. The majority of offenders only sexually offended against one female victim (68.5%); 3.8 percent reoffended against one male victim only. The remaining offenders were noted to have at least two female victims, or one male and one female victim (26.3%); only three offenders were noted to have more than two male victims (1.4%).

The VRS:SO only takes into account ‘officially sanctioned’ sexual offences (i.e. sexual offences that resulted in an official police arrest, charge or conviction) when counting the number of prior sexual offences an offender has. Exploration of the VRS:SO count of prior sexual offences reveals that 9.4 percent of the sample had one officially sanctioned prior sexual offence, 2.3 percent had 2-3 prior sexual offences, while two offenders (0.9%) were noted to have 4 or more prior sexual offences.

Inter-rater Reliability

Static scores for the VRS:SO were derived from the existing Cedar Cottage dataset (Goodman-Delahunt 2009) on which inter-rater reliability checks were previously computed. For this study those data were extracted and coded by Researcher A. Accordingly, no further inter-rater reliability tests were calculated for the static item scores.

Dynamic VRS:SO pre-treatment and post-treatment item scores for all 213 offenders were coded independently by Researcher B and Researcher C who performed a manual audit of Cedar Cottage assessment and treatment files to extract this information. Reliability for the dynamic scores was assessed using intraclass correlation coefficients (ICC or r_{ICC}). The majority of dynamic item single measure ICCs (95%) were significant ($p < .001$) for both pre-treatment and post-treatment ratings. The pre-treatment dynamic total score ICCs ranged between $r_{ICC} = 0.50$ and $r_{ICC} = 0.99$ ($N = 214$), while the post-treatment dynamic total score ICCs ranged between $r_{ICC} = 0.69$ and $r_{ICC} = 0.99$ ($n = 85$). Total Dynamic scores showed very good inter-rater reliability: the average ICC for pretreatment total dynamic scores was $r_{ICC} = 0.95$; the average ICC for post-treatment total dynamic scores was $r_{ICC} = 0.94$.

Discrepancies in VRS:SO dynamic item scores between the two raters were resolved through a process of review and discussion, until a consensus score was agreed upon for all items in the 214 double-coded files. The VRS:SO consensus scores demonstrated acceptable internal consistency: static items ($\alpha = 0.67$); dynamic items pre-treatment ($\alpha = 0.70$) and post-treatment ($\alpha = 0.90$); and combined scale items pre-treatment ($\alpha = 0.73$) and post-treatment ($\alpha = 0.89$).

Overall, the reliability of the VRS:SO dynamic scores and the internal consistency of the final VRS:SO static and dynamic scores was acceptable and comparable to inter-rater reliability results reported by (Olver et al. 2007) and (Beggs & Grace 2010).

Data Validation: Handling of Missing Data

There were no missing data on the static items; only the dynamic items had missing data. Reasons for missing data were coded as suggested by the VRS:SO manual, either as ‘I’ meaning that there was insufficient information in the file to code the item, or ‘N’ meaning that the item was not applicable for a particular offender. Approximately half of the sample (47.9%) had at least one missing item; the vast majority of cases were missing no more than 3 items (80.8%). The remainder of the sample had 4 or more missing items out of 17 dynamic items (17.2% had between 4-7 missing items, however 2 percent of the sample had 8-12 missing items). To ensure the integrity of the data, participants with 4 or more missing dynamic items out of 17 items ($n = 41$, 19.2% of the entire sample) were excluded from further analyses. All of the excluded offenders were offenders who were not accepted into the Cedar Cottage program, and thus only had limited assessment information available for use in coding the VRS:SO.

Following the exclusionary steps taken above, the final sample for analysis was $N = 172$, with 54.1 percent ($n = 93$) of these offenders accepted into the Cedar Cottage program, while 45.9 percent ($n = 79$) were declined entry to the program or chose not to proceed past the assessment process.

Individuals accepted into the program were further classified into one of three sub-groups: (i) offenders who completed treatment (58.2%, $n = 53$), and offenders who were excluded from the treatment program prior to completion either because they (ii) breached their Treatment Agreement (35.2%, $n = 32$), or because they (iii) voluntarily withdrew from the program prior to completion (6.6%, $n = 6$).

Missing values for pre-treatment dynamic item scores were estimated for the remaining sample of 172 offenders, by means of a stepwise regression procedure. A dynamic item with missing data was regressed onto the remaining 16 dynamic items, and significant predictors extracted. These were used to create a linear combination of weighted variables, utilising the following formula to estimate the value of the missing item for a specific participant: Y (missing value) = B (unstandardized beta coefficient) \times Item (predictor) + constant. Missing values for a small number of participants ($n = 6$, 3.5%) could not be estimated from the available data thus VRS:SO dynamic, factor and total scores were prorated for these participants using the formula specified in the VRS:SO Coding Manual.

For two offenders who were accepted into the program no post-treatment VRS:SO scores were coded, thus they were excluded from all post-treatment VRS:SO analyses, reducing the total sample of offenders for post-treatment analyses to 91. There were few missing data items for the remaining 91 offenders: 6 dynamic items had missing data for one participant (1.1 percent of the accepted sample), while 3 dynamic items had missing data for 2 participants (2.2 percent of the accepted sample). Regression estimation was utilised again to estimate missing values as described above, and for one participant VRS:SO dynamic, factor and total scores were prorated using the formula provided in the VRS:SO Coding Manual.

VRS:SO Descriptive Statistics

Table 2 presents descriptive statistics for the VRS:SO for the entire sample, and compares the VRS:SO scores of low, moderate and high risk offenders (as classified by pre-treatment VRS:SO scores). Overall, the mean VRS:SO static score for offenders accepted into the Diversion Program was 2.72 (range 0 - 13); the mean pre-treatment dynamic score was 36.32 (range 18 - 48.76) and the mean total VRS:SO score was 39.01 (range 20 - 59). Mean post-treatment dynamic scores were 26.34 (range 10.5 - 47.0), and mean post-treatment total scores were 28.87 (range 11.5 - 54). Overall, there was a significant change in VRS:SO dynamic scores ($t(90) = 10.24$, $p < .001$), following participation in treatment: Offenders who were accepted into the Cedar Cottage Program showed a significant overall reduction in their level of risk, with an average change in VRS:SO dynamic scores of 4.92 points (range 0 - 12.5, $SD = 4.4$).

The overall mean VRS:SO risk scores for the Cedar Cottage incest offenders were higher than those reported by Olver et al. (2007) and Beggs and Grace (2010). The average pre-treatment VRS:SO total score in the current sample was 36.3, compared with 26.1 for incest offenders in the Canadian incarcerated sample studied by Olver et al. (2007), and 25.9 for incest offenders in the incarcerated New Zealand sample studied by Beggs and Grace (2010). Pre-treatment VRS:SO mean scores in the Cedar Cottage sample were closer to mean scores observed in child molesters (Olver et al. 2007) and in extrafamilial offenders (Beggs & Grace 2010) (mean scores of 39.1 and 33.2, respectively). Additionally, the overall Cedar Cottage means for the VRS:SO factors Sexual Deviancy, Criminality and Treatment Responsivity exceeded those observed in incest offender and child molester samples in those studies. The Cedar Cottage sample presented a higher dynamic risk profile. However, the Cedar Cottage sample had lower VRS:SO Static scores than either the child molester or incest offender samples in those studies. Overall, the Cedar Cottage sample had a higher risk profile, more akin to risk profiles previously seen in child molesters than incest offenders.

Table 2: Pre- and post-treatment scale scores in the Cedar cottage sample by VRS:SO pretreatment risk category (Mean, Standard Deviation)

Measure	Total Sample		Low Risk		Moderate Risk		High Risk		<i>F</i>	<i>Eta</i> ²
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<u>Pre-Treatment Scores (<i>N</i> = 172)</u>										
VRS:SO Static score	2.72	2.6	1.11	1.3	2.32	2.2	3.78	3.0	16.29	.17 ***
VRS:SO Dynamic score	36.32	8.0	24.94	2.8	33.91	3.9	43.47	3.0	417.51	.76 ***
VRS:SO Total score	39.01	9.0	26.05	2.6	36.18	2.9	47.22	4.2	493.80	.78 ***
F1: Sexual deviance	13.10	1.9	10.82	1.3	12.73	1.7	14.44	0.7	106.52	.46 ***
F2: Criminality	11.64	4.1	6.73	2.0	9.98	2.1	15.17	2.5	194.22	.49 ***
F3: Treatment responsivity	9.59	2.8	5.57	1.10	9.47	2.4	11.58	0.7	194.83	.82 ***
<u>Post-Treatment Scores (<i>N</i> = 93)</u>										
VRS:SO Dynamic score	26.33	10.4	17.00	3.0	27.98	7.5	40.87	2.8	130.54	.89 ***
VRS:SO Total score	28.87	11.4	18.09	3.0	30.95	6.8	45.38	3.68	192.50	.90 ***
VRS:SO Change score	4.92	4.4	7.89	2.5	4.47	4.7	0.15	0.4	33.66	.80 ***
F1: Sexual deviance	10.03	3.2	7.33	1.4	10.52	2.9	14.01	0.7	64.56	.79 ***
F2: Criminality	8.05	3.8	4.81	1.4	8.42	2.3	13.50	2.2	122.52	.74 ***
F3: Treatment responsivity	6.62	3.5	3.64	1.3	7.36	3.16	10.88	0.7	71.98	.86 ***

Note: *** statistically significant at $p < .001$

Using the risk categories proposed by Olver et al. (2007) as a guide, based on total pre-treatment VRS:SO scores, one fifth (21.5%; $n = 37$) of the Cedar Cottage sample was classified as Low Risk in terms of reoffending (VRS:SO scores of 0-30), approximately one third (33.1%; $n = 57$) as Moderate Risk (VRS:SO scores of 21-30), and just under half (45.3%; $n = 78$) as High Risk (VRS:SO scores of 41-72). Analyses of variance (ANOVAS) revealed a linear increase in VRS:SO scores on all scales amongst the three groups, with higher risk offenders recording significantly higher risk ratings on all VRS:SO scales, as shown in Table 2.

Recidivism Base Rates

The follow-up period for the sample following their release from the Cedar Cottage program or prison (for those not accepted into the program and sentenced to a period of imprisonment) was an average of 9.1 years ($SD = 4.5$, range = 0 to 17). Overall, 20 offenders (11.6%) received a police report, charge or conviction for a new sexual offence, and 17 offenders (9.9%) were apprehended for a new violent offence. Offenders were most likely to reoffend nonsexually (20.3%). The general (overall) reoffence rate, counting all sexual, violent and nonsexual/nonviolent offences, was 32 percent, i.e., one third of the referrals or 55 offenders received a police report, charge or conviction for a new offence of some nature within the follow-up period. The mean time to the first sexual reoffence was 7.9 years ($SD = 4.6$, range = 0 days to 17 years) and the mean time to the first violent offence was 7.9 years ($SD = 4.6$, range = 107 days to 17 years). Overall, the mean time between release and overall recidivism was 6.3 years ($SD = 4.8$, range = 0 days to 17 years). Of the 20 offenders who reoffended sexually, the majority (65% or 13) offended against child victims only (reports, charges and or convictions entailed suspected or actual sexual offences against minors), 20 percent or 4 offenders offended against adult victims only (20.0%), and 3 reoffenders (15%) had both adult and child victims (15.0%).

When considering only new charges and convictions (excluding police reports that did not progress), substantially fewer offenders in this sample qualified as recidivists: 5.2 per cent ($n = 9$) reoffended sexually, 4.7 per cent ($n = 8$) reoffended violently, and overall 26.7 per cent ($n = 46$) were reoffended overall. Table 3 displays the proportion of offenders in the Cedar Cottage sample who received a new police report, charge or conviction for sexual, violent and overall/general offences.

Table 3: Recorded sexual, violent and overall recidivism of Cedar Cottage groups in the follow-up period (%)

Measure	Sexual Recidivism			Violent Recidivism			General Recidivism		
	R	Ch.	C	R	Ch.	C	R	Ch.	C
Overall Sample ($N = 172$)	6.4	1.7	3.5	5.3	1.2	3.5	7.6	4.1	20.3
Declined offenders ($n = 79$)	10.1	2.5	3.8	6.3	0.0	5.1	7.6	5.1	25.3
Accepted offenders ($n = 93$)	3.2	1.1	3.2	4.3	2.2	2.2	7.5	3.2	16.1
Tx Noncompleters ($n = 40$)	5.0	0.0	2.5	5.0	5.0	2.5	10.0	5.0	17.5
Tx Completers ($n = 53$)	1.9	1.9	3.8	3.8	0.0	1.9	5.7	1.9	15.1

Note: R = police reports, Ch. = charges, C = convictions

Recidivism Prediction using the VRS:SO

The first research question posed by this study aimed to investigate whether the VRS:SO static and dynamic risk factors were predictive of recidivism for parental child sexual offenders. Additionally, this paper aimed to explore whether the three factor structure for VRS:SO dynamic factors proposed by Olver et al. (2007) was predictive of recidivism in a sample of intrafamilial offenders, or whether a different structure of dynamic variables would be a better at predicting reoffending among intrafamilial child sexual offenders.

Predictive Accuracy of the VRS:SO Scales

Receiver operating characteristic (ROC area under the curve; AUC) and Spearman-Brown correlational analyses were conducted to investigate the predictive accuracy of the VRS:SO scales. These analyses aimed to investigate whether the VRS:SO scales predicted sexual, violent and general recidivism in the Cedar Cottage sample (see Table 4 for results).

Contrary to expectation, VRS:SO static item scores were not significantly correlated with sexual, violent or overall recidivism rates, nor were the AUC values significant, suggesting that static risk factors as determined by the VRS:SO were not good predictors of reoffending in this sample of intrafamilial child sexual offenders. Additionally, the VRS:SO dynamic and total scores were not significantly correlated with sexual recidivism (using either charges and convictions as measures of sexual recidivism or with the addition of police reports). The ROC AUCs indicated a near-zero relationship between all of the risk scales and sexual recidivism, suggesting that the VRS:SO scales were no more accurate than chance in predicting sexual recidivism among intrafamilial offenders in this sample.

However, the VRS:SO dynamic item scores, total scores, criminality and treatment responsivity factor scores were significantly correlated with violent recidivism (both pretreatment and post-treatment). In addition, the AUC values for these measures were significant (see Table 4), suggesting that these VRS:SO scale scores were 'good' predictors of violent recidivism (Rettenberger et al. 2010). Contrary to the results of Olver et al. (2007), the VRS:SO sexual deviance factor scores were not predictive of violent recidivism in the Cedar Cottage sample. When considering overall rates of reoffending (i.e. combined sexual, violent and all other reoffending), the analyses revealed that VRS:SO pre-treatment dynamic, total and criminality factors scores, and post-treatment criminality scores were significantly predictive of general recidivism, with the AUC values suggesting that these scores were 'moderate' predictors of overall (general) recidivism rates. However, posttreatment dynamic and total VRS:SO scores were not significantly predictive of reoffending when considering either the correlations or AUC analyses.

These results suggest that the VRS:SO appeared to be a better predictor of violent, compared to sexual reoffending. Although only about one third of offenders who violently reoffended also sexual reoffended (35.2%), it is possible that the violent reoffences may have be sexually-related and thus this might explain the association between VRS:SO scores and violent reoffending. To investigate whether there was a link between sexual and violent offending, descriptions of the violent reoffences were reviewed to investigate whether there was a sexual element to these offences. This review revealed that only one of the 17 offenders who received a police report, charge or conviction for a new violent offence appeared to have possible sexual motive associated with an incident of violent reoffending, suggesting that the violent reoffences were not exclusively related to sexual reoffending.

Table 4: Predictive accuracy of the VRS:SO scale components (pre- and post-treatment) for sexual, violent and general recidivism

Measure	Sexual Recidivism			Violent Recidivism			General Recidivism		
	<i>r</i>	AUC	95% CI	<i>r</i>	AUC	95% CI	<i>r</i>	AUC	95% CI
VRS:SO Static score	.03	.54	.28, .80	.03	.55	.34, .75	.13	.58	.48, .69
VRS:SO Dynamic score (pre-tx)	-.01	.49	.30, .69	.18*	.75*	.61, .89	.21**	.64**	.54, .73
VRS:SO Dynamic score (post-tx)	-.06	.41	.16, .65	.23*	.82*	.00, 1.0	.17	.62	.46, .77
VRS:SO Total score (pre-tx)	.04	.56	.34, .77	.17*	.73*	.58, .87	.23**	.65**	.55, .74
VRS:SO Total score (post-tx)	-.04	.44	.12, .76	.20*	.77	.39, 1.0	.17	.62	.47, .77
F1: Sexual deviance (pre-tx)	.02	.52	.31, .73	.05	.57	.41, .72	.12	.57	.48, .67
F1: Sexual deviance (post-tx)	-.09	.38	.04, .72	.12	.67	.36, .99	.13	.59	.43, .74
F2: Criminality (pre-tx)	-.01	.49	.29, .68	.20**	.78**	.66, .90	.26**	.67**	.58, .76
F2: Criminality (post-tx)	-.05	.43	.19, .67	.23*	.82*	.60, 1.0	.25*	.67*	.52, .81
F3: Treatment responsivity (pre-tx)	.02	.52	.32, .71	.15*	.70^	.53, .87	.08	.55	.45, .64
F3: Treatment responsivity (post-tx)	.02	.52	.30, .75	.21*	.79*	.00, 1.0	.08	.55	.47, .70

^ statistically significant at $p = .05$, * statistically significant at $p < .05$, ** statistically significant at $p < .01$.

Notes: Reoffending comprised a new charge or conviction post-release

Incremental Contributions of Dynamic Risk

Cox proportional hazard regression analysis was applied to examine the extent to which VRS:SO dynamic risk factors offered a unique contribution to the prediction of risk for reoffending, beyond that predicted by static risk factors (VRS:SO static item total score). Both pre-treatment and post-treatment dynamic total scores were used for these analyses. The VRS:SO static item and pre- and post-treatment dynamic item total scores were entered in separate steps, with time to first reoffence (or total follow-up time for non-recidivists) as the dependent variable (separate analyses were conducted for sexual, violent and general recidivism). The results of this series of analyses are displayed in Table 5.

Table 5: Results of hierarchical Cox proportional hazards regression analyses for sexual, violent and general reoffending

	Sexual Recidivism			Violent Recidivism			General Recidivism		
	Wald	β	Exp(B)	Wald	β	Exp(B)	Wald	β	Exp(B)
<u>Reports, charges & convictions</u>									
VRS:SO Static score	0.05	.052	1.05	0.67	.065	1.07	2.92	.076	1.08
VRS:SO Pre-Tx Dynamic	0.24	.014	1.02	2.95	.062	1.06	4.73	.040	1.04*
VRS:SO Static score	0.03	.026	1.03	1.20	.123	1.13	4.19	.131	1.14*
VRS:SO Post-Tx Dynamic	0.03	-.007	0.99	1.76	.049	1.05	2.37	.033	1.03
<u>Charges & convictions only</u>									
VRS:SO Static score	4.56	.199	1.22*	.001	.004	1.00	4.07	.047	1.10*
VRS:SO Pre-Tx Dynamic	0.25	-.021	0.98	4.18	.133	1.14*	4.75	.045	1.05*
VRS:SO Static score	0.41	.105	1.11	0.01	.021	1.02	2.80	.116	1.12
VRS:SO Post-Tx Dynamic	0.22	-.024	0.98	3.52	.125	1.13	2.72	.037	1.04

* statistically significant at $p < .05$.

