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Working with young people who offend:

An examination of the literature regarding violence, substance misuse and harmful sexual behaviour

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1. Executive Summary

This paper presents a review of the recent literature relating to effective practice with young people displaying harmful sexual behaviour (HSB), violence or risky substance misuse. The intention is to build upon and update the 2007 literature review *Research and practice in risk assessment and risk management of children and young people engaging in offending behaviour*, funded by the Risk Management Authority (RMA) and carried out by the Scottish Centre for Crime and Justice Research (SCCJR).

The initial methodology identified that only experimental, or well-designed quasi-experimental studies were to be included in the review, however a broader approach has been adopted in order to more clearly identify any emerging and potentially promising interventions that would be of interest or use to practitioners.

The search of the literature encompassed eight electronic databases and included search terms related to violence and harmful sexual behaviour in general, and five further needs and risk factors. These were: antisocial or violent peers; lack of social ties; substance misuse; deviant sexual arousal; and impaired social functioning. More than 1,000 articles were identified initially and over time these were filtered down to a total of 98 that fit the criteria of being of interest to practitioners. The information extracted has been organised into three main themes of Harmful Sexual Behaviour, Violence, and Substance Misuse.

What came to the fore in this review is that current research in the domains of youth violence and harmful sexual behaviour seem to be comparatively rich both in terms of measuring and managing risk. However, perhaps due to interest in these particular areas of study being fairly recent, there is currently only one tool that has achieved widespread use and those few tools that do show promise have not yet been examined over a long enough period of time to make any definitive claims. Within the realms of violence and HSB research there are various forms of intervention described in peer reviewed articles, with some highlighting greater success than others. It is however evident that the area of substance misuse is one that desperately needs further attention. The lack of a validated risk measurement tool and mixed outcomes as a result of interventions suggests that this is an area of study that would benefit from a comprehensive review in its own right. Although serious and extremely worrying for families and societies, the risk posed by young people exhibiting sexually harmful behaviour and those who violently offend is proportionately much lower than the risk of young people misusing substances, yet there is not the equivalent research interest in this area that might have been expected. Similarly, despite identifying that parental involvement in family work within HSB intervention is important and yields positive outcomes, within the recent literature there were very few recent articles examining this more closely.

What is also highlighted within this review are the number of risk assessment tools and measures that have not yet been validated and/or are not being used in Scotland, a pattern also seen repeated within the intervention literature. The young people who fall within these categories are complex, live chaotic lives and have multiple needs. They are individuals and need a tailored response; if there are no or few options for practitioners this will impact on the work that can be done with each person.

A major concern is that the majority of studies identified in this review across all three of the identified themes take place in the USA, moreover most of the studies are limited in some form or another either by sample size, are carried out away from the family home, suffer from a lack of pre-intervention or long-term post-intervention measures or indeed are reliant on self-reported outcomes. As a result, they are not as robust as they could be.

However, this is not the time to focus on the negatives or the frustrations; this paper does succeed in collating and summarising a great deal of information regarding what researchers and academics have been asking questions about recently. Although many of the studies identified do not give a definitive answer to issues experienced by every practitioner working today, it is hoped that this review will both act to inform those working on the front line with young people of the tried and tested tools and interventions that they or their colleagues can make use of; and also inspire those same practitioners to look beyond the norm. It could also be seen as a call to both researchers and practitioners to help solidify the knowledge base by working together to carry out robust, large scale, well planned outcomes-based studies in the future.

2. Introduction

The starting point for any discussion of high risk behaviours should be to acknowledge that the vast majority of young people do not get involved in any offending behaviours at all and, of those that do, the proportion that cause serious concern remains consistently low. Police statistics (Scottish Government, 2013) indicate that there were 533 crimes of serious violence by under 18s in Scotland in 2012/13 (around 1% of all crimes and offences by under 18s) and 809 crimes of indecency (less than 2% of all crimes and offences by under 18s). In all but two of the eight police forces operating at the time, serious violent offences numbered 25 or less and five areas recorded crimes of indecency of 95 or less. However, this in itself poses particular challenges for the youth justice workforce as, with the exception of those in specialist services, many practitioners simply do not encounter sufficient cases to gain substantial knowledge, expertise and confidence in working with the most high-risk young people.

In order to support the youth justice workforce, in 2007 the Risk Management Authority published a comprehensive review of the risk assessment and risk management of young people involved in offending behaviours (Burman, Armstrong, Batchelor, McNeill, & Nicholson, 2007). This study was undertaken by the Scottish Centre for Crime and Justice Research (SCCJR) in order to gather the key findings from the national and international literature. Given the pace of change in relation to policy, youth crime trends and global finances in the intervening period (Lightowler, Orr, & Vaswani, 2014) we felt that revisiting and refreshing this important document was merited. Our initial inquiry was to consider what had changed in relation to youth justice knowledge and practice, with an increased emphasis on practical interventions that could be utilised by those in the field. While there have been developments in all aspects of youth justice, from how first-time offenders are dealt with by the system, to new technologies and associated crimes, and from the nature of risk assessments, to the programmes available for young people displaying sexually harmful behaviours, at the same time many of the same challenges in relation to the evidence-base remain.

The original SCCJR paper reported on only a small number of 'treatment approaches' that could be used to manage risk in young people, such as Multi Systemic Therapy (MST) or Cognitive Behavioural Therapy (CBT), instead focusing more heavily on risk assessment and the processes and principles of risk management. In explanation, the report highlighted a number of issues with the research literature at the time, mainly centred on a lack of a robust evidence-base due to, for example, small sample sizes or from a lack of independence in research studies. While we aimed to address some of these limitations, we ultimately also encountered many of the same issues and it became clear that the evidence-base has not yet kept pace with developments in youth justice. Very few comprehensive and high-quality randomised studies existed. Those that did tended to unsurprisingly focus on large-scale 'blueprint' interventions such as MST, scuppering one of our aims to identify not just large-scale evidence-based interventions (those that require a system or organisational response to implement) but also evidence to support individual practitioners. Individual studies rarely provided sufficient detail about the interventions being explored to allow a direct implementation into practice. Furthermore, very few of the studies we identified were undertaken in the UK, and even fewer originated in Scotland.

This meant that the conclusions we could draw for policy and practice were bound by these limitations in the evidence base. The exercise was not fruitless however, as a large volume of literature was reviewed, featuring many interesting or promising interventions even if the

supporting evidence was not as comprehensive as would be desired. The purpose of this review is twofold: on one hand to identify recent findings in the literature in relation to high risk young people, focusing particularly on violence and harmful sexual behaviour (HSB); while highlighting those interventions or risk assessments that are commonly used in Scotland. However, given the limitations of the research already outlined, the approaches and interventions reported here should not be interpreted as recommendations or endorsements, but simply as items of interest.