The VRS:SO static item scores were not significantly related to either sexual, violent or general recidivism, measured at the most inclusive level (including police report, charges and convictions) when using the pre-treatment sample. However, pre-treatment VRS:SO dynamic item scores were significantly related to time to first general reoffence, after controlling for VRS:SO static risk scores, but were not related to time to first sexual or violent reoffence. An investigation of the incremental predictive powers of post-treatment VRS:SO scores revealed that neither static nor post-treatment dynamic item scores were significantly related to sexual or violent recidivism. However, static item scores were significantly predictive of time to first police report, charge or conviction for a general reoffence. VRS:SO post-treatment dynamic item scores did not add significant incremental predictive validity.

For new charges and convictions, the first step of the analysis revealed that VRS:SO static total scores contributed significantly to the prediction of sexual and general recidivism (when using the full pre-treatment sample), but not violent recidivism. That is, higher static risk scores were significantly related to time to first general and sexual reoffence. After controlling for static risk, pre-treatment dynamic item

scores significantly predicted general and violent recidivism (i.e., provided incremental prediction above static scores). However, pre-treatment VRS:SO dynamic scores were not significantly predictive of sexual recidivism. Additionally, post-treatment VRS:SO dynamic item scores were not significantly predictive of new charges and convictions, for either sexual, violent or general recidivism.

Predicting Sexual, Violent and General Recidivism

Rates of reoffending

Consistent with the results reported above, the VRS:SO risk level was not significantly related to sexual reoffence rates, either pretreatment or post-treatment (see Table 6 for overall rates of reoffending). Rates of general recidivism [χ^2 ($df = 2$) = 11.07, $p < .01$] and violent recidivism [χ^2 ($df = 2$) = 6.79, $p < .05$] however, were significantly different across the three pretreatment VRS:SO risk categories. Overall, the percentage of offenders reconvicted for a general and violent offence increased across the pretreatment risk categories. However, post-treatment VRS:SO risk categories were significantly related only to general recidivism rates [χ^2 ($df = 2$) = 11.81, $p < .01$], not violent recidivism rates.

Table 6: Sexual, violent and general recidivism by pre-treatment and post-treatment VRS:SO risk categories (n, %)

	Sexual Recidivism		Violent Recidivism		General Recidivism	
	N	%	N	%	N	%
Pretreatment Risk Group						
Low risk (scores 0-30)	4	10.8	0	0.0 *	7	18.9 **
Moderate risk (scores 31-40)	4	7.0	5	8.8 *	13	22.8 **
High risk (scores 41-72)	12	15.4	12	15.4 *	35	44.9 **
Posttreatment Risk Group						
Low risk (scores 0-30)	3	5.9	3	5.9	11	21.6 **
Moderate risk (scores 31-40)	1	5.0	1	5.0	2	10.0 **
High risk (scores 41-72)	2	10.0	4	20.0	11	55.0 **

* statistically significant at $p < .05$; ** statistically significant at $p < .01$.

Kaplan-Meier survival analyses

Kaplan-Meier survival analyses investigated general, sexual and violent reoffending rates using the more inclusive reoffending measure for the three VRS:SO risk groups. First, the predictive accuracy of VRS:SO pre-treatment risk groups and total scores was investigated, followed by the predictive accuracy of VRS:SO post-treatment risk groups and total scores.

Sexual recidivism

Consistent with the results reported above, Kaplan-Meier survival analysis revealed that VRS:SO risk level groups were not significantly related to sexual reoffence rates, either pre-treatment ($\chi^2 = 1.92$, ns) or post-treatment ($\chi^2 = 0.38$, ns). The survival curves for pre-treatment and post-treatment VRS:SO risk categories for sexual recidivism are displayed in Figure 1a and 1b.

Figure 1a: Survival curve for rates of sexual recidivism by VRS:SO risk level (pre-tx)

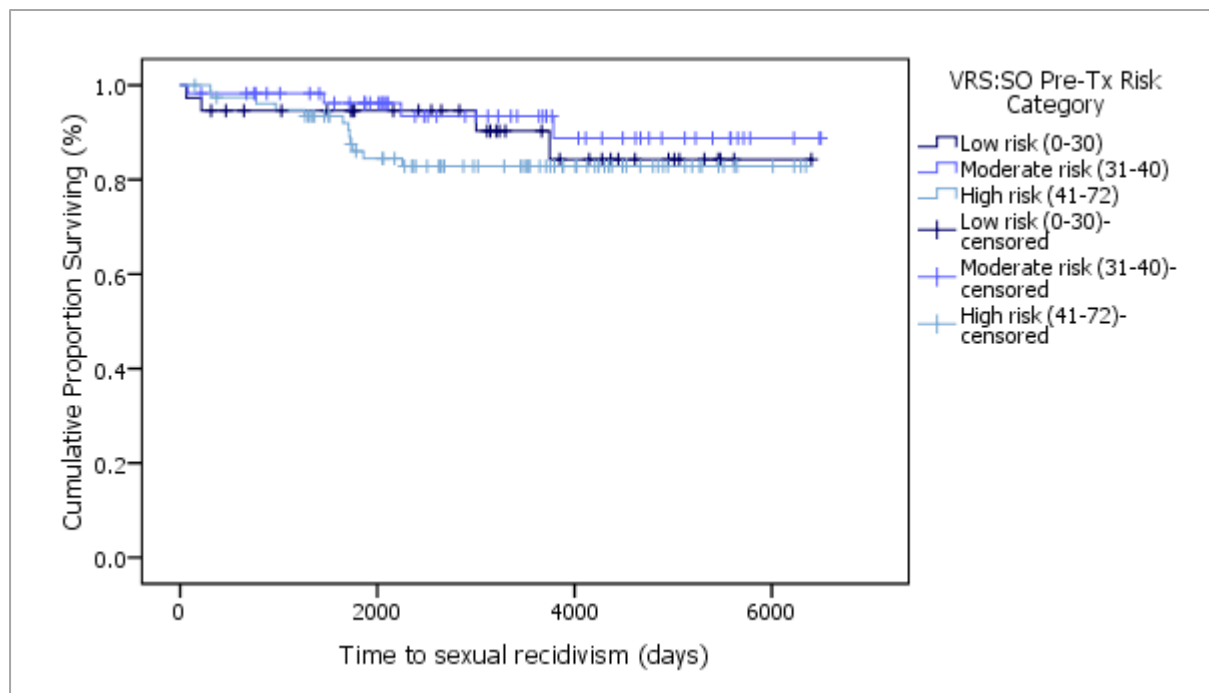
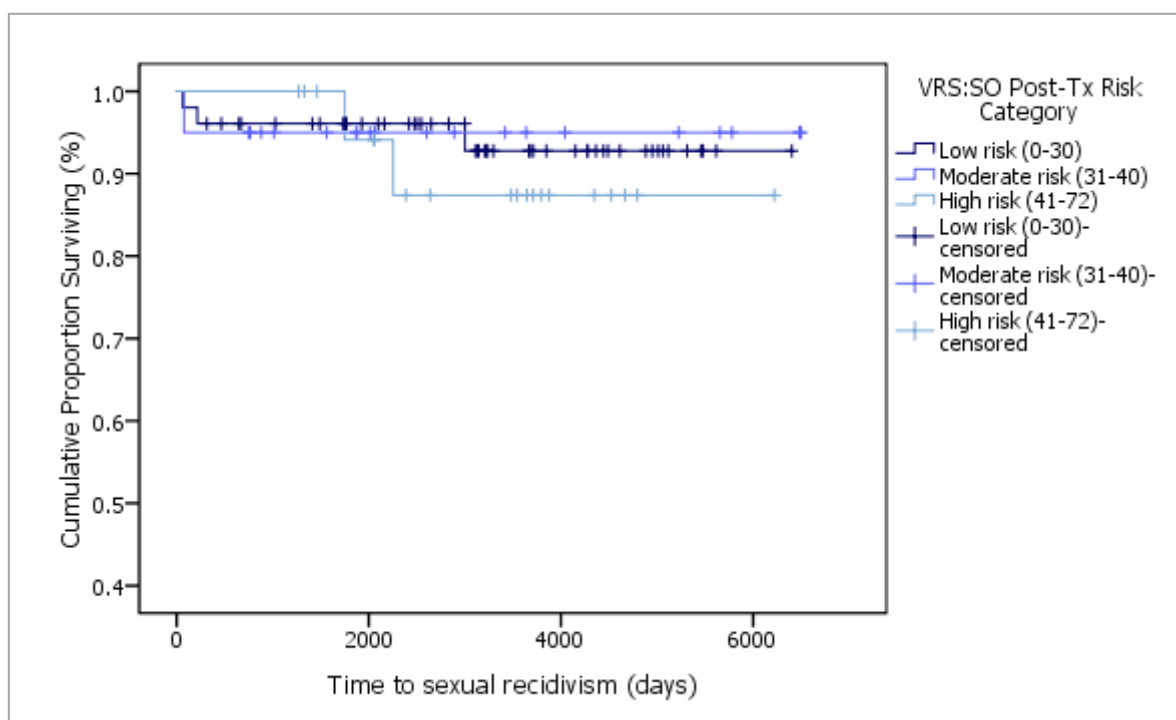


Figure 1b: Survival curve for rates of sexual recidivism by VRS:SO risk level (post-tx)



General recidivism

The results of the Kaplan-Meier survival analysis for general recidivism are presented in Figure 2a and Figure 2b (respectively). These analyses revealed that both pre-treatment VRS:SO risk categories [$\chi^2(df =$

2) = 11.35, $p < .01$] and post-treatment VRS:SO [$\chi^2(df = 2) = 12.65$, $p < .01$] risk categories were significantly related to rates of general recidivism.

Figure 2a: Survival curve for rates of general recidivism by VRS:SO risk level (pre-tx)

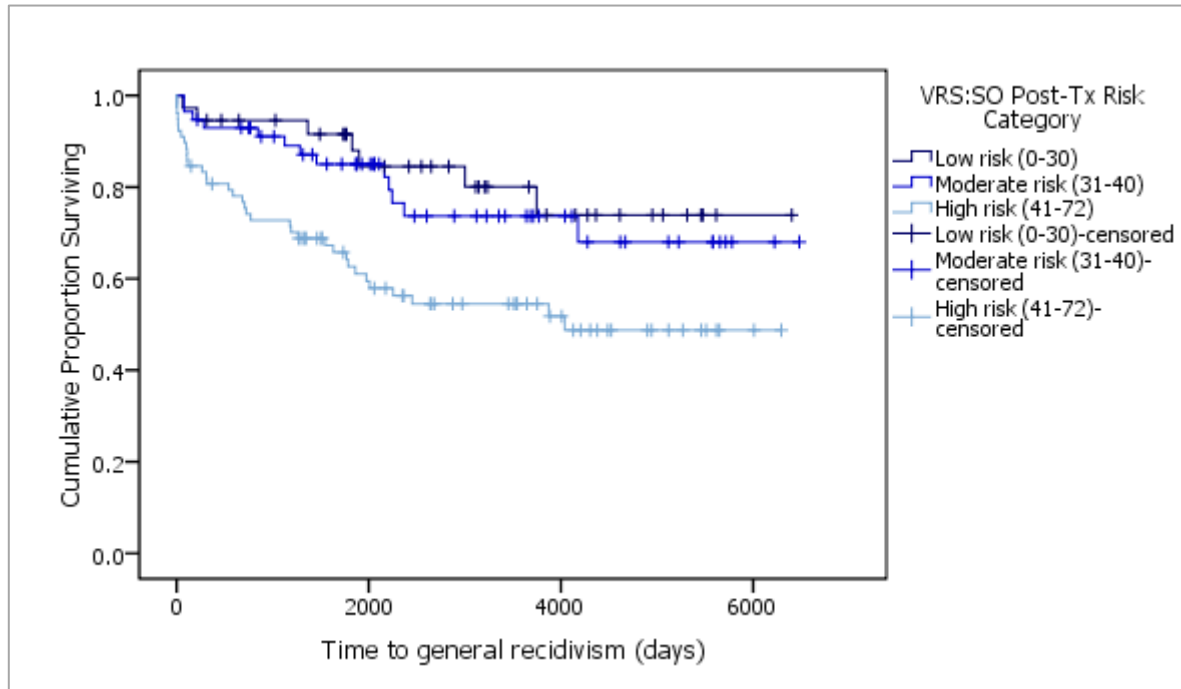
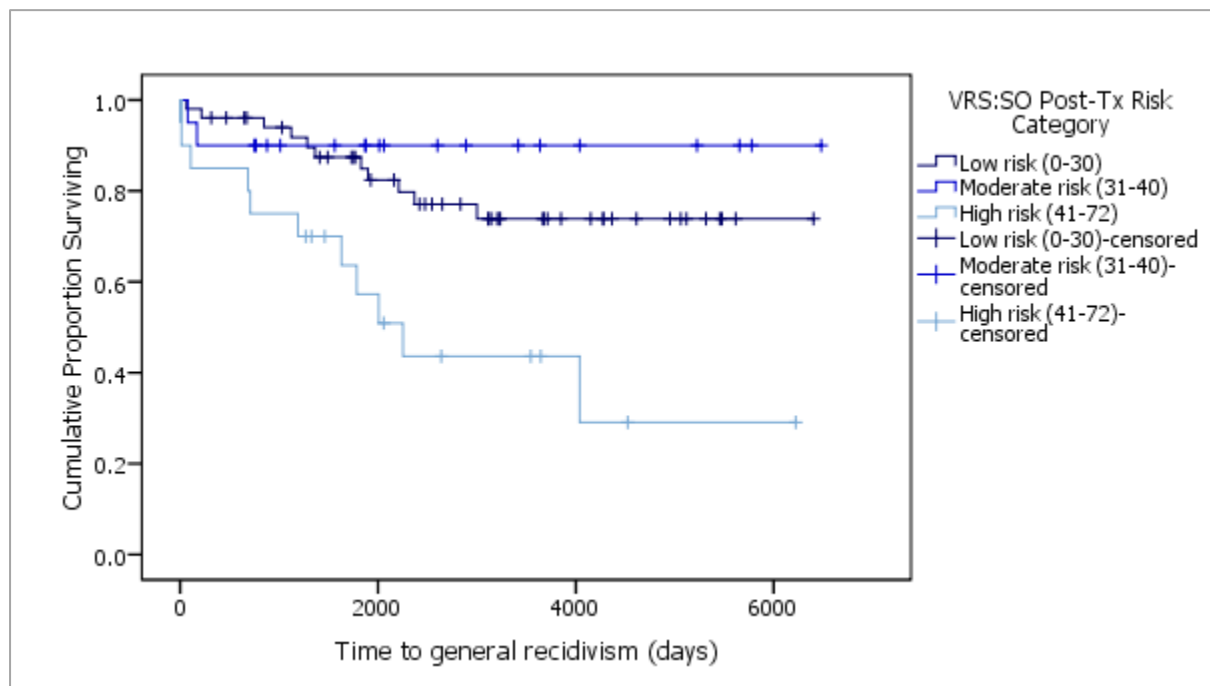


Figure 2b: Survival curve for rates of general recidivism by VRS:SO risk level (post-tx)



The pattern of results for pre-treatment VRS:SO risk categories was further examined by means of pairwise comparisons (generalised Wilcoxon, $df = 1$) revealing that High risk offenders reoffended significantly faster than Low risk offenders ($\chi^2 = 7.06, p < .01$) and Moderate risk offenders ($\chi^2 = 6.50, p < .05$) for general recidivism. The Low and Moderate risk offenders did not differ significantly from one another on time to first general reoffence ($\chi^2 = 0.38, ns$). A similar pattern of results emerged for post-treatment VRS:SO risk categories: High risk offenders reoffended significantly faster than Low risk offenders ($\chi^2 = 9.02, p < .01$) and Moderate risk offenders ($\chi^2 = 7.62, p < .01$) for general recidivism. The Low and Moderate risk offenders did not differ significantly from one another on time to first general reoffence ($\chi^2 = 0.70, ns$).

Violent recidivism

The results of the Kaplan-Meier survival analysis for violent recidivism are presented in Figure 3a and Figure 3b (respectively). These analyses revealed that pretreatment VRS:SO risk categories were significantly related to rates of violent recidivism ($\chi^2 = 6.21, p < .05$) whereas post-treatment categories were not ($\chi^2 = 3.18, ns$). Pairwise comparisons (generalised Wilcoxon, $df = 1$) for pre-treatment categories revealed that the High risk offenders reoffended significantly faster than the Low risk group ($\chi^2 = 5.99, p < .05$). Rates of violent reoffending by Moderate risk offenders did not differ significantly from those of either Low risk or High risk offenders ($\chi^2 = 3.35, ns$) and ($\chi^2 = 1.02, ns$) respectively.

Figure 3a: Survival curve for rates of violent recidivism by VRS:SO risk level (pre-tx)

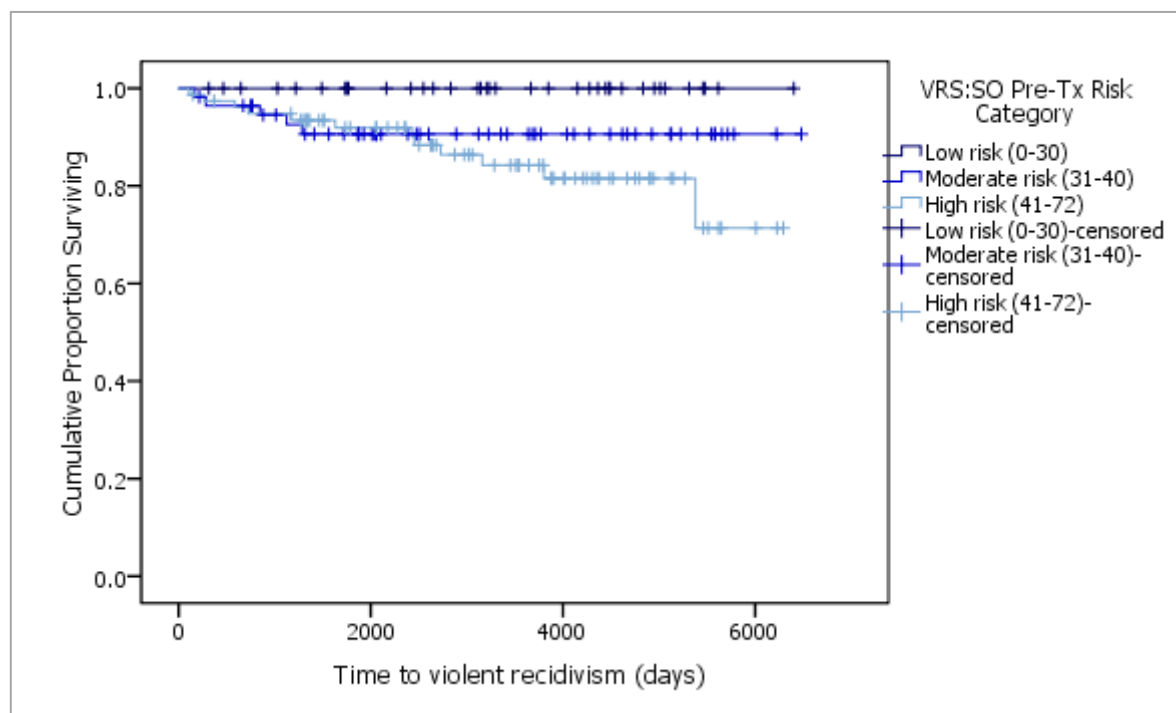
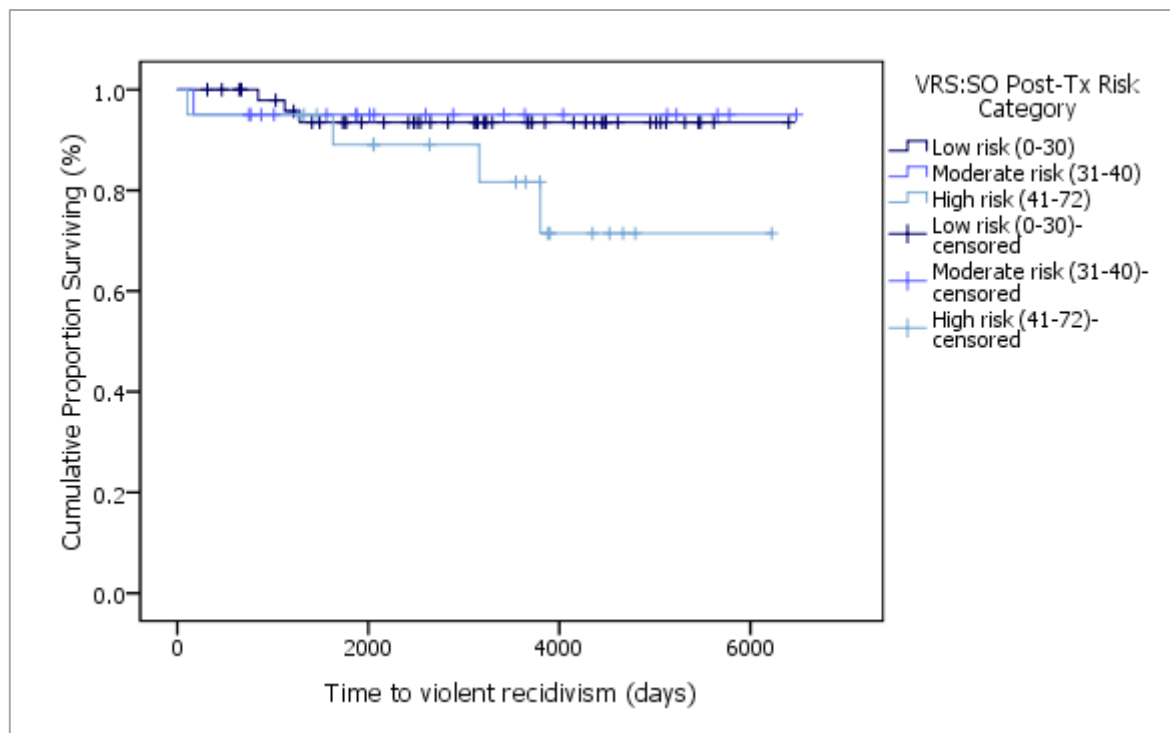


Figure 3b: Survival curve for rates of violent recidivism by VRS:SO risk level (post-tx)



Controlling for treatment effects

As noted above, post-treatment VRS:SO scores were only significantly predictive of general reoffending, not sexual or violent reoffending. Although treatment completion and time spent in treatment were not significant predictors of either general, sexual or violent reoffending in the Cedar Cottage sample, recent analyses suggest that treatment completion reduced rates of reoffending by treatment completers compared to treatment dropouts (Butler, Goodman-Delahunty & Lulham, 2012). Further analyses (discussed below) indicated that offenders who completed treatment showed significant reductions in their VRS:SO scores, compared to offenders who dropped out of treatment, confirming that treatment produced measurable changes in offenders' risk levels. Thus, further analyses were conducted to investigate whether controlling for treatment completion would better capture the predictive accuracy of the VRS:SO post-treatment scores.

Hierarchical Cox regression survival analyses investigated the role of treatment completion and post-treatment VRS:SO scores in predicting reoffending. The treatment completion variable (dummy coded 0 and 1) was entered in the first step of the model; post-treatment VRS:SO total scores were entered in the second step of the model. Results confirmed that treatment completion was not significantly related to general reoffending in the Cedar Cottage sample ($\chi^2 = 1.22$, *ns*). There was a significant change in the predictive accuracy of the model in the second step with the addition of post-treatment VRS:SO scores ($\chi^2 = 8.06$, $p < .01$). As noted above, post-treatment VRS:SO scores were significantly predictive of general reoffending; higher risk offenders reoffended at a significantly faster rate than lower risk offenders (Wald ($df=1$) = 8.39, $\text{Exp}(B) = 1.11$, $p < .01$). Neither treatment completion nor VRS:SO post-treatment scores were significantly predictive of sexual reoffending rates ($\chi^2 = 0.51$, *ns*), or violent reoffending rates ($\chi^2 = 3.32$, *ns*). That is, after controlling for treatment completion, VRS:SO post-treatment scores were not predictive of sexual or violent reoffending among the Cedar Cottage sample.

VRS:SO change scores

VRS:SO change scores were calculated by subtracting VRS:SO post-treatment dynamic total scores from pre-treatment dynamic total scores. To investigate whether change scores were related to reoffending, Hierarchical Cox Regression analyses were utilised, to control for treatment completion. Contrary to expectations and past literature, these analyses revealed that VRS:SO change scores were not significantly predictive of either sexual, violent or general reoffending.

Interaction between length of follow-up period and VRS:SO predictive validity

To investigate whether there was a link between the predictive ability of the VRS:SO and length of follow-up time (i.e., whether the dynamic risk variables are more relevant for shorter time periods), a series of chi-square and logistic regression analyses were conducted. These analyses revealed that reoffence rates were related to the length of the follow-up period (see Table 7). That is, for the more inclusive level of reoffending data (i.e., police reports, charges and convictions for new offences), the analyses revealed that significantly more offenders committed a new sexual, violent and general reoffence, with increasing time in the community. For example, only 6.4 percent of offenders who were followed up for zero to five years sexually reoffended, compared with 22.4 percent of offenders who were followed up for 11 to 17 years. Similar patterns of results were seen for violent and general recidivism; offenders with longer follow-up times (e.g., more time available time in the community) were significantly more likely to receive a new police report, charge or conviction for a violent or general reoffence. When considering the less inclusive measure of reoffending (official charges and convictions only), the results for sexual recidivism and general recidivism remained significant, with longer follow-up times being increasingly related to higher rates of reoffending; however the result for violent reoffending was no longer significant.

Table 7: Sexual, violent and general recidivism rates by length of follow-up period (%)

	Length of Follow-Up Period			Total (n)	Sig. χ^2
	0-5 yrs	6-11 yrs	11-17 yrs		
<u>New reports, charges & convictions</u>					
Sexual recidivism	6.4%	6.0%	22.4%	20	9.91 **
Violent recidivism	2.1%	9.0%	17.2%	17	6.76 *
General recidivism	14.9%	31.3%	46.6%	55	11.98 **
<u>New charges & convictions only</u>					
Sexual recidivism	0.0%	3.0%	12.1%	9	8.74 *
Violent recidivism	0.0%	6.0%	6.9%	8	3.21
General recidivism	12.8%	25.4%	39.7%	46	9.69 **

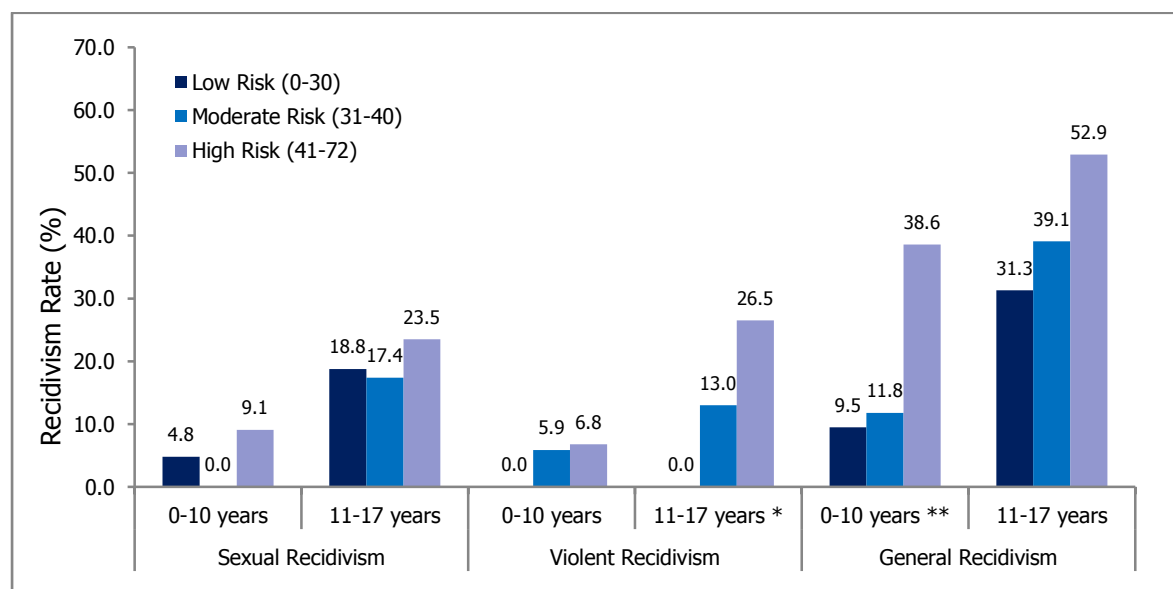
* statistically significant at $p < .05$, ** statistically significant at $p < .01$

A series of chi-square analyses assessed whether the predictive accuracy of the VRS:SO interacted with time free in the community (*that is*, whether the VRS:SO was better able to predict post-release offending closer to the date of release, compared with longer follow-up times). Two groups regarding follow-up time were created for these analyses (dividing the sample into three groups as in the previous

analyses yielded very small numbers in some cells and thus less reliable results). The two time groups created for these analyses were: 0-10 years (N = 99) and 11-17 years (N = 73). The results of these analyses are displayed in Figure 4. Using the more inclusive measure of reoffending (reports, charges and convictions), the analyses revealed that length of follow-up time did not interact with VRS:SO categories to predict sexual reoffending; that is, the VRS:SO did not significantly predict sexual reoffending during either time period ($\chi^2 = 3.31$ for 0-10 years, *ns*; and $\chi^2 = 0.36$ for 11-17 years, *ns*). However, there was a significant result for violent reoffending: the VRS:SO was not significantly related to violent reoffending 0-10 years after release ($\chi^2 = 1.45$, *ns*) but was predictive of violent reoffending during the 11-17 year follow up period ($\chi^2 = 5.83$, $p = .05$). Additionally, a significant interaction in predicting general recidivism emerged showing that VRS:SO risk categories were significantly predictive of general reoffending 0-10 years post-release ($\chi^2 = 10.57$, $p < .01$); but not during the longer follow-up time period ($\chi^2 = 2.38$, *ns*).

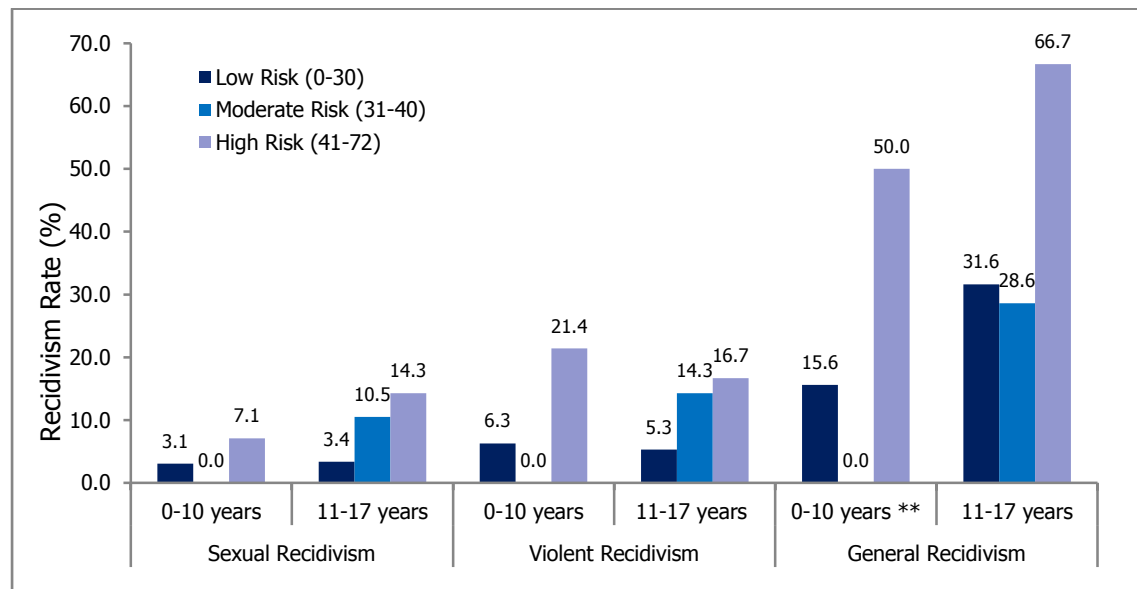
A similar pattern of results was observed for the predictive accuracy of post-treatment VRS:SO scores over time using survival analysis. That is, the VRS:SO post-treatment scores significantly predicted time to general reoffending during the 0-10 year follow-up period ($\chi^2 = 5.18$, Wald (df=1) = 4.69, $\text{Exp}(B) = 1.07$, $p < .05$); but VRS:SO post-treatment total scores were no longer significantly predictive of general reoffending in the 11-17 year follow up period ($\chi^2 = 1.10$, Wald (df=1) = 1.15, $\text{Exp}(B) = 1.03$, *ns*). Figure 5 displays the proportion of offenders reoffending during in this time period. In regards to general offending, Figure 5 indicated that offenders who remained at a High risk at the end of treatment had higher rates of general reoffending during the 0-10 year follow-up period than their counterparts who were rated Low or Moderate risk at the end of treatment. There were no significant interactions between VRS:SO post-treatment scores and length of the follow-up period when predicting sexual or violent reoffending.

Figure 4: Short-term and long-term sexual, violent and general recidivism rates by pre-treatment VRS:SO risk category (%)



* statistically significant at $p < .05$; ** statistically significant at $p < .01$

Figure 5: Short and long-term sexual, violent and general recidivism rates by post-treatment VRS:SO risk category (%)



* statistically significant at $p < .05$; ** statistically significant at $p < .01$

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was used to investigate whether the three-factor solution proposed by Olver et al. (2007) fit the current data and aptly described of the risk profile of the intrafamilial offenders referred to Cedar Cottage. The three VRS:SO factors investigated were:

- 1) Sexual Deviance (SD): D1 Sexually deviant lifestyle, D2 Sexual compulsivity, D3 Offence planning, D12 Sexual offending cycle, and D16 Deviant sexual preference.
- 2) Criminality (C): D4 Criminal personality, D6 Interpersonal aggression, D9 Substance abuse, D10 community support, D13 Impulsivity, D14 Compliance with community supervision, and D17 Intimacy deficits.
- 3) Treatment Responsivity (TR): D5 Cognitive distortions, D8 Insight, D11 Release to high risk situations, and D15 Treatment compliance.

Criteria for a “good” (Steiger-Lind root mean square error approximation [RMSEA] point-estimate $< .05$) or “acceptable” fit (RMSEA point-estimate $< .08$) were unmet, indicating that the original three-factor model was not a good fit for the current sample (RMSEA = .277, 90% confidence interval .266 - .289; maximum likelihood χ^2 ($df = 101$) = 1769.36, $p < .001$). Similarly, Beggs and Grace (2010), reported that the VRS:SO three-factor model lacked acceptable fit for a sample of child sexual offenders in a New Zealand community treatment program.

Exploratory Factor Analysis

To determine whether a different factor structure might better describe the dynamic risk profile of this cohort of intrafamilial sexual offenders, an exploratory Principal Components Analysis (PCA) with varimax rotation was conducted on the pretreatment dynamic item ratings for the entire sample ($N = 172$). This analysis investigated whether another factor structure might be useful for informing treatment and risk decisions regarding intrafamilial sexual offenders. The scree plot test and eigenvalue criteria suggested a

three-factor solution would best fit the data, accounting for 57.4 percent of the variance the total variance. Varimax rotation was used to extract the three-factor structure and loadings (displayed in Table 6). After applying a cut-off loading criterion of 0.32 (as suggested by Tabachnick & Fidell 2001), 15 of the 17 dynamic items loaded uniquely onto one of three factors. Two items loaded on more than one factor, however they were allocated to the factor with the highest associated loading (allocation of items to a factor is indicated in boldface type in Table 8).

The resulting three-factor structure was similar to the original three-factor structure proposed by Olver et al. (2007). Three of the original Criminality items (compliance with community supervision, community support and impulsivity) and one of the original Sexual Deviance items (Deviant sexual preference) had higher factor loadings on the current sample's 'Desistance' factor. One of the original Treatment Responsivity items loaded on the current 'Sexual Deviancy' item, while the two variables that did not load on any factor in the Olver et al. (2007) sample, loaded on the Sexual Deviancy and Internal Motivators factors in the current sample (emotional control and intimacy deficits). Further investigation of the new three-factor structure using CFA revealed that the is provided an 'acceptable' fit for the current data (Steiger-Lind RMSEA = .077, 90% confidence interval .065 - .089, maximum-likelihood χ^2 ($df = 102$) = 263.51).

Table 8: Three-factor matrix for VRS:SO dynamic items in the Cedar Cottage intrafamilial sexual offender sample (factor loadings)

Dynamic Item	Original Factor ^a	EFA New Three-Factor Structure		
		Desistance	Sexual Deviancy	Internal Motivators
D16 Deviant sexual preference	SD	.976	.005	.019
D15 Treatment compliance	TR	.976	.005	.021
D14 Compliance w/- community supervision	C	.963	.002	.063
D11 Release to high risk situations	TR	.905	-.057	.042
D10 Community support	C	.624	.187	.261
D13 Impulsivity	C	.540	.061	.400
D8 Insight	TR	.456	.174	.061
D12 Sexual offending cycle	SD	-.087	.818	.128
D17 Intimacy deficits	^b	.021	.793	-.023
D1 Sexually deviant lifestyle	SD	.073	.743	-.019
D3 Offence planning	SD	-.040	.743	-.090
D5 Cognitive distortions	TR	.253	.462	.061
D2 Sexual compulsivity	SD	.143	.411	.221
D7 Emotional control	^b	-.028	-.061	.746
D9 Substance abuse	C	.031	-.057	.725
D6 Interpersonal aggression	C	.201	.205	.619
D4 Criminal personality	C	.402	.174	.444

a: Original factors based on exploratory factor analyses reported by Olver, Wong, Nicholaichuk, and Gordon (2007). b: Item did not load on original factors.

Note: EFA = Exploratory Factor Analysis, TR = Treatment Responsivity, C = Criminality, SD = Sexual Deviancy.