3. Methodology

3.1. Search Strategy

The initial research strategy was to systematically identify all relevant peer-reviewed journal articles published since January 1, 2007. As well as violence and HSB in general, the search focused on a core set of five needs and risk factors (antisocial or violent peers; lack of social ties; substance misuse; deviant sexual arousal; and impaired social functioning) that the literature identified as being associated with violence (Hawkins et al., 2000) or SHB (Richardson, 2009).

The search was conducted across eight selected databases: ASSIA; PsycINFO; PsycArticles, SCOPUS; Social Sciences Citation Index; Social Services Abstracts; Sociological Abstracts; and National Criminal Justice Reference Service Abstracts. Search terms varied slightly according to each database or the specific topic under review, but broadly included the following terms: interven*; practice*; work*; child*; you*; adolesc*; juvenile; teen*; delinquen*; sex*; violen*; aggress*; offen* and behav*. The inclusion criteria specified that studies: were published in a peer reviewed journal on or after January 1, 2007; were written in the English Language; and included children and young people aged under 18 in the population under study.

A total of **1,044** articles were identified during the initial search.

3.1. Inclusion and Exclusion Criteria

All identified articles were then subject to an abstract review based on the above inclusion and exclusion criteria by one member of the research team. A second member of the research team then peer reviewed 157 of these abstracts (15%) for quality control purposes. Articles where there was any discrepancy in opinion were discussed and a final decision settled upon. The abstract review resulted in 304 articles retained for review.

3.2. Reading and Appraisal

Articles relating to risk assessment were reviewed by the Risk Management Authority. The remaining articles were read by one member of the research team (comprised of staff from both CYCJ's research and practice work streams). An article review template was developed to ensure that each article was read and documented consistently. While the overarching strategy was that only experimental, or well-designed quasi-experimental studies, were to be included in the review, in reality a pragmatic approach was adopted in order to identify any emerging and potentially promising interventions. After the final reading, each reviewer had the final opportunity to mark the article for inclusion in the review or exclusion. The template did, however, require reviewers to justify their decision to include any article that did not meet the strict overarching criteria. Each reviewer then peer

reviewed a small number of templates and there was found to be a high level of concordance between reviewers.

Three members of the research team then sifted through the review templates. It was at this point that it became clear that, although systematic, the review had resulted in a large number of interesting but often disparate articles, which did not necessarily lend themselves to informing policy or practice in a coherent way. With our audience in mind, we felt that to continue to review the literature according to the planned methodology would have limited utility for practitioners. Following this decision the three team members collectively undertook two cycles of review with all completed templates. First, all articles were organised according to whether they had some practical utility for practitioners, and were marked 'yes', 'no' and 'undecided'. Those marked as 'no' were reviewed for one final time and if they remained 'no' were excluded from the analysis. The cycle was repeated a second time and then the articles marked as 'undecided' were reviewed by a fourth team member and included or excluded accordingly. Finally the remaining articles were reviewed again to identity any emerging themes and substance misuse was subsequently included as an additional theme given the volume of articles that had been generated on this issue.

By the end of the review process, a total of 98 articles were included in the review. The final methodology did mean that some needs and risks identified in the early stages of the research were eventually not included in the review; additionally, as mentioned above, a section on substance misuse was included due mainly to the large number of articles that fulfilled the inclusion criteria.

The final paper is therefore organised using the three broad topics of 'Violent Behaviour', 'Harmful Sexual Behaviour' and 'Substance Misuse'. Within these topics is a brief description of the characteristics of the topic, a section identifying the assessments used in each subject area and a more comprehensive section looking at interventions. In order to ensure that the final paper is of present use to practitioners the Risk Management Authority's Risk Assessment Tools Evaluation Directory (RATED) was examined to highlight those assessments that are already embedded in Scottish practice. RATED includes a summary of all known tools, including (but not limited to) validation evidence and an account of their strengths and limitations. Due to the varying usefulness of some of the studies the sections examining Assessments highlight both tools that are currently validated and/or used in Scotland by practitioners, and other tools perhaps not yet validated or that have been used in other countries, that may be worth looking out for in the future.

4. Findings

4.1. Violent Behaviour

4.1.1. Characteristics

A central question at this point is to ask why some young people get caught up in violence while others do not. In distinguishing violent from non-violent youth offending various studies have identified that the factors listed below, among others, are all associated with violent offending although it is worth noting that no single risk factor or group of risk factors can predict when or if a young person will become violent:

- exposure to or witnessing parental violence;
- a history of experiencing physical abuse at home;
- exposure to parental criminality;
- prior history of violent behaviour;
- poor performance or early leaving from school; and
- the misuse of illicit drugs

Physical aggression has been shown to increase from about age 11 and peaks around 13 to 15 years of age (Kirsh, 2003). Gallarin and Alonso-Arbiol (2012) drew attention to various elements that they argue constitute aggressiveness in adolescents; beyond the behavioural element they also emphasise the cognitive and emotional elements of aggression in their paper looking at parental attachment. Studies often use other measures that do not include actual measures of aggressive or violent acts, particularly in the area of preventative research. Self-reported aggression is often used and clearly these measures are not perfect.

Areas of concern in young people that could arguably be considered aggressive or potentially violent are the carrying of weapons and involvement in gangs, although studies looking at these specific behaviours were not included in this review. Another issue worthy of discussion is those young people who have been diagnosed with a disorder related to violence and aggression, for instance Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD). In this case, studies that included young people diagnosed with a conduct disorder have been included for review.

An interesting realm of study has been in identifying the risk factors that might lead to children showing aggression or violence in later years. Tremblay, Gervais, and Petitclerc (2008), for example, summarised the risk factors for predicting the highest level of physical aggression in early childhood; parental separation along with low income were the strongest predictors, then mothers' anti-social behaviour during adolescence, motherhood before age 21, no high school graduation, smoking in pregnancy, family dysfunction and coercive-hostile parenting. Identifying these risk factors has enabled researchers and practitioners in the field to attempt to identify preventative or intervening actions that might reduce the chances of young people ending up behaving or responding violently. It has also created a situation where being able to measure risk has become useful currency in measuring how best to work with and support young people.