The three factors extracted from this intrafamilial sample had sufficient internal consistency, as determined by Cronbach alphas, suggesting that it was appropriate to sum the items loading on each factor to create a total factor score: pre-treatment and post-treatment scores for Desistance were $\alpha = .92$ and $\alpha = .92$, Sexual Deviancy $\alpha = .74$ and $\alpha = .83$, and for Internal Motivators $\alpha = 0.59$ and $\alpha = 0.66$. Descriptive statistics and inter-correlations for the Cedar Cottage factors are displayed in Table 9. Pre-treatment factor scores were positively correlated with one another, with the Desistance and Internal Motivators factors showing the strongest relationship with one another. Pre-treatment Desistance factor scores were significantly correlated with the post-treatment Internal Motivators and Sexual Deviancy factor scores; showing a much stronger relationship with the post-treatment scores compared with the pre-treatment scores. Pre-treatment levels of Sexual Deviancy were not related to post-treatment Internal Motivators or Desistance factor scores; however pre-treatment Internal Motivators factor scores were significantly correlated with post-treatment Desistance scores. Interestingly, only the pre-treatment Desistance scores were significantly correlated with the three factors change scores. That is, offenders with higher Desistance factor scores following the assessment phase, had significantly lower change scores than offenders who were deemed to have lower Desistance to sexual offending.

Table 9: Descriptive statistics and intercorrelations for the Cedar Cottage VRS:SO three-factor solution

Cedar Cottage VRS:SO Factor	Descriptive Statistics			Correlations (r)		
	Mean	SD	Range	D (pre-tx)	SD (pre-tx)	IM (pre-tx)
<u>Pre-Treatment Scores</u>						
F1: Desistance (D)	13.02	6.3	2 - 21	-		
F2: Sexual Deviancy (SD)	16.89	1.7	6.49 - 18	.18 *	-	
F3: Internal Motivators (IM)	6.39	2.7	0 - 11	.39 **	.15 *	-
<u>Post-Treatment Scores</u>						
F1: Desistance (D)	7.05	6.4	0 - 19	.95 **	.10	.28 **
F2: Sexual Deviancy (SD)	14.51	2.6	8.16 - 18	.70 **	.62 **	.17
F3: Internal Motivators (IM)	4.76	2.6	0 - 11	.64 **	.03	.88 **
<u>Treatment Change Scores</u>						
F1: Desistance (D)	1.44	1.4	0 - 5.5	-.67 **	-.07	-.13
F2: Sexual Deviancy (SD)	2.25	2.0	0 - 5.5	-.83 **	.09	-.18
F3: Internal Motivators (IM)	1.23	1.2	0 - 3.5	-.75 **	-.01	.09

Note: D = Desistance scale, SD = Sexual Deviancy scale, IM = Internal Motivators scale. * $p < .05$; ** $p < .01$.

Predictive Validity of Cedar Cottage Intrafamilial Offender Factor Scores

To investigate whether the factor scores were related to reoffending, a series of survival analyses were conducted with the pretreatment and post-treatment factor scores, using the three-factor structure specific to the Cedar Cottage sample. Cox proportional hazards regression investigated whether the three factors were predictive of sexual, violent and general recidivism. Median split groups were created to investigate these relationships and all three factors were entered into each regression analysis at the same step. The median split groups for each factor were:

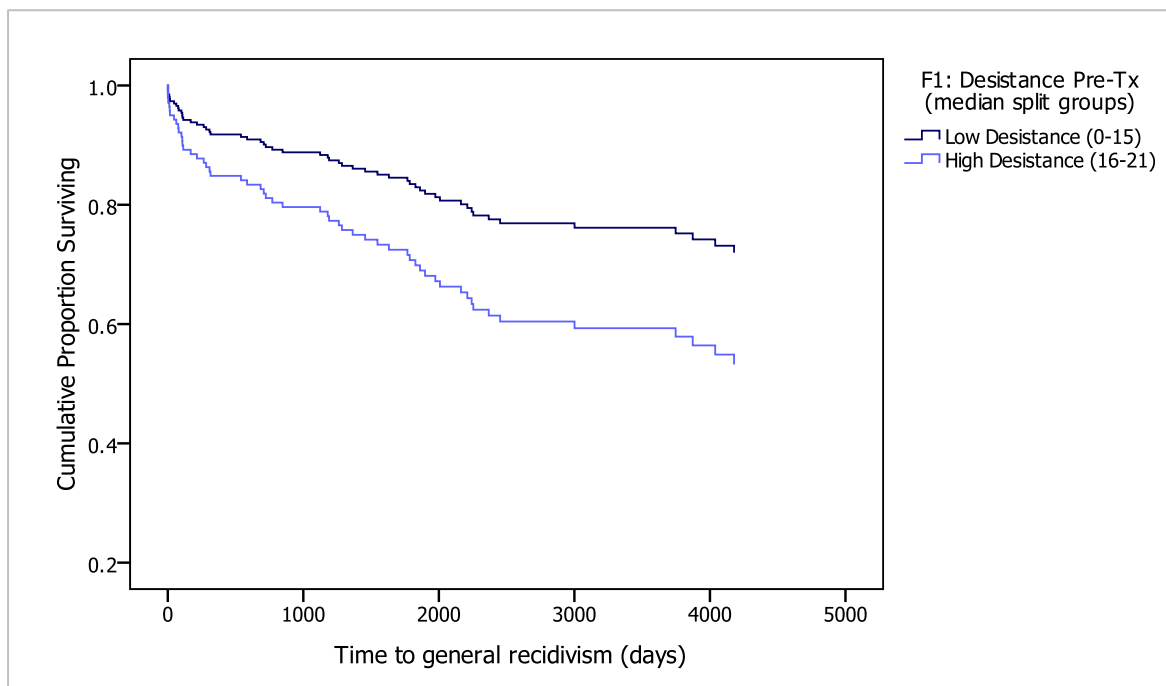
- Factor 1: Desistance
 - Low Desistance group (scores 0-15), $n = 84$, 48.8%
 - High Desistance group (scores 16-21), $n = 88$, 51.2%
- Factor 2: Sexual Deviancy
 - Low Sexual Deviancy group (scores 0-16), $n = 46$, 26.7%
 - High Sexual Deviancy group (scores 17-18), $n = 126$, 73.3%
- Factor 3: Internal Motivators
 - Low Internal Motivators group (scores 0-6), $n = 83$, 48.3%
 - High Internal Motivators group (scores 7-1), $n = 89$, 51.7%

Pre-treatment factor scores and reoffending

A series of Cox proportional hazard survival analyses investigated the predictive accuracy of the three new factors for assessing reoffending. Results are summarised in Table 10; survival curves are attached for significant outcomes (Figures 6-10).

As noted above, and shown in Table 10, none of the three factors significantly predicted sexual recidivism. However, scores on Desistance and Internal Motivators significantly predicted general reoffending. Figures 6a and 6b demonstrate that offenders with a high level of Desistance reoffended significantly faster than their counterparts with low Desistance scores (Figure 6a). Similarly, offenders with high Internal Motivators scores had significantly higher rates of general reoffending than their counterparts with low Internal Motivators scores (Figure 6b). Only Internal Motivators scores were significantly related to violent reoffending (while controlling for Desistance and Sexual Deviancy). Figure 7 indicates that offenders with higher Internal Motivators reoffended violently sooner than offenders with fewer Internal Motivators.

Figure 6a: Cox regression survival analysis for general recidivism, by Desistance pre-treatment groups



A composite reoffending variable was created to investigate whether the VRS:SO factor scores were predictive of sexual and violent reoffending (combined). This analysis revealed that the pre-treatment sexual deviance scores showed a marginally significant relationship ($p = .059$) with sexual and violent reoffending. Surprisingly, as Figure 8 reveals, offenders with 'low' sexual deviance scores had higher rates of violent and sexual reoffending than offenders with 'high' sexual deviance scores (see also Table 10).

Table 10: Regression analyses for pre-treatment and post-treatment Desistance, Sexual Deviancy and Internal Motivators factor groups

	Sexual Recidivism			Violent Recidivism			Sexual & Violent Recidivism			General Recidivism		
	β	Exp(B)	Sig.	β	Exp(B)	Sig.	β	Exp(B)	Sig.	β	Exp(B)	Sig.
<u>Pre-treatment factor groups</u>												
F1: Desistance	.702	2.02	.147	.670	1.96	.212	.584	1.79	.129	.651	1.92	.027 *
F2: Sexual Deviancy	-.614	0.54	.211	-.871	0.42	.107	-.742	0.48	.059 ^	-.395	0.34	.219
F3: Internal Motivators	.085	1.09	.853	.578	3.01	.055 *	.364	1.44	.331	.693	2.00	.018 *
<u>Post-treatment factor groups</u>												
F1: Desistance	.354	1.43	.753	.714	2.04	.484	.661	1.94	.374	.620	1.86	.262
F2: Sexual Deviancy	-.432	.649	.668	-2.62	.073	.016 *	-1.16	.314	.085	-.680	.507	.175
F3: Internal Motivators	-.027	.973	.977	.677 ^a	1.97	.007 **	1.30	3.67	.076	.526	3.20	.024 *

* $p < .05$, ** $p < .01$.

a: The continuous post-treatment Internal Motivators factor score was entered into the regression model for violent reoffending, as there were empty cells in the grouping variable, affecting the regression model (e.g., none of the offenders classified as having low Internal Motivators violently reoffended).

Figure 6b: Cox regression survival analysis for general recidivism, by Internal Motivators pre-treatment groups

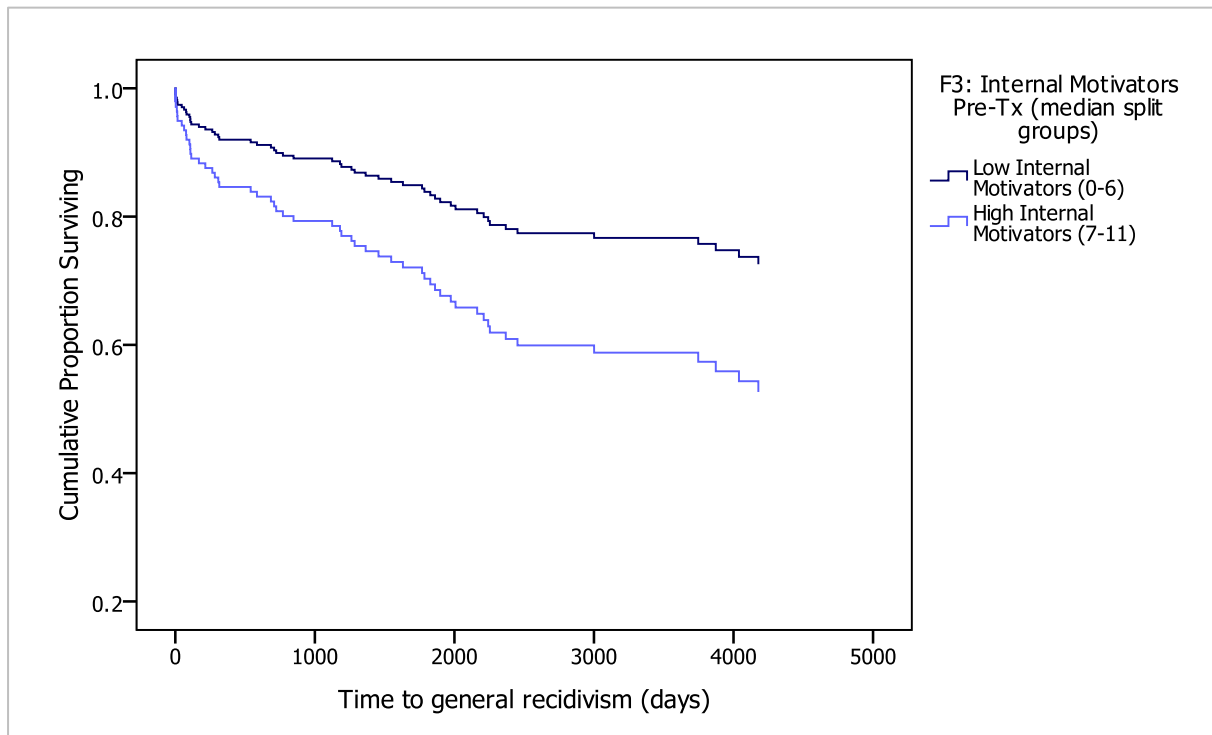


Figure 7: Cox regression survival analysis for violent recidivism, by Internal Motivators pre-treatment groups

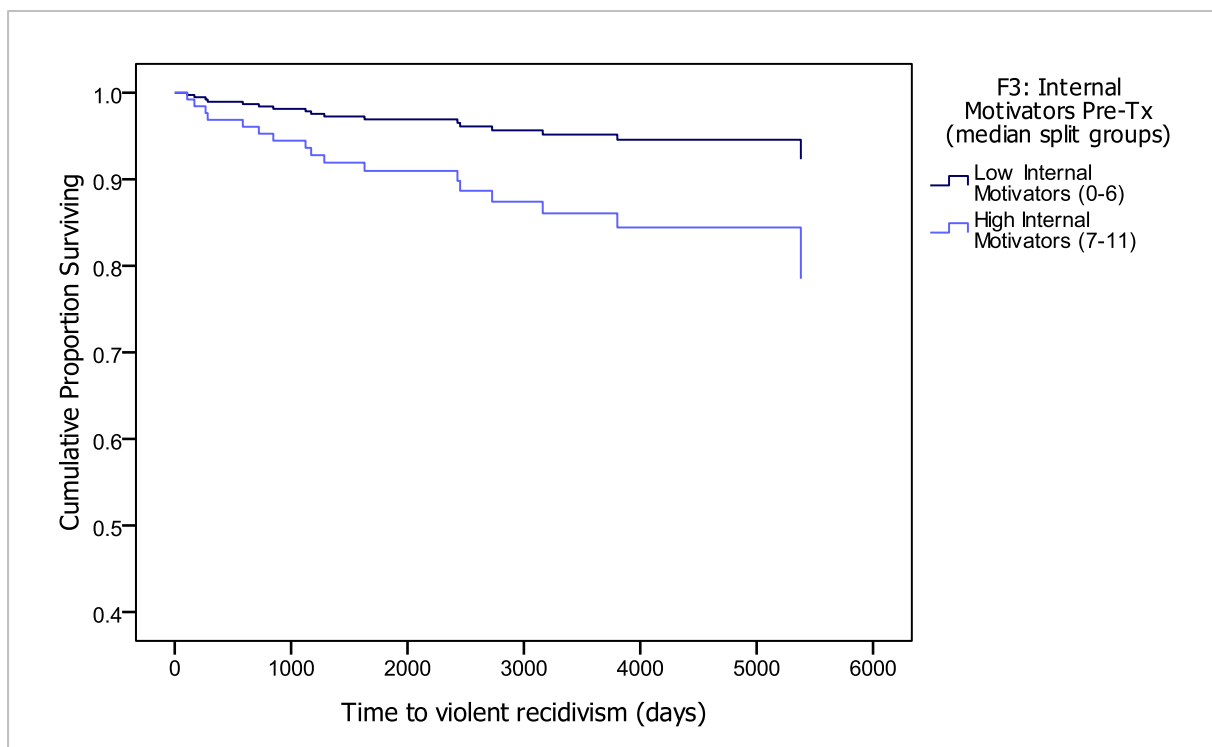
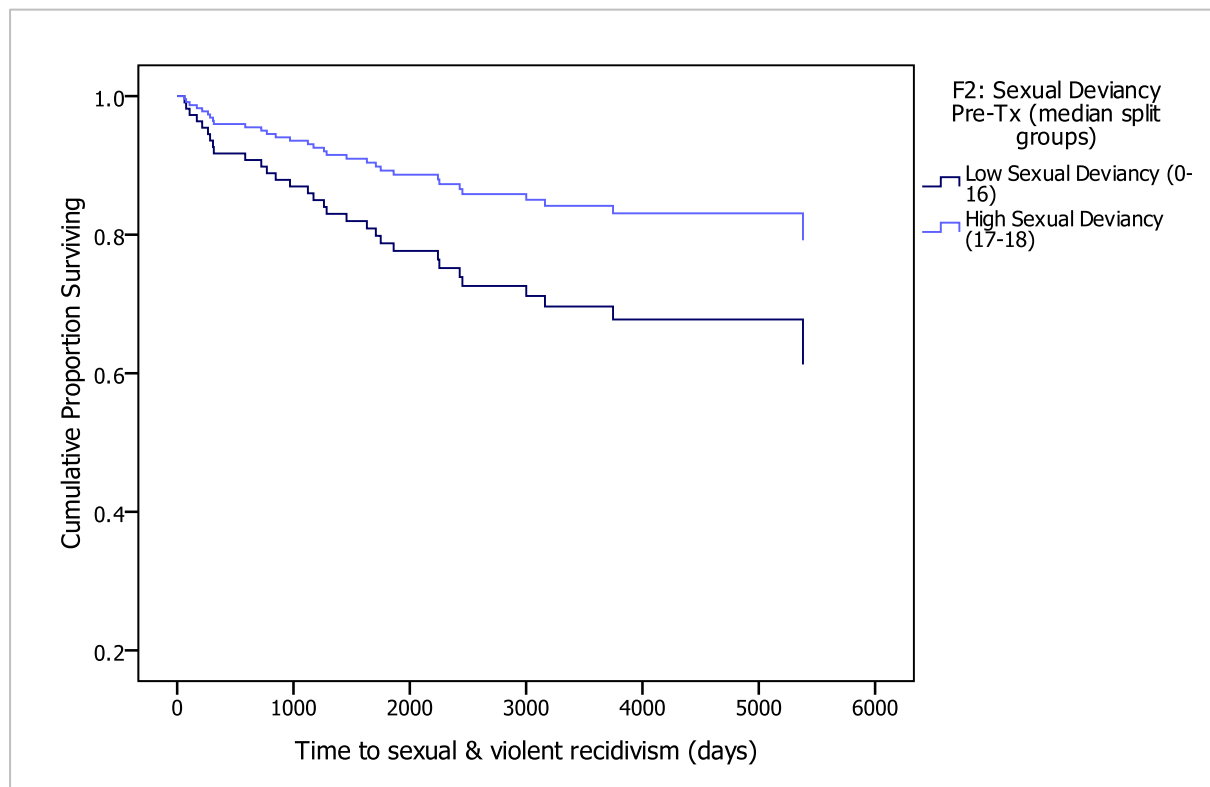


Figure 8: Cox regression survival analysis for sexual and violent recidivism, by Sexual Deviancy pre-treatment groups



Post-treatment factor scores and reoffending

In regards to post-treatment groupings, Internal Motivators scores were significantly predictive of general and violent reoffending: offenders with higher Internal Motivators scores reoffended generally and violently at a faster rate than offenders with lower Internal Motivators scores (see Figure 9a and 9b; and Table 10). Again, Sexual Deviancy was significantly related to violent reoffending (but not to the combined sexual and violent reoffending variable). That is, offenders with Lower Sexual Deviancy scores were reoffending violently at a significantly faster rate than offenders with Higher Sexual Deviancy scores (Figure 10).

Exploration of this unexpected relationship revealed post-treatment Sexual Deviancy Scores were highly positively correlated with post-treatment Desistance scores ($r = .76$, $p < .001$). That is, offenders who were classified in the High Sexual Deviancy group had significantly higher post-treatment Desistance scores ($M = 10.61$, $SD = 6.1$) than Low Sexual Deviancy offenders ($M = 2.33$, $SD = 2.9$; $t(89) = -7.84$, $p < .001$). A similar pattern of correlations was seen for Internal Motivators ($r = .46$, $p < .001$) and VRS:SO Static scores ($r = .23$, $p < .05$), suggesting that Higher Sexual Deviancy offenders were regarded as higher risk overall. Thus, offenders with Lower Sexual Deviancy scores were not more resistant to change, and did not have higher Internal Motivators scores or static risk levels, suggesting that these variables do not seem to account for the unexpected direction of the relationship between Sexual Deviancy scores and violent reoffending.

Figure 9a: Cox regression survival analysis for general recidivism, by Internal Motivators post-treatment groups

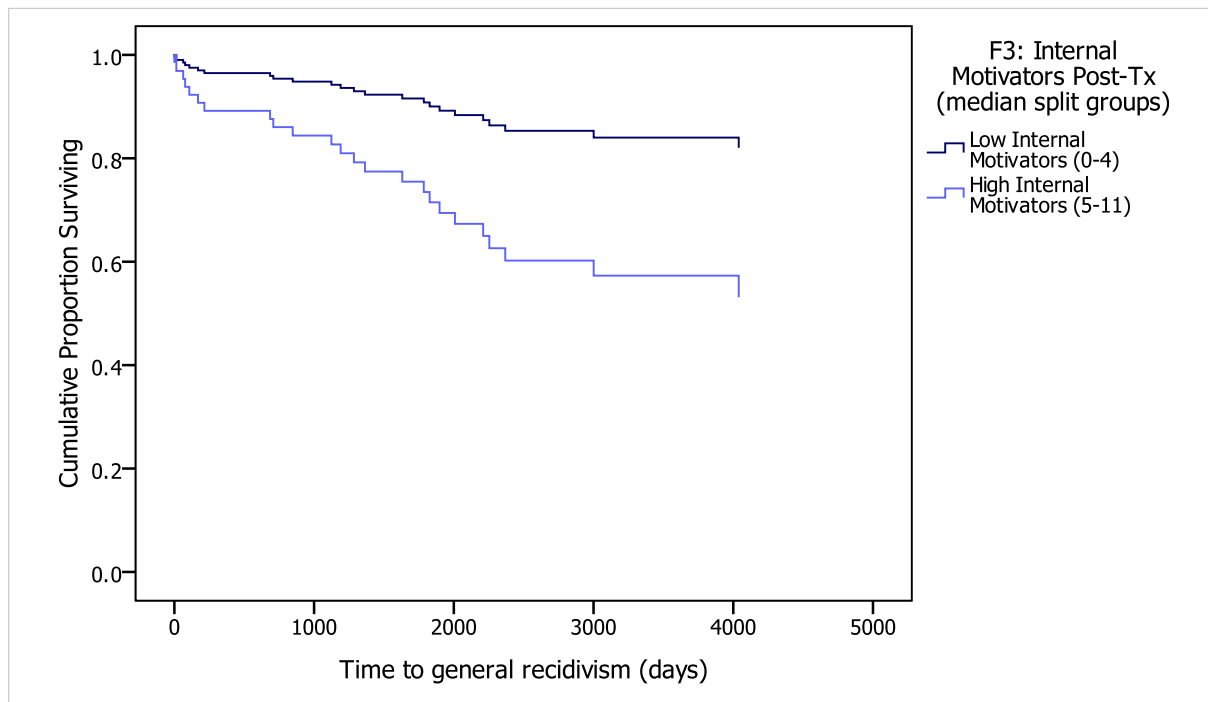


Figure 9b: Cox regression survival analysis for violent recidivism, by Internal Motivators post-treatment groups

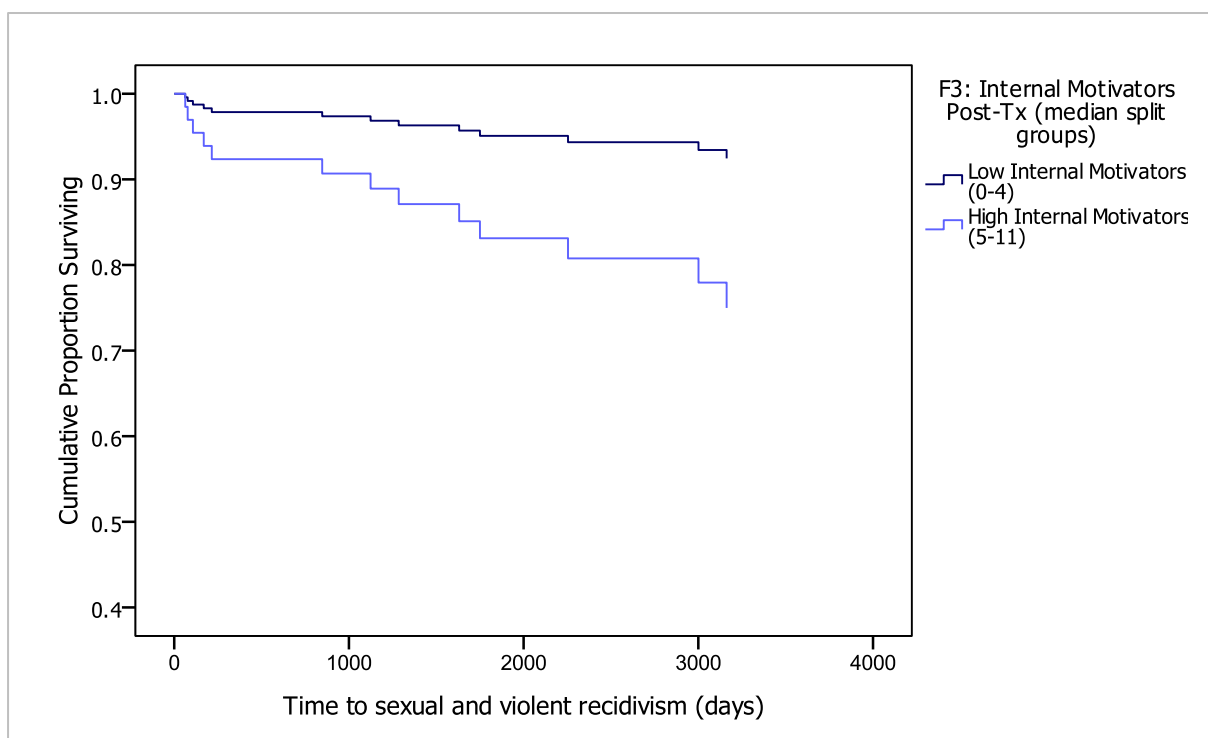
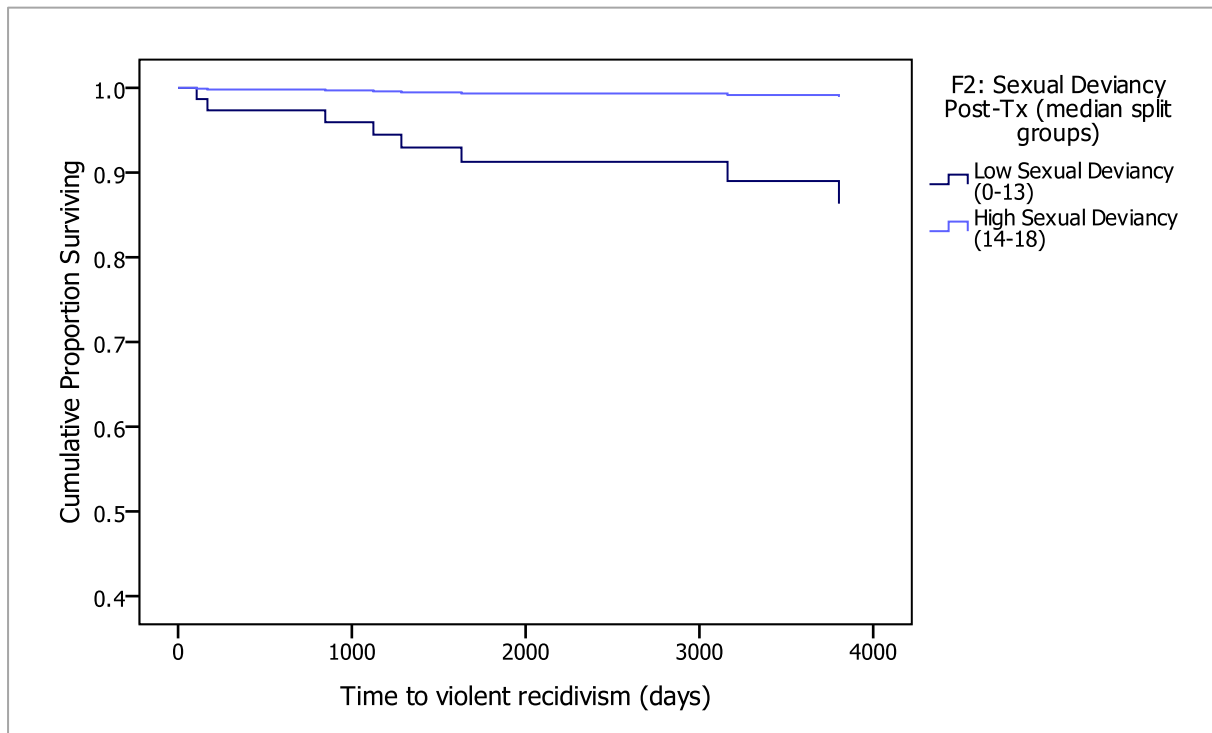


Figure 10: Cox regression survival analysis for violent recidivism, by Sexual Deviancy post-treatment groups



Predictive Accuracy of the new VRS:SO Factor Scales (ROC/AUC Analyses)

Receiver operating characteristic (area under the curve) analyses were conducted to investigate the predictive accuracy of the new VRS:SO factor scales. These analyses aimed to investigate whether the new factor scales were able to accurately predict sexual, violent and general recidivism in the Cedar Cottage sample (see Table 11 for results). Contrary to expectations, and consistent with the results noted above, the VRS:SO factors were not significantly correlated with sexual recidivism. Additionally, the ROC AUCs indicated a near-zero relationship between all risk scales and sexual recidivism, suggesting that the VRS:SO scales were no more accurate than chance, in predicting sexual recidivism amongst intrafamilial offenders in this sample.

Interestingly, the Internal Motivators factor scores were significantly correlated with violent and general recidivism, both pre-treatment and post-treatment. In addition, the AUC values for the Internal Motivators factor were also significant (see Table 11), suggesting that this factor was a 'fair' to 'good' predictor of both violent and general recidivism. Additionally, VRS:SO pre-treatment Desistance pre-treatment scores were significantly associated with violent and general recidivism, suggesting that pre-treatment scores on this factor adequate predictors of both violent and general reoffending. Post-treatment Desistance scores, however, were not related to either violent or general reoffending.

Table 11: Predictive accuracy of the new three-factor solution

VRS:SO Factor (Cedar Cottage sample)	Sexual Recidivism			Violent Recidivism			General Recidivism		
	<i>r</i>	AUC	95% CI	<i>r</i>	AUC	95% CI	<i>r</i>	AUC	95% CI
F1: Desistance (pre-tx)	.11	.594	.46, .73	.15 *	.647 *	.51, .78	.18 *	.614 *	.53, .70
F2: Sexual Deviancy (pre-tx)	.00	.503	.35, .66	-.08	.428	.29, .57	-.03	.484	.39, .58
F3: Internal Motivators (pre-tx)	.02	.519	.38, .66	.21 **	.705 **	.58, .83	.24 **	.646 **	.56, .74
F1: Desistance (post-tx)	-.06	.427	.23, .63	.12	.618	.40, .84	.11	.568	.42, .72
F2: Sexual Deviancy (post-tx)	-.03	.466	.16, .78	.03	.529	.32, .74	.05	.531	.39, .68
F3: Internal Motivators (post-tx)	.08	.592	.38, .80	.32 **	.825 **	.71, .94	.33 **	.715 **	.58, .85

* $p < .05$, ** $p < .01$.

The VRS:SO and Cedar Cottage Selection Criteria

The second research question posed by this study aimed to investigate whether the selection process for offenders referred for treatment at the New South Wales Pre-Trial Diversion Program for Child Sex Offenders could be enhanced by using an objective actuarial risk assessment tool such as the VRS:SO. That is, the research explored whether the VRS:SO was related to decisions regarding acceptance into the Cedar Cottage treatment program and subsequently to treatment completion, while also investigating whether the VRS:SO was able to accurately predict recidivism rates among high versus low risk offenders in this community sample (to see whether it was more or less sensitive among different offenders). Finally, factors affecting the predictive accuracy of the VRS:SO were explored to investigate whether the VRS:SO was equally predictive over time, and among declined vs. accepted offenders.

Predicting Acceptance into the Cedar Cottage Program

To investigate whether VRS:SO total scores were related to diversion decisions by Cedar Cottage, VRS:SO scores of offenders accepted into the treatment program (54.1%, $n = 93$) were compared with those of offenders declined treatment (45.9%, $n = 79$). Results of these analyses revealed that offenders declined entry into the Cedar Cottage program had significantly higher pre-treatment VRS:SO total scores, than offenders who were accepted into the treatment program ($M = 44.76$ vs. $M = 33.89$; $t(170) = 9.83$, $p < .001$). Exploring differences between the groups in regards to the new three-factors developed from this sample revealed that the declined group of offenders had significantly higher Desistance factor scores ($M = 18.15$ vs. $M = 8.65$; $t(170) = 15.20$, $p < .001$) and Internal Motivators factor scores ($M = 6.83$ vs. $M = 6.01$; $t(170) = 2.01$, $p < .05$), than accepted offenders. There were no significant differences between the accepted and declined groups on pre-treatment VRS:SO Static scores ($M = 2.81$ vs. $M = 2.64$; $t(170) = 0.44$, ns) or regarding pretreatment Sexual Deviancy factor scores ($M = 17.17$ vs. $M = 16.66$; Mann-Whitney $U(172) = 3106.0$, $Z = -1.82$, ns). Offenders who were declined posed a higher risk of reoffending pre-treatment, were more sexually deviant, generally antisocial, and endorsed more “distorted attitudes and beliefs of supportive of sexual offending and Desistance,” (Olver et al. 2007, p.326), than offenders who were accepted into the program.

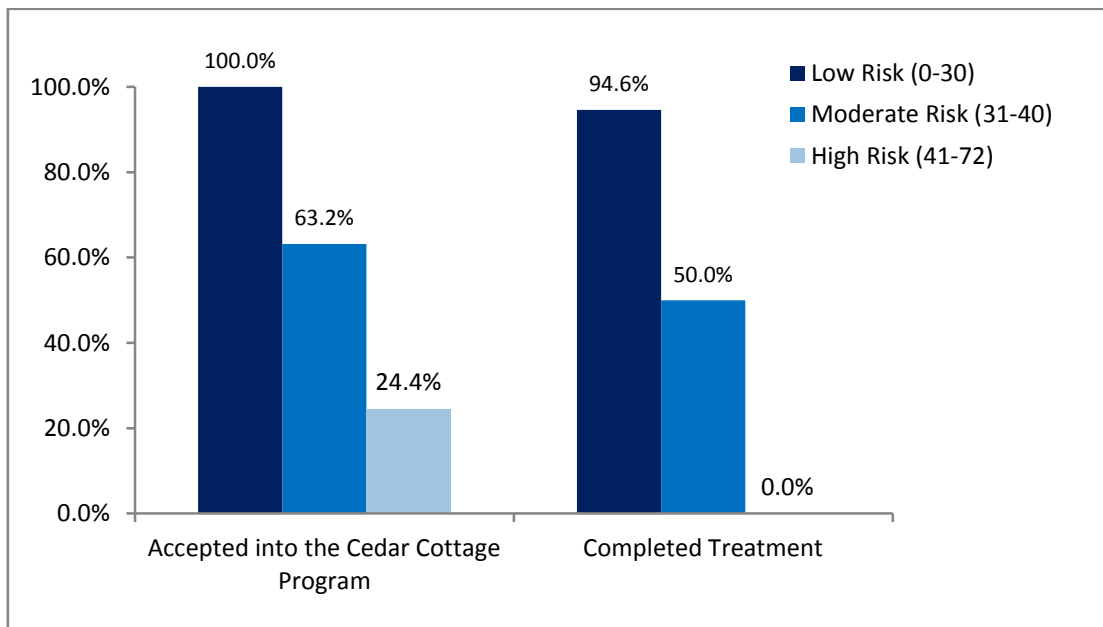
A logistic regression analysis revealed that VRS:SO pretreatment risk categories were significantly predictive of acceptance into the Cedar Cottage program ($\chi^2=58.37$, $p > .001$). Moderate risk offenders were 21.0 times more likely to be declined entry to the program than were Low risk offenders ($\beta=4.72$, $SE = 1.05$, $p < .01$); while High risk offenders were 111.8 times more likely to be declined entry to the program than were Low risk offenders ($\beta=3.05$, $SE = 1.05$, $p < .001$). Overall, all of the Low risk offenders were accepted into the program, two-thirds of the Moderate risk offenders and on quarter of the High risk offenders (see Figure 11 for percentages).

Predicting Treatment Completion

Overall, 57 percent of the men who entered treatment at Cedar Cottage went on to complete the course and were classified as treatment completers, and 43 percent were classified as non-completers. Non-completers exited from treatment early due to breaching program conditions or personal choices to withdraw from the program. Similar to the results noted above, pretreatment VRS:SO risk categories were

found to be significantly predictive of treatment completion ($\chi^2 = 48.56, p < .001$). The majority of the low risk offenders completed treatment, whereas only half of the moderate risk offenders successfully completed the Cedar Cottage Program (see Figure 11 for percentages). None of the high risk offenders completed treatment (all 20 were breached or withdrawn from the program prior to completion). Additionally, pre-treatment VRS:SO risk scores were significantly correlated with time spent in treatment ($r = -.45, p < .001$), such that higher risk offenders spent significantly shorter periods of time in treatment. Low Risk offenders spent significantly longer in treatment ($M = 931.6$ days, $SD = 320.7$), than both moderate and high risk offenders ($M = 655.6$ days, $SD = 363.3$ and $M = 461.9$ days, $SD = 284.2$ respectively; $F(2,90) = 14.13, p < .001$).