4.1.2. Assessment

Corrado (2012) examined the use of risk assessment tools and risk management strategies for serious and violent young offenders with particular reference to the **Cracow Instrument. The Cracow Instrument (CI)** involves an assessment across five domains of the young person's life; environmental, individual, family, intervention responsivity; and externalising behaviour, across four developmental stages; pre-perinatal, early childhood, middle childhood, and adolescence. The instrument was developed in 2002 by a research team of more than thirty across Europe and North America in an attempt to work effectively in managing risk and needs across all of the developmental stages. This was innovative because most risk measurements focus on only one developmental stage. However, there have been limitations to how much validity the CI has as there have been challenges in accessing retrospective data and organisations have been reluctant to invest the time in the research.

Structured Assessment of Violence Risk in Youth (SAVRY) is the only violence assessment for youth that looks at both risk and protective factors and is widely used in Scotland. It is a 24-item assessment cited across three risk domains for use with offenders aged 12 to 18 years. Lodewijks, de Ruiter and Doreleijers (2010) examined the protective factor aspect of the SAVRY when they asked which of the SAVRY protective factors best predict desistance from violent reoffending. In all three groupings, high, medium and low risk, strong social supports and strong attachments to prosocial adults were significant predictors of desistance. SAVRY has also been found to have strong predictive validity across genders and ethnicities (Meyers & Schmidt, 2008). McGowan, Horn, and Mellott (2011) used the tool retrospectively as a file review of 12 to 18 year olds in an educational setting, a regression analysis showed it was able to predict violence in young people thus supporting its use in identifying as well as directing intervention efforts in that setting. It has also more recently been examined by Childs et al. (2013) as a predictor of probation outcomes in young people.

Despite not appearing in the systematic literature review another tool currently used in Scotland and included in RATED is the **Short Term Assessment of Risk and Treatability (START).** The adolescent version of the tool **(START-AV)** was later developed by Nicholls and her colleagues to assess multiple measures of harm including harm to others, harm to self, exploitation, running away and general offending, etc. In a similar way to the SAVRY assessment described above this tool also provides ratings on both the young person's risk and their resilience.

The **Brief Rating of Aggression by Children and Adolescents (BRACHA)** is a questionnaire made up of 16 items as well as demographic data, however, to date it has only been found to be effective in predicting aggression in children and teenagers in hospital settings (Barzman et al., 2011). While **The Violence Risk Scale – Youth Version (VRS-YV)** (Wong, 2004, cited in Stockdale, Olver, & Wong, 2014) is a violence risk assessment and treatment planning measure for young people modelled closely on the original Violence Risk Scale (VRS) and drawing on a modified version of Prochaska et al's (1992, cited in Stockdale et al., 2014) Stages of Change Model. It is a 23-item clinician-rated measure and is designed to both assess the adolescent's risk of violent offending and to inform and facilitate violence reduction interventions. It was evaluated by Stockdale et al. (2014) on a diverse sample of around 150 young offenders of both genders and was found to be effective at predicting violence and general recidivism with moderate to high accuracy. However, further evaluations will be required regarding its effectiveness in terms of ethnic

groups, gender and developmental sub-groups. Alongside the BRACHA discussed above, these may be tools to look out for in the future.

4.1.3. Interventions

When it comes to examining violence and aggression in young people and methods to reduce this, there are a few ways to look at the issue. Researchers have long been interested in interventions when young people are already showing aggressive behaviour both pre-teen and during teen years. These attempts to intervene and change the young person's behaviour can take the form of medications and manipulations of dosages, or learning new cognitive behaviour management techniques, or attempting to deter young people through threats of more serious consequences; for instance, being treated as an adult in the court system. Other approaches aim to prevent violent behaviours before they develop or escalate.

Literature over the years has shown broadly that successful interventions need to be targeted, structured, delivered at an early stage and involve multiple areas of the young person's life (such as family, school and community). However, there are well documented practical problems when it comes to researching interventions in this particular area; these include small sample sizes, ethical issues when it comes to randomised control trials and chaotic living situations that might disrupt interventions in this particular cohort. Similarly not all violent young people are living with a parent or carer, sometimes they have been removed from the family home and are being housed in a residential care setting or in-patient facility. Potential positives of this situation are that young people can be kept physically safe and potentially have access to support. Arguably they are also removed from what might be negative or damaging experiences in a home setting. However, it is also almost by definition, a short –term solution as young people cannot be kept away from their communities and the rest of society for ever; equally, care settings like this come with their own dangers. Although for convenience, young people in this situation often make up the samples for research and evaluation it has to be noted that not only are they in an unnatural environment but often they are to be found at the extreme end of the population because they have had be removed from society for their own or others' protection. However, with that caveat in place, some studies have looked at aspects of behaviour among adolescents living in secure places, including a study by Rozalski, Drasgow, Drasgow & Yell (2009) that found that disruptive behaviour is a strong predictor of violent incidents in the facility and as such staff should work to reduce this by using proactive strategies.

The recent literature highlighted various preventative style interventions which are often but not always used with younger children who are yet to come to police attention for their behaviour; cognitive behavioural therapy style interventions; family or group style interventions; and medical interventions such as the use of pharmaceuticals. These methods are described below while other more disparate intervention methods and those where positive outcomes are less clear can be found within section 7.1.1 of the Appendix.

a) Preventative approaches

Zagar, Grove, and Busch (2013) carried out a review of various diversions which they argued if used as part of a unified policy could be cost effective if targeted at the 5% most at-risk and in-need high school students. This was based on the argument made by Sellin & Wolfgang (Sellin & Wolfgang, 1964) who estimated that most offences were committed by

5% of the population. Mirroring this statement the 5% of students rated most at-risk and in-need were identified using a mathematical model. The interventions included the use of employment, anger management and mentoring. The authors identified that cost-effectiveness is only one way to look at the three stages of risk assessment, prevention and intervention but arguably it is a valid one as it concentrates on 'what works'. The authors argue that, in effect, youth development and violence prevention contribute to the same policy outcomes.

In terms of prevention there are two distinct but interlinked stages. There can be examinations of protective factors or risk factors such as with child victims who might be more at risk of responding violently, or early interventions prior to the young person coming to attention for their behaviour; for example, when working with very young children whose family background suggests criminogenic risk.

The following described studies have been selected for inclusion due to having some measurable effect on the young people in the samples. Other preventative interventions have been included in the Appendix for interest.

The **Good Behaviour Game (GBG)** is described as a team-based behaviour management strategy for use in the classroom. It was originally implemented in the mid 1980s and Petras et al. (2008) followed up the original sample. Within the three allocated groups; the control group who had not been assigned to a programme, the group allocated to a reading achievement programme, and the group assigned to the GBG, the samples were now aged between 19 and 21 years. Three trajectories of aggressive violent behaviour were identified ('persistent high' which means starting early and continuing through to early adulthood, 'escalating medium' which means developing aggression and violent later in the school years and 'stable low'; where those in the 'stable low' trajectory show the least risk for developing antisocial behaviour and violent and criminal behaviour; the previous two show the greatest risk). In males it was found that the GBG lowered the growth of aggressive behaviour compared to the control group assigned to no programme, but this was seen only in the persistently highly aggressive category and only up until the age of 9 to 10 years. By the age of 19 to 21, rates of antisocial personality disorder (ASPD) were lower in those who had received GBG, however, this was statistically significant only in the males categorised as persistently high in aggression/disruption. A similar pattern was also seen in violent and criminal behaviour and violent criminal records with the GBG impacting on those who scored high on problematic aggressive behaviours but not on those with low or moderate behaviour problems at the start.

Wilson and Lipsey (2007) examined 399 school-based studies and identified that the best results were found when **social skills** were targeted and that in fact treating aggression was much less effective. Examining this further, The Metropolitan Area Child Study Research Group (2007) looked at nearly 1500 children aged from 7 to 9 years who had displayed above average or high levels of aggression and randomly categorised them into three intervention groupings: a prosocial solution led curriculum, the same curriculum plus additional small group training which gave extra opportunities to reinforce those lessons, and a control group. The results showed that there was significantly more growth in prosocial behaviours and a reduction in aggressive fantasy within the prosocial curriculum sample when compared with the control group, however, the curriculum on its own proved more successful in communities where there were already moderate resources than in low resource communities. This was also seen in the combined intervention of curriculum and

small group training but only on some measures. Adding small group training did not provide any additional benefit to the positive effect of the curriculum.

Incremental theory intervention was examined by Yeager, Trzesniewski, and Dweck (2013) by use of a randomised control trial to measure aggressive retaliation. In a previous study Yeager had found that adolescents who took an entity theory perspective (the belief that people's traits are fixed) were more inclined to seek revenge when they had been victimised or excluded by peers. An incremental theory is one where there is a belief that people have the capacity to change and so students were randomly allocated to either a six-session incremental theory intervention, a socio-emotional coping skills programme, or no intervention. Two weeks post intervention the students had a reduced entity theory of personality, a less aggressive response and were more like to act prosocially. After three months the experimental group were more likely to be described as having reduced conduct problems by their teachers, particularly in those young people who had been previously peer victimised.

The **Task Force on Community Preventive Services** (2007) examined the transfers of under-18s into the adult justice system, for example, treating them as adults, to see if this would act as a deterrent either to the individual or more generally by reducing juvenile violence. They found on the contrary that, for the individuals transferred to the adult system their levels of future violence increased relative to those young offenders not transferred. Overall transferred juveniles were 33.7% more likely to be re-arrested for a violent or other crime. It was not possible to state if there was any impact on general levels of offending. The Task Force therefore did not recommend facilitating the transfer of juveniles from juvenile to adult courts for the purposes of reducing violence.

Finally within this section looking at preventative interventions, **Safe Dates** is a school based prevention programme for adolescents created to reduce sexual, psychological and physical forms of intimate partner violence. Iit has been extensively evaluated using Randomised Control Trials and found to be effective both in the short and long terms. Arguably it is considered so robust because it adheres to the nine principles of effective prevention programmes as described by Nation, Bess, Voight, Perkins, and Juarez (2011).These are:

1. Comprehensive Services
2. Varied Teaching Methods
3. Sufficient Dosage
4. Theory Driven
5. Positive Relationships
6. Appropriately Timed
7. Socioculturally Relevant
8. Outcome Evaluation
9. Well-Trained Staff

b) Cognitive Behavioural Interventions

As previously identified within the 2007 SCCJR study **Cognitive behavioural therapy (CBT)** is often used with this cohort. One particular study carried out by Karatas and Gokcakan (2009) compared the use of CBT and psychodrama with 14 and 15 year old school students who had scored highest on **'The Aggression Scale'**, a self-report Likert-

type scale aggression questionnaire, designed by Buss & Perry, 1992 and then Buss & Warren in 2000. Both CBT and psychodrama significantly reduced scores compared to the control when The Aggression Scale was used again a week after the 10 week intervention. Although initially CBT outperformed psychodrama on total aggression, physical aggression and anger scores, there was no long term effect.

As the majority of interventions tend to be over a relatively short period of time and many of those described in this piece have not been maintained in young people over a long period of time, Lochman et al. (2013) evaluated the effect of a 'booster programme' on children who had received a **'Coping Power'** intervention the previous year. Coping Power is a targeted prevention programme for late-primary age children who are exhibiting aggressive behaviour. The child group component of the programme is delivered in school while the accompanying parent group component had been delivered in school or in community centre type settings. The children, who were included if their aggression scores as graded by their teachers were in the top 30% at age 9 to 10 years, were 10 and 11 years old when they received the initial intervention, a third of the sample also received a booster the following year. The initial Coping Power intervention significantly decreased externalising behaviour compared to the control sample, it also reduced proactive aggression, reactive aggression, impulsivity and callous-unemotional traits. However, the booster programme did not further improve these outcomes.

Anger Management Training (AMT) is a cognitive behavioural tool and is very widely used but there was little in the way of systematic effectiveness research into anger management, and very few studies have measured the long term impact or compared outcomes to control groups. One school-based anger management group that focuses on creating leadership abilities and improving relational competency in primary school students was evaluated by Burt, Patel, and Lewis (2012). The sample was identified through behavioural referrals and conduct reports. The intervention patterned itself on Bandura's social cognitive theory (SCT) with an additional leadership component and lasted for 12 weeks. Results revealed a significant reduction in participants' anger compared to pre-test levels; there was also a significant increase in their perception of their own leadership abilities. However, this study was limited because it did not directly measure aggression or violence.

Castillo, Salguero, Fernandez-Berrocal, and Balluerka (2013) studied the **INTEMO** programme, this is the **Emotional Intelligence Training Programme** and the sample size was just under 600 young people aged between 11 and 17 years who were randomly assigned to either control or intervention groups. The intervention lasted for two years with monthly sessions of group-working with role-playing and art projects among other activities. Unfortunately, as in many other studies of this type, instances of aggression or violence were not measured and instead use was made of students' self-reporting of anger and hostility. Although this was significantly reduced in the intervention group there was no significant reduction in physical or verbal aggression.