Figure 11: VRS:SO pretreatment risk level by program acceptance and treatment completion



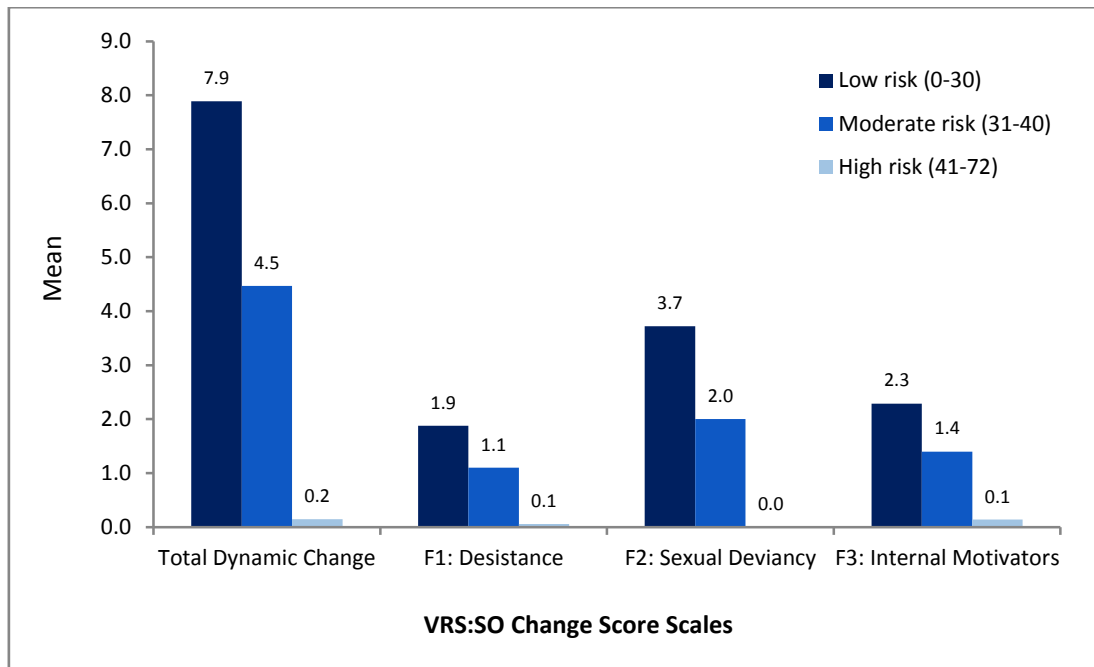
Exploration of the relationship between VRS:SO Cedar Cottage factor scores and treatment completion revealed that pretreatment Desistance and Internal Motivators groupings were significantly predictive of treatment completion. That is, the majority of the offenders classified as having low Desistance completed treatment (64.6%), whereas none (0%) of the offenders classified as having high Desistance completed treatment ($\chi^2 = 16.53, p < .001$). Similarly, offenders with low Internal Motivators (70.7%) were significantly more likely to complete treatment compared with offenders with high Internal Motivators (34.3%; $\chi^2 = 11.80, p < .01$). However, Sexual Deviancy groupings were not significantly related to treatment completion (that is, high and low sexual deviancy offenders were equally likely to complete treatment: 64.3% vs 53.8% respectively, $\chi^2 = 0.87, ns$).

Reductions in VRS:SO Scores Following Treatment

Consistent with these results, low risk offenders showed significantly larger reductions in VRS:SO scores following participation in the Cedar Cottage treatment program, compared with moderate and high risk offenders (while moderate risk offenders also showed significantly higher reductions in risk compared to high risk offenders): dynamic total scores ($F(2,88) = 33.66, p < .001$), F1 Desistance scores ($F(2,88) = 19.30,$

$p < .001$), F2 Sexual Deviancy scores ($F(2,88) = 39.88, p < .001$), and F3 Internal Motivators scores ($F(2,88) = 18.66, p < .001$). Results of these analyses are displayed in Figure 12, including mean change scores across the VRS:SO factors.

Figure 12: VRS:SO change scores by pre-treatment VRS:SO risk category (means)



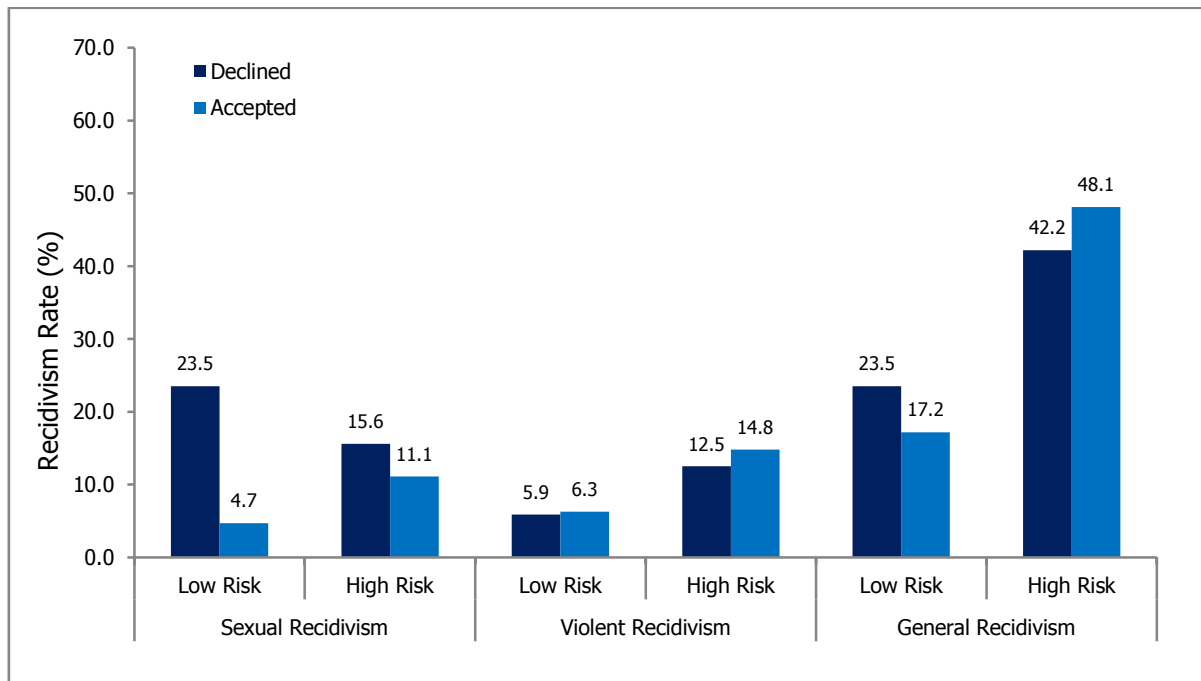
Relationship with reoffending

To investigate whether the VRS:SO factor change scores were related to reoffending, after controlling for treatment completion and pre-treatment risk levels, a series of hierarchical Cox regression analyses were conducted. Treatment completion and pre-treatment VRS:SO total scores (to control for pre-treatment levels of risk) were entered in the first step of the model, while Total Dynamic, Desistance, Sexual Deviancy and Internal Motivators change scores were entered in the second step. These analyses revealed that none of the three VRS:SO factor change scores, nor the total dynamic change scores, were significantly predictive of sexual, violent or general reoffending.

Differences between Low and High Risk Intrafamilial Child Sex Offenders

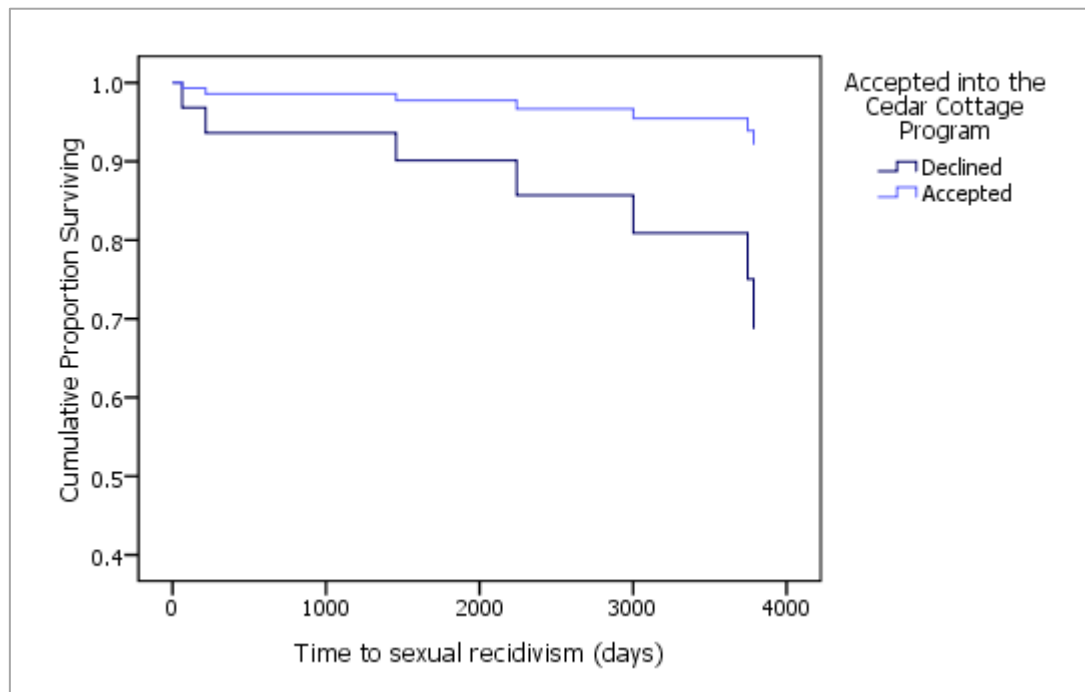
To investigate whether there were differences in the reoffending outcomes for offenders based on VRS:SO risk scores, two median split groups were created from the VRS:SO pretreatment and post-treatment total scores. Using pretreatment VRS:SO scores, 47.1 percent of offenders were classified as 'low risk' ($N = 81$, with VRS:SO total scores of 0-38), while 52.9 percent were classified as 'high' risk offenders ($N = 91$, with VRS:SO total scores of 39-72). Similar to earlier analyses, results demonstrated that offenders designated as high risk were significantly less likely to be accepted into treatment than those designated as low risk (29.7% accepted vs. 79.0%, $\chi^2 = 41.88, p < .001$), and were also significantly less likely to complete treatment than low risk offenders (7.1% completed vs. 78.5%, $\chi^2 = 40.61, p < .001$).

Figure 13: Interaction between pre-treatment VRS:SO risk level and acceptance into the Cedar Cottage program, in predicting sexual, violent and general recidivism (%)



A series of chi-square analyses were conducted to investigate whether VRS:SO risk levels interacted with acceptance into the program in predicting reoffending outcomes (Figure 13). These analyses revealed that low risk offenders who were declined entry to the Cedar Cottage treatment program had significantly higher rates of sexual recidivism (23.5%), than low risk offenders who were accepted into the treatment program (Figure 12; $\chi^2 = 6.04$, $p < .05$). Sexual recidivism rates among high risk offenders did not differ significantly as a function of acceptance into the Cedar Cottage program ($\chi^2 = 0.32$, ns); that is, there was no significant difference between rates of sexual reoffending for high risk offenders who were declined entry to the program compared to High Risk offenders who were accepted into the treatment program. Additionally, rates of violent and general reoffending did not differ significantly as a function VRS:SO pretreatment risk level and acceptance into the Cedar Cottage program, suggesting that entry into the Cedar Cottage program may be particularly important for Low Risk offenders in reducing risk of future sexual offending. A Cox proportional hazards survival analysis confirmed this interaction, revealing that low risk offenders who were declined entry to the program sexually reoffended 4.6 times faster than low risk offenders who were accepted into the program for treatment (see Figure 14; $\chi^2 = 4.73$, $p < .05$). In other words, acceptance into the Cedar Cottage program resulted in an 80 percent reduction in sexual recidivism, among low risk offenders. Although not statistically significant, acceptance into the treatment program also resulted in 29 percent reduction in reoffending among high risk offenders.

Figure 14: Sexual recidivism rates for low risk offenders (scores 0-38) by acceptance into the Cedar Cottage program



A similar set of analyses could not be completed for interactions between pretreatment VRS:SO risk levels and program completion because only two high risk offenders completed treatment (hence the number of participants in each cell was too small to explore interactions). A similar problem arose regarding interactions between post-treatment levels of risk, program completion and reoffending. That is, based on a median split using post-treatment VRS:SO total scores, 47.3 per cent of offenders accepted into the program were classified as low risk at the end of their treatment period ($N = 43$, VRS:SO post-treatment scores of 0-23), while 52.7 per cent were classified as High Risk at the end of treatment ($N = 48$, post-treatment scores of 24-72). All of these low risk offenders completed treatment, while only 20.8 per cent of the high risk offenders completed treatment. The small number of participants in each cell precluded analysis of interaction effects regarding program completion, post-treatment VRS:SO risk levels and rates of reoffending. Exploration of the main effects for high risk offenders revealed that program completion did not significantly influence reoffending rates among this group. That is, high risk offenders who dropped out of treatment did not have significantly higher rates of sexual (5% vs. 10%), violent (13% vs. 10%) or general reoffending (32% vs. 30%) compared to high risk offenders who completed treatment.

Predictive accuracy of the VRS:SO between high vs. low risk offenders

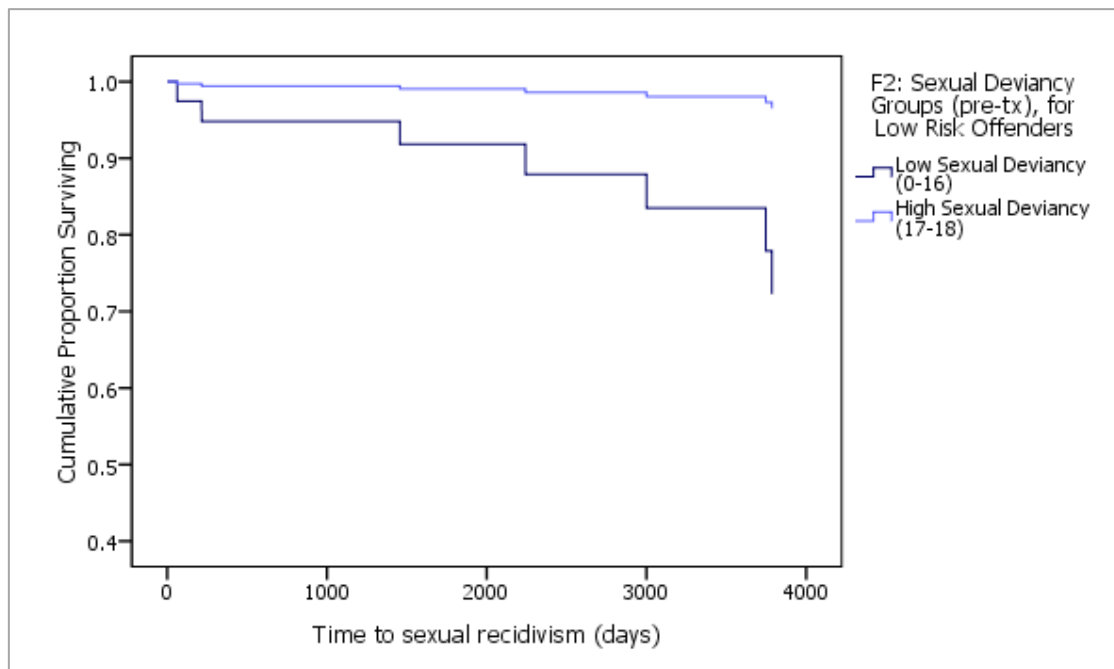
To explore whether the VRS:SO was more sensitive at predicting reoffending among high vs. low risk offenders (or vice versa), a series of Cox proportional hazard survival analyses were conducted separately for each group. Results indicated that pre-treatment and post-treatment VRS:SO static, dynamic and total scores were not significantly predictive of either sexual, violent or general reoffending for both groups (contrary to the results noted above and displayed in Table 5 showing that VRS:SO pre-treatment and post-treatment scores were predictive of general reoffending). Conducting separate analyses for the low and high risk offender groups likely significantly reduced the power of the analyses, and thus the ability to

detect significant effects. Nonetheless, a few significant effects emerged when exploring differences in the predictive power of the three factors for low versus high risk offenders.

Predictive accuracy based on pretreatment risk groups

Regarding pre-treatment risk levels, a Cox proportional hazards survival analysis revealed that pre-treatment Sexual Deviancy scores were significantly predictive of sexual recidivism for Low Risk offenders ($\chi^2 = 7.83$, $\text{Exp}(B) = 0.79$, $p = .01$) but not high risk Offenders ($\chi^2 = 1.19$, $\text{Exp}(B) = 1.75$, ns). Among the low risk offenders, offenders with lower levels of Sexual Deviancy were 9.1 times more likely to reoffend than offenders with higher levels of Sexual Deviancy (Figure 15). Similarly, Sexual Deviancy scores predicted general recidivism among low risk offenders ($\chi^2 = 5.91$, $\text{Exp}(B) = 0.83$, $p < .05$) but not high risk offenders ($\chi^2 = 1.75$, $\text{Exp}(B) = 0.97$, ns).

Figure 15: Cox regression survival analysis for sexual recidivism, for low risk offenders by pre-treatment Sexual Deviancy groups



In addition, these analyses revealed that Internal Motivators scores were significantly related to violent reoffending rates among low risk offenders ($\chi^2 = 4.54$, $\text{Exp}(B) = 1.52$, $p < .05$), but not high risk offenders ($\chi^2 = 1.11$, $\text{Exp}(B) = 1.19$, ns). Low risk offenders with higher levels of Internal Motivators were significantly more likely to reoffend violently than were low risk offenders with lower levels of Internal Motivators (the comparison using median split groups for the Internal Motivators factor was nonsignificant, therefore no survival curve is included; only the results from the significant continuous variable are included above).

Predictive accuracy based on post-treatment risk groups

When considering differences between the low and high risk offenders, based on their post-treatment VRS:SO scores (analyses included only those accepted into the program and assessed either as 'low' or 'high' risk at the end of treatment), a different pattern of results emerged when predicting reoffending.

After controlling for treatment completion, post-treatment Desistance and Internal Motivators scores significantly predicted sexual reoffending rates among high risk offenders ($\chi^2 = 4.52, p < .05$), but not low risk offenders ($\chi^2 = 5.59, ns$). That is, high risk offenders who were classified as having lower levels of Desistance post-treatment had significantly higher sexual reoffending rates than high risk offenders with higher levels of Desistance (Wald ($df=1$) = 4.03, $Exp(B) = 0.32, p < .05$). Conversely, high risk offenders who were classified as having higher levels of Internal Motivators post-treatment had significantly higher sexual reoffending rates than high risk offenders with lower levels of Internal Motivators post-treatment (Wald ($df=1$) = 4.61, $Exp(B) = 2.25, p < .05$). None of the three post-treatment factors predicted sexual reoffending among low risk offenders.

Regarding general reoffending, the analyses revealed that post-treatment Sexual Deviancy scores predicted general reoffending among low risk offenders (Wald ($df=1$) = 4.89, $Exp(B) = 0.53, p < .05$), after controlling for treatment completion, Desistance and Internal Motivators scores. That is, low risk offenders with higher Sexual Deviancy scores were significantly less likely to reoffend generally, than were low risk offenders with lower Sexual Deviancy scores. A different pattern of results emerged for high risk offenders. After controlling for treatment completion, analyses revealed that only Internal Motivators scores significantly predicted general reoffending among High Risk offenders (Wald ($df=1$) = 9.76, $Exp(B) = 1.71, p < .01$). That is, high risk offenders with high levels of Internal Motivators reoffended at a significantly higher rate than high risk offenders with lower levels of Internal Motivators. There were no significant relationships between the three factors and violent reoffending, for both low and high risk offenders.

Predictive Validity of the VRS:SO among Declined vs. Accepted Offenders

The data collection process revealed that there was less information available from in Cedar Cottage records about offenders declined than accepted into treatment, including information gathered in the course of the assessment process. This limited the scoring of the VRS:SO. Indeed, declined offenders had significantly more missing information than accepted offenders (all of the offenders with 4 or more missing items who were excluded from this study had been declined treatment). Thus, further analyses were conducted to investigate whether the VRS:SO was equally predictive of reoffending among offenders who were accepted into the program compared to offenders who did not enter treatment. This analysis investigated whether the limited information available from the assessment phase affected the accuracy of the VRS:SO scoring and thus its predictive ability for declined offenders.