A meta-analysis by Fossum, Handegard, Martinussen, and Morch (2008) looked at various commonly used psychotherapeutic interventions for young people, those examined were CBT, behavioural therapy (BT), a combination of CBT and BT, family therapy and psychodynamic therapy. They found psychosocial treatments aimed at reducing aggressive behaviour have positive effects and additional treatment effects were moderate, the effect was greater in those studies without controls and in studies where there were small samples involved. Samples of younger children also had greater mean effect sizes and interestingly so did behaviour interventions when compared with family therapeutic interventions. Family

therapies tended to be used most often with adolescents whereas behaviour therapies were used with younger children. The authors concluded that more research needs to be carried out using family therapy as an intervention.

Many interventions are designed to be carried out in schools or in the community but it is worth acknowledging that these same tools and methods might not be effective in other settings, for example, in secure care or formal residential care.

c) Family or Group Interventions

Parenting styles clearly have an impact on the entire family and some recent studies have tried to look at these in order to measure and more fully understand what effect they have. Brotman et al. (2009) examined the use of **'Incredible Years'** for parents of children who have siblings presenting with antisocial behaviour. The sample families were identified from family court where the older child had been adjudicated and the younger child was on average 4 years old. They were randomly allocated to intervention group or control group. Three styles of parenting were also identified and the researchers found a significant relation between the intervention and all three parenting styles, although it was least effective on the 'harsh' parenting style and most effective on 'stimulating' parenting style. The parenting style was also found to have a significant relationship to child physical aggression, with low levels of harsh parenting related to low levels of aggression, as were high levels of stimulating and responsive parenting. Harsh parenting style was strongly linked with aggression in the child but the impact of the intervention on harsh parenting was less than for the other two styles of parenting. Zhang and Eamon (2011) also looked at parenting practices, examining the direct and indirect impact of the mother's community violence exposure on their child's aggressive behaviour. The findings showed that mothers who were exposed to community violence tended to use higher levels of physically and psychologically aggressive parenting which in turn increased the child's aggression. However, this study was based on self-reported parenting and child behaviour and although there were relationships found between the mother's experiences and children's behaviour, directionality could not be stated.

Other family interventions involve work with both the parent(s) and the child, for example De Rubeis and Granic (2012) looked at the interactions of mothers and their children while they took part in the **Stop Now and Plan (SNAP)** programme. This consists of a combination of parent management training for the parent and CBT for the children. The 57 children were sampled from community mental health agencies and were aged an average of 9 years old. The expectation was that mothers and children who were more consistent or regulated in their interactions would show a greater reduction in externalising symptoms from pre to post-test compared to those who were inconsistent, and this was shown to be the case. The authors argued that regulation in mother and child interactions might be an important process underlying treatment success for aggressive youth.

In recent years parent and child attachment has become a locus of interest to researchers and practitioners; for example, Gallarin and Alonso-Arbiol (2012) drew attention to various elements that they argue constitute aggressiveness in adolescents. Beyond the behavioural element they also emphasise the cognitive and emotional elements of aggression in their paper which examined parental attachment in 2013. The authors identified in their sample of over 500 adolescents that **parental attachment** fully mediates the links between parenting, socialisation practices and aggressiveness in adolescents. They also identified the central role of fathers in the development of aggressiveness. In that same study, they showed that the relationship between attachment and behavioural problems becomes stronger in late

adolescence. Similarly the **Connect** programme utilises an attachment-based approach for parents of either pre-teens or teenagers with severe aggression and antisocial behaviour. Two studies were carried out to evaluate its effectiveness and how well it could be transported throughout communities. The outcomes of these studies were shared by Moretti and Obsuth (2009). The results showed there were significant increases in perceived parenting satisfaction and large effects on parental reports of the behaviour of young people including aggression towards the parent. These effects appeared to be maintained for at least one year.

Although some interventions , some of which are described in this paper, can be shown to have an impact, the true measure of an intervention lies in its ability to have long lasting positive effect, for example when a group treatment programme evaluated by Khoury-Kassabri, Sharvet, Braver, and Livneh (2010) examined an intervention with young males with a mean age of 16 years who had been referred to probation for violent offending. The intervention itself consisted of weekly group sessions which lasted for four months and had a statistical effect on the self-reported attitudes towards reactive violence and use of violence, but this was not maintained at a six month follow up.

d) Medical Interventions

Medical intervention studies made up the fewest of the articles and related to the use of pharmacotherapy treatments. One study conducted by Bastiaens (2009) examined the effectiveness of two different antipsychotics (**Aripiprazole** and **Ziprasidone**) in reducing aggressive behaviour in young people aged 6 to 18 years. Although there was no significant difference between the groups at baseline or retest, both groups had significantly improved after two months of intervention. However, there were a large number of drop-outs from the study and more than two thirds experienced side effects, including sedation in more than 50% of the sample. Another study, this one conducted by Miller, Riddle, Pruitt, Zachik, and dosReis (2013), took a more comparative stance and examined the effect of antipsychotic drugs and treatment patterns on aggressive behaviour among adolescents in residential facilities. This study found that in an American residential centre use of antipsychotic medication was significantly greater among those young people with more frequent seclusion and restraint in their first 12 months in residence. Higher doses of these drugs were given to those young people in the moderate and high seclusion/restraint groups and those young people on an increasing dose of the antipsychotic medication were less likely to change medications. However, despite increasing doses of medication these young people still displayed acute episodes of aggressive behaviour. It was suggested by the authors that medication alone was not sufficient to manage aggression.

4.2. Harmful Sexual Behaviour (HSB)

Despite the fact that it is 'known from victim surveys, meta-analyses, and official reports that the prevalence of sexually abusive behaviour by children and young people is between twenty per cent and fifty per cent of all child sexual abuse' (Vizard, 2013, p. 2), Edwards, Whittaker, Beckett, Bishopp, and Bates (2012) highlight how research pertaining to young people who have perpetrated sexual harm is still relatively scarce, with much of the research and clinical literature on sexual offending having focused on adults (Pullman & Seto, 2012). Nevertheless, Edwards et al. (2012) go on to indicate that this is changing, stating that:

"The past decade has seen a rapid growth in research regarding the characteristics and treatment of adolescents who sexually harm. As this field of work has expanded, practitioners have become increasingly aware of the need to develop systematic assessment procedures to evaluate the impact of treatment and to identify those adolescents who are most at risk of perpetrating further abuse" (Edwards et al., 2012, p. 91).

The following sections will proceed to explore what research tells us about the numerous risk assessment tools that are currently utilised in Scotland with children and young people who sexually harm, then examine some other tools that look promising , the characteristics of such young people, and what has been discovered about the efficacy or otherwise of various treatment options.

4.2.1. Characteristics

It is known that the majority of young people who commit sexual offences are male (responsible for 19% of all proven sexual offences), compared to less than one per cent by girls (Vizard, 2013, p. 504). In addition, 'many are siblings, extended family members, or peers of the perpetrator' (Vizard, 2013). Vizard also asserts that it remains unclear whether those who carry out such behaviour are, at least in part, a distinct group of antisocial individuals, or whether such behaviour can be construed as part of antisocial behaviour in general.

In an attempt to answer this question, Canadian researchers Pullman and Seto (2012) summarized Seto and Lalumiere's (2010) meta-analysis of fifty-nine studies that directly compared adolescent sex offenders and other adolescent offenders on theoretically derived variables. The results indicate that the majority of Adolescent Sexual Offenders (ASOs) are 'generalist' offenders who have similar characteristics to other adolescent non-sex offenders (including anti-social personality traits, antisocial attitudes and beliefs, early conduct problems, social problems, intelligence and general psychopathology), while a minority of ASOs are 'specialist' offenders, who have unique risk and etiological factors including childhood sexual abuse/maltreatment and atypical sexual interests. It was concluded that as a clear distinction has been shown between generalist ASOs and specialist ASOs, 'assessment measures and treatment targets geared towards one of these groups may be less effective with the other group, which means that this distinction is clinically important' (p. 203).

Similarly, in a study exploring the differences between a sample of 478 sexually victimised and non-sexually victimised male adolescent abusers and young offenders, Leibowitz, Burton, and Howard (2012) found that the non-victimised HSB group looked very similar to the offending group and dissimilar to the sexually victimised HSB group. They therefore

argue that particular protocols need to be developed for the treatment of these distinct groups.

Vizard (2013) points out that many of the characteristics found in relation to child sexual abuse victims are also found in juvenile perpetrators of sexual abuse, particularly in relation to past experiences of victimisation and poly-victimisation. In addition, her non-systematic practitioner review of the literature highlights a descriptive study of 280 high risk juvenile sexual perpetrators referred to a national forensic Community Adolescent Mental Health (CAMH) service in the UK, which found that 71% of the sample had been sexually abused, 66% had been physically abused, 74% had suffered physical neglect, 49% had been exposed to domestic violence and 25% had experienced all five forms of abuse (Vizard, Hickey, French, & McCrory, 2007). The sample also suffered from general educational and cognitive difficulties and had high levels of developmental, behavioural and mental health problems. It is stated that:

"The overall picture from this research on a high-risk sample was that children starting their sexually abusive behaviour early in childhood were raised in an environment characterised by a matrix of adverse developmental, traumagenic, and family factors (p.4)."

Reporting on a UK study involving a group of twenty-seven boys who perpetrated sexually harmful behaviour before ten years of age, Hawkes (2011) outlines how quantitative and qualitative analysis produced findings that 'indicated a family history of cross-generational harm to children and a parental experience of unresolved harm in childhood which generated inconsistent and insensitive parenting that was linked to high levels of maltreatment and insecurity of attachment in the research group' (p.82). In addition, 'sexualised reactions by the research subjects to a very high level of sexual victimisation were not responded to in a timely or appropriate way by parents, other caregivers or professionals, meaning that sexually harmful behaviour continued without intervention for a significant period' (p.82).

Specifically in relation to young people who offend against siblings, Latzman, Viljoen, Scalora, and Ullman (2011) found that they were significantly more likely than those with non-sibling victims to have been exposed to domestic violence and pornography:

"Exposure to domestic violence and a sexualised home environment (in this case, exposure to pornography and/ or child sexual abuse) may render adolescents particularly at risk for sexual violence. This is an area for future longitudinal research to explore" (p. 256)

It is stated that these findings underscore the importance of providing treatment to the whole family. Similarly, focusing on a study of thirty-eight intra-familial adolescent sex offenders in Australia and their families, Thornton et al. (2008) found that in most families presenting for treatment, relationships between family members were not close, communication between family members was aggressive or non-existent, and parents had little idea how to deal with inappropriate behaviour or set boundaries that would promote acceptable behaviour. In this environment, offending adolescents were described as impulsive, with few ties to family or friends. Families were often isolated with few resources to call on in times of crisis. As such, treatment which focuses on both the individual (e.g. social skills training) and the family system is recommended.

Overall, it is therefore apparent that children and young people who perpetrate sexually harmful behaviour are a heterogeneous group, consisting of a number of sub-groups with

multifarious needs which, in turn, means that their treatment needs will also be diverse and underpinned by an assessment that identifies individual needs and risks. In response to both the judicial need to determine which individuals pose the highest risk of subsequent offending and the acknowledged limitations of unstructured clinical judgements, a number of adolescent risk assessment tools specifically aimed at those who have sexually harmed, have been recently developed or are currently under development and awaiting validation, in various jurisdictions (Viljoen, Elkovitch, Scalora, & Ullman, 2009).

4.2.2. Assessment

Edwards et al (2012) furnish a useful summary of developments in the UK to date, revealing that in 1991, in accordance with the increased emphasis on evidence based practice, the Home Office commissioned a team of forensic clinical psychologists (see, for example, Hedderman & Sugg, 1996) to undertake a three-stage **Sex Offender Treatment Evaluation Project (STEP)** for adult sexual offenders It is stated that while this evaluation has underpinned the development of sex offender treatment programmes in England and Wales, to date no similarly systematic or longitudinal research has been undertaken with adolescents. However, the STEP research (Beech, Fisher and Beckett, 1998, cited in Edwards et al., 2012) successfully produced and utilised a standardised set of measures for adult sex offender profiling and treatment change evaluation. Subsequently, the **Adolescent Sexual Abuser Project (ASAP)** was established in 1997 and aimed to extend the STEP Research to the field of adolescents:

"The aim of ASAP (Beckett, Gehold and Brown, 2007) was the development of a set of uniform psychometric measures to assess adolescents who have sexually harmed in terms of their psychological functioning, as well as their attitudes and beliefs related to sexual matters. This assessment protocol is now used by community projects and treatment centres within Great Britain and the Republic of Ireland, as well as in continental Europe, as part of the assessment and evaluation process" (Edwards et al., 2012, p. 93)

Widely used in Scotland, **AIM2** is based on an approach that assesses the static, stable dynamic, acute dynamic and trigger factors that lead to young people committing sexually abusive behaviour. It was designed to assist with early stage assessments of young men of mainstream educational ability, aged between 12 and 18 years, who are known to have sexually abused others (Griffin, Beech, Print, Bradshaw, & Quayle, 2008). Building upon the original AIM framework (Print, Morrison, & Henniker, 2001) which has been adopted by a significant number of local authorities within the United Kingdom, AIM2 utilizes many of the same factors and considers a number of additional factors to address up-to-date research about young people who sexually abuse. It continues to use the same concerns and strengths approach, organising information into four areas: (1) sexually and non-sexually harmful behaviours (offence-specific); (2) developmental; (3) family/carers; and (4) environment (Griffin et al, 2008). Within the AIM2 assessment, there are a total of 75 static and dynamic factors which are used collectively to create one holistic assessment of the young person's risks and needs.