Separate Cox proportional regression analyses were conducted for declined and accepted offenders, to investigate the predictive accuracy of the VRS:SO pre-treatment total scores. These analyses revealed that pre-treatment VRS:SO scores were not significantly predictive of sexual reoffending for either the declined or accepted group of offenders. However, significant differences between these groups emerged when considering violent and general reoffending. That is, the survival analyses revealed that the VRS:SO pre-treatment total score was significantly predictive of violent and general reoffending among accepted offenders ($\chi^2 = 4.10, Exp(B) = 1.08, p = .05$ and $\chi^2 = 8.63, Exp(B) = 1.07, p < .01$ respectively); but that the VRS:SO was not predictive of violent and general reoffending among declined offenders ($\chi^2 = 0.18, ns$ and $\chi^2 = 0.66, ns$ respectively). These results support the hypothesis that the limited information available for the declined offenders may have affected scoring accuracy of the VRS:SO, and that this in turn may have affected the predictive strength of the VRS:SO among the declined sample (and more broadly may explain some of the non-significant results across the entire sample).

Discussion

Characteristics of Parental Child Sexual Offenders

A noteworthy benefit of the study was the expanded quality and quantity of reliably documented information regarding parental sexual offending. Treatment programs that emphasize disclosure of the offence history, at least to the extent that they corroborate accounts by victims and family members, are uniquely positioned to enlarge the body of information about child sexual offending, a topic about which many myths and misconceptions have persisted. This information alone allows the advancement of more targeted interventions to reduce the risk of reoffending and increase child protection. The more information about parental child sex offenders that is available to treatment specialists, the more readily their specific criminogenic needs can be addressed. With these additional information resources, assessments of risk can be refined and will become more precise and accurate predictors of treatment responsivity and reoffending.

Studies on core groups of intrafamilial sex offenders are lacking (Kingston et al., 2008) because past research has generally failed to distinguish between types of intrafamilial sexual offenders. The current study identified a number of distinguishing features of parental sexual offending, helping to fill this gap and enhance current knowledge about this subtype of intrafamilial offenders. Specifically, this study identified that many parental offenders are biological fathers, were married or in a stable de facto relationship, had past or current sexual relationships with adult women and were employed at the time of the index offences. These are usually protective factors for child sexual offenders, but may represent situational risk factors for parental sexual offenders. Two-thirds of the parental offenders had a history of prior criminal offending, with one-third commencing criminal conduct as juveniles. Few parental offenders had prior convictions for sexual offences (1 in 20). Consistent with past research (Smallbone & Wortley 2001), many parental sexual offenders reported that they were also victims of childhood sexual abuse.

Most victims of parental sexual offenders were prepubescent girls. Despite public concern that child sexual offenders are attracted sexually to all children and will reoffend against a significant number of unrelated, as well as related children, very few parental offenders in this sample offended extrafamilially or against multiple victims. Although most parental offenders identified a single victim, they typically offended against that child repeatedly and committed multiple sexual acts against the victims for several years before the abuse was reported. The majority of abusive incidents were serious and involved penetrative sexual offences, as well as a significant number of other sexually abusive acts, such as touching, fondling, kissing and forcing victims to perform oral sex. Most parental sexual offenders utilised coercive techniques or threats to secure compliance from the victims, rather than threats of or actual physical violence. Cognitive distortions associated with offending behaviour were commonplace among parental sexual offenders. Most offenders minimised or denied aspects of their sexually abusive behaviour during the initial assessment period.

Consistent with low rates of reoffending observed among intrafamilial child sexual offenders in other studies (Langevin et al. 2004), few parental offenders sexually recidivated (12%); most offenders who received a new police report, charge or conviction during the follow-up period committed a nonsexual offence (20%). The majority of offenders who sexually recidivated offended against child victims only; the limited relationship data available suggested that they reoffended against related victims.

The profile of parental child sexual offenders in the Cedar Cottage sample was contrasted with that of extrafamilial child sexual offenders. For instance, Abel et al. (1987) reported that extrafamilial child sexual offenders targeted more victims than intrafamilial offenders, but completed substantially fewer sexually abusive acts with their victims. Extrafamilial child sexual offenders have a greater tendency to use violence and force while offending, a higher proclivity to have a history of criminal convictions and are less likely to live with an intimate partner compared to intrafamilial sex offenders (Herman, 2000; Johnson, 2007). In addition, intrafamilial offenders have a lower reported recidivism rate than other sex offender groups (Langevin et al. 2004).

These results revealed that parental offenders have a distinctive profile unlike that of extrafamilial child sexual offenders and other sexual offenders, and that they were more criminally versatile than previously assumed. This profile provided confirmed that parental sexual offenders have unique criminogenic needs and risk associated with reoffending, and that they should therefore be distinguished from other types of child sexual offenders (Finkelhor 2009; Stalans 2004).

Effectiveness of the VRS:SO as a Screening Tool for Community-based Diversion and Treatment

Predicting recidivism for high vs. low risk offenders

Significant differences emerged between low and high risk offenders in the current sample. Low risk offenders showed the most dramatic reductions in risk and future reoffending as a consequence of acceptance into the Cedar Cottage program (80 percent reduction in sexual recidivism), most likely attributable to higher rates of treatment completion. Acceptance into the program did not significantly reduce sexual reoffending among high risk offenders, perhaps because of their low treatment completion rates and a mismatch between the level of treatment intensity and their risk of reoffending (i.e. the treatment program may not have been intensive enough to meet their criminogenic needs).

Although total VRS:SO scores were no longer predictive of reoffending when exploring differences between high and low risk offenders, most likely a consequence of the reduced power of the analyses, a few significant effects emerged from the predictive power of the three VRS:SO factors for low versus high risk offenders. Pre-treatment scores on the VRS:SO were more sensitive in predicting recidivism in low risk than high risk offenders. Pre-treatment Internal Motivators factor scores were significantly predictive of violent offending by low risk offenders only, such that those with lower risk scores were less likely to reoffend violently. Additionally, Sexual Deviancy factor scores were significantly predictive of sexual recidivism only for low risk offenders. However, contrary to the results of past research (Beggs & Grace 2011; Olver et al. 2007), lower Sexual Deviancy scores were associated with an increased likelihood to reoffend sexually. Reasons for this unexpected finding are discussed below.

Conversely, the pattern of predictive accuracy for low versus high risk offenders was reversed post-treatment; after controlling for treatment completion, factor scores were predictive of recidivism. Specifically, post-treatment Desistance scores and Internal Motivators scores were predictive of sexual recidivism for high risk offenders, but not low risk offenders. Higher Desistance scores (increased resistance to treatment or poorer treatment responsivity) and higher scores on the Internal Motivators factor scores (increased criminal proclivity to offending) were associated with significantly higher rates of sexual recidivism among high risk parental offenders. Additionally, post-treatment Internal Motivators scores were significantly predictive of overall reoffending among high risk, but not low risk, parental offenders.

Predicting program placement and completion

Offenders who were declined diversion had significantly higher VRS:SO pre-treatment total scores, and offenders whose total score fell within the high risk category were significantly less likely to be diverted than their low risk counterparts. VRS:SO static scores were not predictive of acceptance into the program whereas the dynamic variable scores predicted both acceptance into the diversionary treatment program and program completion. Offenders who were denied entry into the program had higher scores on all three dynamic factors than offenders who were accepted.

Pre-treatment VRS:SO scores on the new factor Desistance interacted significantly with treatment change scores and treatment completion. On average, lower scores on Desistance were indicative of greater change during treatment and an increased likelihood of treatment completion. This outcome further supported the viability of Desistance as an independent risk factor, with specific implications for treatment responsivity. The items included in Desistance may be helpful for use in a community-based treatment programs when assessing the suitability of applicants for diversion from the traditional criminal justice process and the likelihood of responsivity or resistance to treatment. However, rather than excluding all offenders based purely on higher Desistance scores (i.e., resistance to treatment or change), criminal justice responses should aim to increase an offender's motivation and resources to desist from future sexual offending, thereby enhancing treatment responsivity. Ward and Laws (2010: 17) submitted that "adopting a rehabilitation model that incorporates desistance research and ideas, and that is more constructive in nature", could significantly improve the effectiveness of current sexual offender treatment by shifting the focus away from risk management models that focus purely on the individual offender, towards more comprehensive desistance models that view the offender within a broader social and cultural context.

Pre-treatment VRS:SO scores were valid predictors of acceptance into treatment, change during treatment, and likelihood of treatment completion. That is, lower risk offenders (with VRS:SO total scores ranging from 0 - 30) were most likely to be accepted into treatment (100%) and to complete treatment (95%), compared to moderate and higher risk parental offenders. Additionally, low and moderate risk offenders were significantly more likely to show a reduction in risk (a reduction in dynamic risk factors) following participation in the treatment program, compared to higher risk offenders. These results suggest that the VRS:SO is a useful assessment tool for the purpose of screening potential participants who are most likely to respond positively to treatment, and could assist in determining which offenders are suitable for diversion into a community-based treatment program (low and moderate risk offenders who are more likely to complete treatment and benefit from the therapeutic program than higher risk offenders).

Predicting diversion success

High risk offenders (indicated by higher VRS:SO scores) were less likely to be accepted into the treatment program than low risk offenders. Rates of sexual recidivism did not differ among high risk offenders based on diversion to treatment versus traditional criminal prosecution, perhaps attributable to the fact that no high risk offenders completed treatment and thus showed negligible reductions in their level of dynamic risk following entry to the treatment program. However, low risk offenders who were accepted into the program had significantly reduced rates of sexual recidivism compared those who were declined treatment. These results indicated that the NSW Pre-Trial Diversion Program was significantly more effective in reducing sexual recidivism among low than high risk offenders, consistent with the aims of the diversion program to target low risk offenders suitable for treatment in the community. Because participation in the program did not interact with risk predictive of general or violent recidivism, the results suggested that the

treatment successfully targeted and reduced risk of sexual recidivism (consistent with the aims of the treatment program).

Observed Recidivism Rates

Recidivism rates were relatively low in this sample. Approximately one third (32%) received a police report, charge or conviction for a new offence of any sort (general recidivism) within the average follow up period of 9.1 years. Of those, 20 offenders (12%) were apprehended for a sexual offence, and one in ten offenders was apprehended for a new violent offence. The rate of sexual recidivism in this sample was comparable to the rate of violent recidivism. The low base rate of sexual recidivism in this sample of parental offenders was consistent with results of past research showing that intrafamilial offenders tend to have a lower recidivism rate than other sex offender groups (Langevin et al. 2004).

The Cedar Cottage sample of parental child sexual offenders had substantially lower rates of sexual reconviction (3.5%) compared to the Canadian Clearwaters incarcerated sample of adult rapists, child molesters and incest offenders (36% were convicted of a new sexual offence during the average 10 year follow-up period; Olver et al 2007). Additionally, the observed sexual recidivism rates in Cedar Cottage sample were lower than those reported by Beggs and Grace (2010), who investigated the predictive validity of the VRS:SO among a sample of 218 intrafamilial and extrafamilial child sexual offenders incarcerated in New Zealand. Using a more conservative measure of recidivism (convictions only), over a follow up period averaging 12.4 years, recidivism analyses in that study revealed that 13 per cent of the New Zealand child sexual offenders committed a sexual offence, 14 per cent committed a violent offence and 37 per cent reoffended nonsexually and nonviolently. By comparison, in the Cedar Cottage sample, using the conviction criterion a relatively low recidivism rate of 3.5 percent was observed for sexual reoffences and violent reoffences, respectively, and 21.5 percent for all reoffences.

The high rates of nonsexual reoffending and prior offending, in comparison to sexual offending, in this sample of parental offenders indicated that they could not be classified as specialist sexual offenders (Harris et al. 2011). Rather, the pattern of criminal versatility that these parental sexual offenders demonstrated prior to their index offence appeared to persist following release from the Cedar Cottage treatment program. Thus, when assessing the validity of the VRS:SO to predict recidivism, measures of sexual, violent and overall offending were explored.

Level of Risk

One of the most striking findings from the current analyses was the substantially elevated risk scores on the VRS:SO, in comparison to past studies (Beggs & Grace 2010; Olver et al 2007), despite relatively low rates of recidivism in comparison to previous studies. The average pre-treatment VRS:SO total score in the current sample was 36.3, compared with 26.1 for intrafamilial offenders reported by Olver et al. (2007) in a custodial sample and 25.9 for intrafamilial offenders reported by Beggs and Grace (2010) in a community sample. In fact, pre-treatment VRS:SO mean scores in the Cedar Cottage sample were similar to mean scores of child molesters in the Canadian sample and extrafamilial offenders in the New Zealand sample (mean scores of 39.1 and 33.2 respectively). The source of the elevated risk scores in our sample were the dynamic variables, because the level of static risk noted for the current sample was lower than static scores noted in previous studies. Overall, means for total dynamic variables, and factors of Sexual Deviancy, Criminality and Treatment Responsivity in the three factor solution proposed by Olver et al. (2007) all exceeded those of the intrafamilial offender samples in the two comparable studies, suggesting that the Cedar Cottage offenders presented with a higher dynamic risk profile. In particular, the factor of Sexual

Deviancy (pre-treatment total mean of 13.1) was higher than that of intrafamilial ($M = 6.0$) and extrafamilial ($M = 10.0$) offenders in the Canadian custodial sample.

There are a number of explanations for this finding. One possibility is that the VRS:SO dynamic scores were interpreted and coded differently in this study compared to previous studies. Although it is difficult to rule out the possibility that the adaptation of the VRS:SO led to these disparities, it is unlikely that this was the sole contributor to such substantial differences as the VRS:SO is an objective risk assessment instrument with good concurrent validity (Beggs & Grace, 2010, Olver et al. 2007). Furthermore, the rating scheme for coding dynamic items in this sample was developed in consultation with Dr. Steven Wong and Dr. Mark Olver, who designed the VRS:SO. A more plausible explanation is that the elevated VRS:SO scores in the current study were the result of the extensive information available about this particular offender sample. For example, the relatively low score on the Sexual Deviancy factor in the Clearwaters sample of intrafamilial offenders was in part attributable to the higher purported incidence of one-off offences committed by those offenders (M. Olver, personal communication, 22/5/2012). In contrast, the number of one-off offences recorded in our sample was extremely low, because for the vast majority of offenders, even a single charge or offence involved the commission of multiple repeated offences, in many cases over protracted periods. Access to detailed information about the nature and scope of offending behaviours that comprised a single official index offence in this study precluded classification of most single charges as a “one-off” offence, i.e., they were coded as multiple offences although legally these behaviours comprised a single charged offence. Similarly where information regarding the tactics used by this group to orchestrate opportunities to offend was captured, this resulted in high scores on the dynamic variable D3 Offence Planning ($M = 2.9$, $SD = 0.4$). If elevated dynamic variable scores were driven by characteristics associated with an increased likelihood of reoffending, the Cedar Cottage sample would have higher rates of recidivism. Yet interestingly, sexual recidivism rates were relatively low. Thus, the higher scores on the VRS:SO the current study were not necessarily indicative of a higher likelihood to reoffend.

In sum, the elevated VRS:SO scores observed in this sample were most likely attributable to the quality and extent of the information available in extensive therapy notes for the treated offenders as well as corroborating information in the form of statements, reports and therapy notes from the victim(s) and family members regarding the nature, duration and frequency of the offence. The treatment program at Cedar Cottage required all participants to validate the victims’ accounts of the offence before acceptance into the program, and emphasised disclosure of offending history as well as accompanying sexual thoughts and arousal patterns as part of its treatment program. This information revealed that the vast majority of offences were not one-off events, as was sometimes initially claimed by the offenders, but rather planned and committed over extended periods of time. In contrast, neither Olver et al. (2007) or Beggs and Grace (2010) had corroborating information available in scoring the VRS:SO. Both of those studies used incarcerated samples who may not have been as motivated to disclose their sexual offending history. The norm in non-diversionary treatment programs is for treatment to proceed in the absence of extensive detailed information about the index offense, prior offending and the frequency and duration of offending against a particular victim. Therefore, it is possible that prior evaluations of risk assessment instruments among incarcerated sexual offenders may actually have underestimated an offenders risk for reoffending, especially among child sexual offenders, in the absence of corroborative information or an incentive for increased disclosure.

For these reasons, we determined that the elevated VRS:SO scores in our sample did not necessarily reflect characteristics indicative of an increased risk of reoffending, but rather the increased incentive in therapy for the offenders to disclose details offending histories. This explanation is consistent with the relatively low rates of sexual recidivism observed. In fact, increased rates of disclosure themselves may be a protective

factor against sexual recidivism not captured by assessment instruments such as the VRS:SO (Pratley & Goodman-Delahunty 2011). Users of the VRS:SO need to be aware of the impact of the quality of available information, especially information disclosed by the offenders. Extensive self-disclosure of otherwise unknown details of offending behaviours by the study participants may have skewed VRS:SO scores towards higher risk estimates, when in fact these disclosures were protective factors against reoffending. Put simply, effective treatment can at first produce dynamic scores that are higher or “worse” than scores recorded prior to treatment, and these elevated risk scores must be interpreted in context and not as absolutes.

Validity of the VRS:SO in Predicting Recidivism

As shown previously with STATIC-99 scores, the static component of the VRS:SO was not predictive of recidivism (Butler et al. 2012). The dynamic component of the VRS:SO in its original form was predictive of recidivism, both in terms of likelihood to reoffend, and time to reoffend. That is, the dynamic variables substantially increased the predictive power of the VRS:SO in this sample of parental child sexual offenders.

After controlling for the static score, pre-treatment dynamic scores significantly predicted both general and violent recidivism. The fact that static variables on the VRS:SO were not predictive of recidivism may be due to unmeasured aspects of selection criteria of participants referred to Cedar Cottage program, resulting in a restricted range of static scores, decreasing their predictive power. For example, few offenders in the current sample had prior sexual offences, the number of extrafamilial victims was low, and the offenders were typically older at the time of referral to the program and at the time of their first sexual offence (compared to other types of offenders). Pre-treatment dynamic item scores were more predictive of both general and violent recidivism than post-treatment scores. In particular, post-treatment scores were not significantly predictive of general recidivism. This was likely due to the reduced statistical power as a result of considering only the 93 offenders who were accepted into the treatment program in post-treatment analyses.

The overall and dynamic VRS:SO scores were predictive of general and violent recidivism, but not sexual recidivism. This finding was surprising, as the VRS:SO was designed to specifically target sexual offenders. Failure to establish a relationship between VRS:SO scores and sexual recidivism was likely due to floor recidivism rates, underreporting of sexual recidivism and low variance in Sexual Deviancy in our sample. Sexual offences are more susceptible underreporting than are violent or general offences, and therefore certain measures of sexual recidivism such as official charges and convictions are less reliable indicators of true rates of reoffending. Additionally, the lack of a significant relationship between recorded sexual recidivism rates and scores on the VRS:SO may be due to elevated ratings of risk on the VRS:SO dynamic scores, in particular the Sexual Deviancy factor, which is conceptually relevant to sexual reoffending (Olver et al 2007). The pretreatment Sexual Deviancy factor had the lowest variance of the three factors, as most offenders in this sample consistently received high scores on this factor. As noted above, this is likely due to the extent and quality of information regarding the history of sexual offending that was available in this study. Lack of variance in the VRS:SO dynamic scores, especially in terms of Sexual Deviancy, likely contributed to the difficulty in detecting a significant relationship between the VRS:SO risk scores and sexual recidivism rates.