J-SOAP-11 is also used across Scotland, however, Hempel et al. (2013) talks about how it has also become one of the most commonly used measures in the United States with juvenile sexual offenders (Prentky and Righthand, 2003): described the tool as "an empirically informed guide for the systematic review and assessment of a uniform set of risk factors that has been associated with sexual and violent offending…designed to be used for boys aged 12 to18 years who have been adjudicated for sexual offences as well as non-

adjudicated boys who have a history of sexually coercive behaviour" (p.211). Again, it is highlighted that as there are there are no cut-off scores available for the categories of risk, scores from the J-Soap-II should not be used in isolation when assessing risk. Hempel et al (2013) also made the point that "…although not developed for that purpose, the 12 dynamic items of the J-SOAP-11 might be used for assessing treatment needs and progress because of their interchangeability during the treatment process" (p.211)

More recently, the **Internet Assessment, Intervention and Moving On (iAIM)** tool has been designed primarily to provide social workers and youth justice practitioners with a framework for guiding their assessments and interventions with adolescent males aged 12 to18 years in mainstream education who have engaged in harmful sexual behaviours on-line using new technologies. The behaviour of concern may include downloading, distributing and the production of child abuse images and the tool is intended to assist practitioners working with young people whose internet behaviours form only one aspect of their harmful behaviours, as well as those young people where this is the sole or main cause for concern.

Viljoen et al (2009, p.286) provide a useful summary of **ERASOR**, a structured professional judgement tool designed to assess the risk of sexual violence among those aged 12 to 18 who have committed a prior sexual assault. Currently widely used throughout the USA and Canada, it consists of 25 items that are grouped into five subscales: Sexual Interests, Attitudes and Behaviours (e.g. deviant sexual interests); Historical Sexual Assaults (e.g. past sexual assault of a child); Family/ Environmental Functioning (e.g. problematic parent-offender relationship); Psychosocial Functioning (e.g. lack of intimate peer relationships); and Treatment (e.g. incomplete sexual offence-specific treatment). Each item is coded present, possibly or partially present, not present, or unknown. The tool does not apply cut-off scores of formulas in determining a youth's level of risk; rather, evaluators make a structured professional rating of whether the youth is of low, moderate or high risk of sexual offending (Viljoen et al, 2009, p.286).

Another instrument utilised in the USA is the **J-SORRAT-11** (Epperson et al., 2005), a 12-item, actuarial risk assessment tool for male juveniles aged between 12 and 18 years, who have sexually offended (Hempel et al, 2013). Initially developed for Utah Juvenile Justice Services to provide empirically-based estimates of risk for future juvenile sexual offending, the items are generally behaviourally anchored and are scored by evaluators based on a review of relevant reports in juvenile justice case files.

Finally, while not initially designed for estimating risk of sexual offending, the **SAVRY** is sometimes used, in addition to other instruments, for assessing risk amongst juvenile sexual offenders (Hempel et al, 2013). A structured professional judgement tool assessment designed to assess the risk of violent offending, it can also be used to predict recidivism among juveniles who have sexually offended. This tool has been described more fully within the Violence section of this paper.

Given that such instruments can be used to justify the imposition of long-term consequences on juvenile sexual offenders and are intended to reduce the risk of future offending, the question of whether they actually work would seem to be a valid one. However, in a recent study which reviewed the literature on the predictive accuracy of six measures commonly used for risk assessment in juvenile sexual offenders in the USA, including the J-SOAP-II, J-SORRAT-11, ERASOR and SAVRY, Hempel et al (2013) found that "…there is no one instrument that shows unequivocal positive results in predicting future offending amongst this population" (p.221). It is difficult to disagree with the authors' assertion that as little

research had been done on some of the instruments; it is too early to draw definitive conclusions about their predictive accuracy. Nevertheless, they also highlight that although it is one of the most commonly used measures in the United States with JSOs, the results of the J-SOAP-II were mixed across studies, "…a problem that also applies to the other instruments" (p.221).

Similarly, Viljoen et al (2009) found that the tools examined in their study achieved limited success in predicting sexual reoffending. However, they found that the **ERASOR** showed the most promise and that although its total scores were non-significant, structured professional judgements on this tool nearly reached significance, and that as such, there is a clear need for further research.

Viljoen et al (2009) further argue that as the field advances, it is important to examine the characteristics of individuals with whom the tools are more or less effective - that is, whether certain youth characteristics moderate the predictive validity of a tool. A recent example is cited whereby Viljoen et al. (2008) reported that J-SOAP-II and SAVRY were less predictive of reoffending among adolescents aged 12 to15 than they were among older adolescents aged 16 to 18: "…in particular, false positives were especially common among young adolescents…this preliminary finding requires further investigation" (p.983).

It would therefore seem that there is still a long way to go before definitive answers can be provided regarding whether the risk assessment tools that are currently in use are indeed fit for purpose. Reasons for this can be found in the low rates of sexual reoffending amongst those who offend as adolescents, along with the rapid rate at which children and young people develop, which in turn makes such reoffending difficult to predict (Hempel et al, 2013; Viljoen et al, 2009). Certainly, Hempel et al (2013) argue that as studies which have found a significant predictive validity for an instrument were often conducted by the individual or group that had developed the measure, more independent research is needed to draw objective conclusions.

4.2.3. Interventions

Edwards et al (2012) highlighted how although research has suggested positive treatment effects for adolescents who have participated in treatment compared to those who have not, there is still a need for further research into treatment intervention programmes and the development of methods to measure change. Indeed, Ryan, Leversee, and Lane (2010, p. 272) assert that "the repertoire of treatment interventions described in treating these youth has at times appeared to use a shotgun approach (doing everything that might work and hoping some of it works)".