In sum, the dynamic variables on the VRS:SO added incremental predictive power to the VRS:SO in terms of predicting recidivism. The fact that the VRS:SO was predictive of general and violent recidivism, but not sexual recidivism may be due to the combined effects of (a) low rates of sexual recidivism, (b) underreporting of sexual recidivism, and (c) high means and low variability in the Sexual Deviancy factor within the dynamic variables.

The VRS:SO Dynamic Factor Structure and Intrafamilial Offenders

A confirmatory factor analysis revealed that the three factor model originally proposed by Olver et al. (2007) did not provide a good fit for the current sample, therefore an exploratory factor analysis was conducted to find a more appropriate factor structure. The three new factors that emerged were named *F1: Desistance*, *F2: Sexual Deviancy* and *F3: Internal Motivators*. The new three factor structure was predictive of recidivism, and offered fresh insights into the management of risk of reoffending. Desistance was significantly predictive of general recidivism, while Internal Motivators was predictive of both general and violent recidivism. None of the new factors were significantly predictive of sexual recidivism across the entire sample of offenders.

However, when exploring the predictive accuracy of the three factors among low versus high risk offenders, the Sexual Deviancy factor predicted sexual recidivism rates in the former group (among low, but not high risk offenders), although the direction of the results was unexpected. Offenders with lower Sexual Deviancy scores (i.e., lower risk) had significantly higher incidences of sexual recidivism. Variables included in the Sexual Deviancy factor such as D1 Sexually deviant lifestyle, D2 Sexual compulsivity, and D12 Sexual offending cycle, were based largely on offender self-reports captured in therapy notes during assessment and sessions diaries and sexual arousal logs. Increased self-reporting of deviant sexual practices and sexual offending histories elevated the scores on these variables, and were simultaneously indicative of acceptance of responsibility for sexual offending and of therapeutic change. Thus, the increased disclosure that produced the higher Sexual Deviancy scores may actually have reflected better engagement in treatment and a reduction in risk associated with increased acceptance of responsibility for the offending behaviour. In other words, although expanded disclosure may lead to elevated scores on the VRS:SO, disclosure itself may be a protective factor against reoffending (Pratley & Goodman-Delahunty, 2011).

Thus, while the VRS:SO was intended as a risk assessment tool specifically targeting violent and sex offenders, results of this study suggested that the dynamic factors Desistance and Internal Motivators predicted risk of more generalized engagement in criminal behavior, not sexual recidivism alone; whereas high scores on the factor Sexual Deviancy were predictive of a decreased likelihood to violently and sexually reoffend, likely associated with increased rates of disclosure in this sample.

Limitations of the Study

As noted above, high scores on the VRS:SO in conjunction with low rates of recidivism found in this study, appeared in part to be a function of the quantity and quality of information available to the raters in this study. Increased disclosure during assessment and treatment appeared to boost scores on certain dynamic variables (Sexual Deviancy), rendering the comparison of scores achieved in this sample to those from other samples, derived without any parallel disclosures, inapt. This outcome suggested that interpretations of VSR:SO scores need to take into account the quality and context of the information from which they were derived. One drawback of the VRS:SO as a relatively new risk assessment tool is difficulty in establishing standards or norms applicable to the interpretation of the scores. In this study, as in previous studies, higher scores on the VRS:SO were predictive of general and violent recidivism within this population, primarily attributable to the dynamic variables. Because little is known about parental child sex offenders and their risk levels on any dynamic test instrument, caution is advised in comparing the VRS:SO scores achieved in this study with those reported in other studies that used broad samples of nonparental intrafamilial offenders (including siblings, uncles, cousins, and parental offenders with prior sexual offence convictions) or mixed samples of child sex offenders (nonparental intrafamilial and extrafamilial offenders).

Paradoxically, the VRS:SO scores for the current sample were higher than those reported in previous studies (Beggs & Grace 2010; Olver et al. 2007), but the current sample had lower rates of recidivism than were observed among intrafamilial child sex offenders from these other studies. As noted above the disparity in these findings appeared to be associated with levels of disclosure, suggesting that disclosure of the full nature and extent of past offending could potentially act as a protective factor against recidivism for parental offenders. Limited research has investigated the link between level of disclosure and subsequent reoffending, however studies of 'denial' suggest that pre-treatment acceptance of responsibility for offending behaviour is rarely predictive of post-treatment sexual reoffending (Hanson & Bussiere 1998; Hanson & Morton-Bourgon 2005; Marques et al. 1994). Thus, further research is required to investigate whether levels of disclosure among different types of sexual offenders acts as a protective or risk factor for future sexual offending, or whether it has a negligible relationship with sexual recidivism as suggested by past research.

This study established the predictive validity of the VRS:SO in terms of relative risk observed within this sample. The dearth of research about parental sex offenders and distinguishing features of their criminogenic profiles, risk and reoffending rates compared with other subtypes of nonparental and extrafamilial offenders must be taken into consideration. This study represents the first step towards the establishment of population norms for parental intrafamilial offenders that that will ultimately aid in the interpretation of VRS:SO risk scores.

For parental offenders who experienced standard criminal prosecution, more limited information was available regarding their sexual offending history, general lifestyle and other criminogenic risk factors, whereas extensive information was available about the offenders diverted into treatment. This disparity may have impacted on the accuracy of VRS:SO scores for the offenders declined treatment, as the results indicated that their VRS:SO scores were not predictive of violent or general reoffending (whereas the VRS:SO scores for accepted offenders were significantly associated with future offending). Thus, most of the predictive power in the study appeared to come from the relationship between the VRS:SO scores of the accepted offenders and their subsequent recidivism rates. The more limited information available for the parental offenders declined treatment may have limited the predictive accuracy of the VRS:SO in assessing their level of risk.

The current study used conservative measures of recidivism by including only official reports to authorities, charges and convictions. As previous researchers have noted, these measures underestimate true rates of reoffending. Unfortunately, this is a problem endemic to many recidivism studies, and since there was no opportunity in this retrospective study to contact the offenders to obtain self-reports of subsequent offences, this limitation could not be ameliorated. More accurate measures of parental sexual recidivism will remain unattainable without substantial changes in the wider community in providing safer havens to offenders, victims and their families to disclose details of the nature and scope of child sexual offences.

Policy Recommendations

The prevalence of child sexual abuse is a serious, national issue in Australia. Debate persists on the legislation and policy regarding the conviction, incarceration, rehabilitation and monitoring of child sex offenders. Reforms to reduce child maltreatment are often contentious topics of debate among legislators, the community and media. Strongly-held opinions on all sides make policy and legislative decisions difficult. Research such as this study informs the decision-making process and dispels myths and misinformation. Legislation and policy need to take into account the welfare of the wider community and the effectiveness of rehabilitation programs in reducing risks of reoffending.

Based on the foregoing findings, the following recommendations are proposed:

Parental child sexual offenders:

- The unique dynamic risk profile of parental child sex offenders must be acknowledged. Distinctive features of this profile have policy implications for criminal justice responses including rehabilitation and diversion to community treatment centres.
- High scores on the 'Sexual Deviancy' factor of the VRS:SO among parental offenders should not be construed as indications of untreatability. Recidivism rates were low, and parental offenders were amenable to treatment.
- Acknowledgement of deviant sexual interest is important, but intrafamilial offenders should be distinguished from extrafamilial paedophiles. In general they do not pose a danger to unknown children in the wider community.
- Due to the criminal versatility both in past and future offending, parental offenders need treatment programs that address their general criminal proclivities in addition to sexual rehabilitation.

Community-based pre-trial diversion treatment programs:

- More parental child sex offenders should be offered the option to participate in community-based pre-trial or other types of diversionary treatment programs. Sexual reoffending by low-risk parental sex offenders, as assessed by the VRS:SO, who were diverted to the Cedar Cottage program was substantially reduced.
- Disclosure and self-reporting by offenders should be facilitated as it was a protective feature that appeared to reduce reoffending. This may be best achieved within a diversionary treatment program such as Cedar Cottage, that provides an incentive for increased disclosure (e.g., diversion from prison and the ability to remain connected with the community and employment).
- Treatment should be available to all members of the family affected by parental child sexual offending. Support for child victims, the nonoffending parent, other siblings and family members permits more comprehensive monitoring of the offender's progress, promotes disclosure which enhances treatment success, and protects their safety.

VRS:SO assessments:

- Objective, empirically-sourced screening tools such as the VRS:SO should be used to assess suitability for diversion from standard prosecution in the criminal justice system to community-based treatment programs. Program completion and reduced risk of recidivism for low risk parental child sexual offenders can be accurately predicted using the VRS:SO.
- Dynamic factors, as identified by the VRS:SO, are strong determinants of suitability for diversion to community-based programs, identification of treatment needs and likely responsivity to treatment devised to reduce parental child sex offending.

Conclusion

Child sexual abuse has enduring and potentially devastating effects for victims and families. The absence of comprehensive research on core subtypes of child sexual offenders has precluded understanding about the specific risk profile and treatment needs of intrafamilial offenders. The findings in this report show that parental offenders can be distinguished from other intrafamilial sexual offenders and that they have unique characteristics and criminogenic needs. Further, the research contributes to the body of research showing that community-based treatment programs can achieve a significant reduction in sexual recidivism.

The outcomes of the current study have important implications for states and legislatures examining alternative methods to prosecute child sex offenders, most notably that diversion into community-based treatment was more effective at reducing recidivism among low risk parental offenders than standard criminal prosecution. In addition, the research suggests that the use of risk assessment measures (e.g. the VRS:SO) may enhance screening and selection of offenders eligible for diversion, by identifying parental offenders' level of risk as well as the likelihood that a particular offender will comply with and complete a community-based treatment program. Knowing the actuarial risk of different intrafamilial sexual offender groups facilitates better prioritisation of resources, and improves the assessment of risk for low probability but high consequence offences, such as repeated sex offending.

By improving the ability to predict completion of a community-based program and identify offenders who will receive the greatest benefit from treatment, this report contributes to a more-informed allocation of resources in the rehabilitation of child sex offenders. In addition, the findings will assist in improving the rehabilitation process for these offenders, their child victims and families, and ultimately help to reduce the degree of harm associated with child sexual offending.

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Glossary

Accepted group

Offenders who were accepted for treatment at Cedar Cottage following the assessment period comprised the Accepted group of study participants. From 1989 to 2003, a total of 93 male intrafamilial sex offenders were referred to and accepted for treatment at Cedar Cottage. This group was further divided into groups of offenders who completed the treatment program in two or three years, designated the Completed group, and groups of offenders who did not complete treatment, designated the Noncompleted group.

Actuarial risk instrument

Items are derived empirically, using statistical analysis to identify and weigh the factors that predict whether an offender falls into a category of risk (e.g., high versus low).

Area under the curve (AUC) of Receiver operating characteristic (ROC)

A standard statistical measure of the predictive accuracy of risk assessment instruments such as the VRS:SO and the STATIC-99 is the Area Under the Curve of the Receiver Operating Characteristic (AUC). The AUC plots the false positive rate (false alarms) against true positive rate (hits) across score thresholds of a risk instrument. AUC analysis quantifies the tradeoff between sensitivity and specificity. The AUC evaluates the accuracy of a specific prediction (in this case sexual violence against children) that is relatively unaffected by underlying base rates or by users' biases for or against Type I or Type II prediction error. In interpreting AUC values to evaluate the predictive accuracy of risk assessment tools, the following conventions apply: AUC values of .72 or above ($r > .37$) are classified as good; values between .64 and .71 ($r > .24$) are classified as moderate; statistically significant AUC values below .64 ($r < .24$) are classified as small (Rettenberger et al. 2010).

Assessment period

Upon referral to Cedar Cottage, offenders were assessed for their suitability for entry into the treatment program. The assessment period lasted up to four weeks from 1989 until April, 1993, and thereafter, up to eight weeks. During the assessment period, ideally, Cedar Cottage personnel meet with the offender individually at least eight times, and once in a group. Each day, the applicant offender must complete and submit written or voice-recorded assignments. The applicant must validate the account of the child victim and not limit himself to occurrences itemized in the criminal charges. These accounts must be made available to the nonoffending parent, either in person or in writing. Relevant family members are interviewed excluding the child victim.

Cedar Cottage Program

The New South Wales Pre-Trial Diversion of Offenders (Child Sexual Assault Program) is a community-based treatment program, also known as Cedar Cottage, based in Westmead, New South Wales. The program provides therapy for sex offenders who plead guilty to sexually abusing a child with whom they have a parenting relationship. Eligible offenders are referred to the program by the NSW Police Force or the courts and then receive an eight-week intensive assessment to determine whether they will be accepted into the program. If accepted, the offenders attend group and individual therapy sessions for a minimum of two years, with an option for a third year. Applicants who are assessed as unsuitable for the diversion

program are declined treatment and returned to the courts to allow standard prosecution to resume. Offenders who breach the Program's treatment agreement are referred back to the courts. Information about the program can be accessed via: <http://www.wsahs.nsw.gov.au/services/cedarcottage/index.htm>

Child sexual abuse

Child sexual abuse includes non-contact sexual conduct such as grooming and exposure, nonpenetrative sexual contact such as kissing and masturbation and penetrative sexual contact. In this report, the term refers to conduct that meets the definitions of sexual assault offences classed as acts of indecency, indecent assault and penetrative sexual assault within the New South Wales Crimes Act 1900.

Completed group

Offenders who were referred and accepted into the Cedar Cottage program and who went on to successfully complete the treatment program in either two or three years.

Cox Proportional hazard regression survival analysis

Cox proportional hazards regression is a method of analysis to assess the effect of several risk factors on recidivism. In this study, it investigated whether three factors (Desistance, Sexual Deviance and Internal Motivators) were predictive of sexual, violent or general recidivism.

Declined group

Offenders who were assessed for suitability to participate in the Cedar Cottage program and were declined entry to the program (determined unsuitable) or who elected not to proceed past the assessment process.

Dynamic risk factor

Dynamic risk factors focus on identified variables that are related to offending and are amenable to change. In addition to assessing risk, the dynamic factors identify and address an offender's criminogenic needs and current function.

Eligible offenders

Eligibility for treatment at Cedar Cottage was determined in two phases. First, the offender must be eligible for referral to Cedar Cottage and second, he must be accepted for treatment. Eligibility for referral is based on seven criteria set by the NSW Director of Public Prosecutions:

- the child victim(s) was under the age of 18 years when the matter was brought to Court;
- the offender is the child's parent, step-parent or parent's *de facto* spouse;
- no violence was involved in the act of sexual assault;
- the offender is over 18 years of age;
- the offender has no previous conviction for a sexual assault offence;
- the offender has not been offered the Treatment Program before; and
- there are available places in the treatment program.

The Director of the Treatment Program evaluates referred applicants using four clinical criteria:

- does the applicant accept responsibility for his behaviour;
- is the applicant aware of the significant impact of his behaviour on the victim and the victim's family;
- does the applicant have sufficient communication skills to participate in the program, and

- is the applicant's participation in the program in the best interest of the child?

Face-ups

A "face-up" is a full account by the offender of his abusive behaviour to member of his family. The content of the account must validate the victim's experience. Face-ups can match or extend the victim's statement. Face-ups are delivered in writing or in-person to a significant family member.

Incest

Incest is the act of sexual intercourse between close family members. The New South Wales Crimes Act 1900, in Section 78A, defines a close family member as a parent, son, daughter, sibling (including a half-brother or half-sister), grandparent or grandchild, from birth.

Index offence

Index offence is the offence for which the offender was convicted.

Intrafamilial sex offender

Intrafamilial sex offenders are persons who engage in prohibited sexual conduct with close family members or persons with whom they have a familial relationship. In the current study offenders were males who had a parenting relationship with a minor, whether or not the minor was a blood relative. The offenders in this sample were the child's biological father, step-father, foster-father, or the de facto spouse of the nonoffending parent.

Kaplan-Meier survival analysis

Kaplan-Meier survival analyses measure the time to relapse, and in this study investigated the period that elapsed after an offender's last contact with Cedar Cottage and general, sexual and violent reoffending using the more inclusive reoffending measure. First, the predictive accuracy of VRS:SO pre-treatment risk groups and total scores was investigated, followed by the predictive accuracy of VRS:SO post-treatment risk groups and total scores.

Noncompleted Group

Offenders accepted into the Cedar Cottage program who did not complete treatment either because they (a) breached their Treatment Agreement, or (b) voluntarily withdrew from the program prior to completion.

Offence type

Terminology and definitions of sexual and other offences vary between Australian states and territories. In this report, the following offence types were distinguished:

General offences: overall measure of all officially reported offending including sexual offences, violent offences and nonsexual nonviolent offences such as driving offences, drug offences, theft, fraud, break and enter, justice offences such as breach of bail.

Sexual offences: included non-contact sexual offences such as indecent exposure as well as indecent assault and sexual assault.

Violent offences: included homicide, assault and robbery (armed and unarmed).

Recidivism or reoffending data

To assess recidivism, reoffending data were gathered from multiple sources. Official reports of reoffending were compiled from the NSW Police Computerised Operational Policing System and the NSW Criminal Histories System database. Records of subsequent convictions were derived from the NSW Police and cross-checked against records in the NSW Bureau of Crime Statistics and Research Reoffending Database. To avoid inflating the survival period without reoffences following an offender's last contact with Cedar Cottage, the Department of Corrective Services provided information about periods when the offenders were in custody and unavailable to reoffend. Although the focus of the evaluation was on sexual reoffending, records of other types of reoffending were also gathered and reported for comparative purposes. For the purposes of the present study recidivism was operationally defined as an offender receiving a police report, charge or conviction for a new offence. Offence type was broken down into violent, sexual or general (overall) reoffending.

Relative reduction in recidivism

A relative reduction in a rate of recidivism is derived by comparing the observed absolute recidivism rate in the target group with that in the relevant untreated control group and computing the proportional reduction, if any, in the risk of recidivism the target group following treatment. To calculate the relative reduction in recidivism, the difference between the two absolute recidivism rates is divided by the percentage of reoffending in the control group. For example, if 50% of the control group reoffend and 20% of the treated group reoffend, the relative reduction in the recidivism rate in the treated group is 60% or $50 - 20 / 50$.

Static risk factor

Static risk factors are historical variables that cannot be changed (e.g., offence history, age at first sexual offence).

Statistical power

Power in statistical terms is defined as the probability of detecting an effect given that the effect exists in the target population. The major factors that contribute to the power of an analysis are the sample size (N), the effect size, and the criterion or significance level ($\alpha = .05$ or smaller). To assess the effects of treatment on recidivism in this evaluation, none of the study parameters could be varied (i.e., the sample size was determined by the number of referrals, the effect size was determined by the number of reoffences reported to the police, and the significance level in social scientific practice is set at 95%). The base rate of sexual offending in this group was low, and the reoffence rate was lower, resulting in very low power. As a consequence, the probability of detecting an effect of treatment on recidivism was exceedingly low.

Statistical significance

Statistical significance describes an outcome that is unlikely to have occurred by chance alone. A significant result does not necessarily imply a large or important practical difference. With a large sample size, even small differences produce statistically significant results that in practical terms mean little or nothing. Conversely, the smaller the sample, the less likely a test is to render statistically significant results when a treatment effect is present. Factors that influence significance are similar to those contributing to power (i.e., sample size, significance level applied such as an alpha level smaller than .05, and effect size). Both statistical and practical significance (the implications of the results apart from statistical values) have to be considered.