Overall, it would seem evident that such a diverse group of children and young people will have different treatment needs according to subtype:

"We would expect better treatment outcomes, in terms of reduced recidivism and positive changes on other outcomes such as educational attainment, employment, and lifestyle stability, if treatment was matched to ASO type. Understanding maltreatment history, as well as the consequences of that history, is an essential aspect of the assessment and treatment of ASOs" (Pullman and Seto, 2012, p.207).

Pullman and Seto (2012) conclude that further research is needed to evaluate this hypothesis, and it is certainly the case that at present no definitive answers regarding

effective treatments are readily available. However, various authors have proffered suggestions, some of which will be explored below.

Ryan, Leversee and Lane (2010) assert that the sexual offending of youth characterised by psycho-social deficits may benefit from a strengths-based approach which can be useful to the process of identifying and utilizing personal strengths and talents and creating opportunities for success. They describe how others have recommended the use of structured skill-building curriculums such as **Life Space Interventions** (Grskovic and Goetze, 2005), Prism (Wexler, 1991), and **Skillstreaming the Adolescent** (Goldstein and McGinnis, 1997), along with effectively oriented psycho-education models for skill and knowledge acquisition (p.273).

The point is also made that as young people characterised as having antisocial lifestyles who sexually offend have much in common with other young people who offend (which may include a wide range of abusive and aggressive acting out behaviours, and the exhibiting of egotistical-antagonistic and/or hostile masculinity traits), arguably, they may benefit from treatment interventions found to be effective with that population. Therefore, in terms of those in institutional settings, it is revealed that **Aggression Replacement Training (ART)** provides a multi-modal, evidence based intervention using cognitive behavioural approaches for aggressive and violence prone youth (Greenwood, 2008), with three separate ten week components run simultaneously which include moral reasoning, anger control training and social skills training (Ryan, Leversee and Lane, 2010).

Edwards et al(2012) evaluated the **Gateway** offence-specific group-work programme in England, a weekly CBT-based rolling programme administered at a residential therapeutic provision in SE England, with a specific focus on **Rational Emotive Behaviour Therapy (REBT)** which aims to support group members to identify, evaluate and challenge dysfunctional beliefs. They found that the treatment programme generally had a positive impact on psychosocial functioning measures and offence related attitudes and beliefs as assessed by the ASAP psychometrics and ERASOR.

Nevertheless, a number of the studies referred to in the previous section indicate that approaches that do not simply focus on correcting the individual deficits of the perpetrator will stand a greater chance of success. Indeed, in a position paper set in the US context, Letourneau and Borduin (2008) argue that a much more rigorous approach to developing knowledge of effectiveness is needed with this client group and that dominant interventions (e.g. cognitive behavioural group treatments with an emphasis on relapse prevention) typically fail to address the multiple determinants of juvenile sexual offending and could result in iatrogenic outcomes (p.1). The paper highlights the potential effectiveness of **Multi Systemic Therapy (MST)** as evidenced by the promising outcomes of two relatively small-scale studies and goes on to conclude that:

“In summary, a small growing body of evidence suggests that promising treatments for juvenile sexual offenders are comprehensive and flexible enough to address numerous contextual influences within youths’ lives. Indeed, the success of such treatments may be because of their explicit focus on ameliorating the key social-ecological factors associated with sexual and other criminal offending in juveniles” (Letourneau and Borduin, 2008, p.11).

After examining the similarities and differences between those who perpetrate offences against a sibling and those who do not, Latzman, Viljoen, Scalora and Ullman (2011) assert that research indicates “a comprehensive, family-based approach with certain offence-

specific interventions may be the most effective treatment for reducing recidivism in sexually abusive adolescents (e.g. Multi Systemic Therapy…)" (p.256). It is also argued that further research is needed to determine whether family-based treatments, including MST, are differentially effective with various populations of adolescents, including sibling offenders. The example is provided of how research suggests that domestic violence may limit the effectiveness of primary preventions to reduce child abuse and neglect. However, little is known about whether family based interventions are more or less effective for tertiary prevention of adolescent sexual offending when domestic violence is present.

Other studies have similarly noted that working with the family system was essential to their approach (Thornton et al., 2008; Worling, Litteljohn, & Bookalam, 2010) and in Amand, Bard and Silovsky's (2008) meta-analysis of 11 treatment outcome studies which evaluated 18 specific treatments of sexual behaviour problems (SBP) as a primary or secondary target, it was found that "the primary agent of change for SBP appears to be the parent or caregiver and that as such, **Parenting/Behaviour Management Skills** was by far the practice element most strongly associated with reduced SBP" (p.161).

4.3. Substance Misuse

4.3.1. Characteristics

Substance misuse has found a place within this review due to the documented close links with violence and other risky behaviour. These links were further reflected in the number of peer reviewed articles that were identified as part of the search protocol. Substance use itself however has been steadily in decline among teenagers in Scotland and alcohol use is now at its lowest level since 1990. In a survey of secondary school pupils only 4% of 13 year olds and 19% of 15 year olds had consumed an alcoholic drink in the past week (SALSUS, 2013a). Similarly, the levels of drug use among school children was at its lowest since recording commenced in 1998, with 9% of 15 year olds and 2% of 13 year olds reporting some drug use in the previous month (SALSUS, 2013b). Problematic substance misuse is likely to be even lower, although there is some evidence that young people who frequently truant have higher levels of substance misuse, and may therefore be missed by school-based surveys.

Despite these positive trends, it remains that alcohol is implicated in 59%, and drug use in 29%, of violent crimes by people aged over 16 (Scottish Government, 2014) and that more than three-quarters of young males in HM Polmont Young Offenders Institution report being under the influence of alcohol at the time of their offence (Mckinlay, Forsyth, & Khan, 2009). While it cannot be claimed that substance misuse causes these offences, it does suggest that reducing substance misuse among young people in Scotland may have an impact on the levels of crime, and violent crime in particular. In addition, adolescents who have problematic substance misuse in adolescence have been found to have elevated levels of poverty, offending, early death and physical and mental ill-health in adulthood (Hodgins et al., 2007).

It should also be noted that while the use of alcohol, tobacco and illegal drugs is on the decline, the use of new psychoactive substances (also known as ‘legal highs’) is the focus of increasing attention by practitioners and policymakers. At present accurate prevalence figures are difficult to ascertain, and the research literature is very limited, therefore these substances have been excluded from this review.

4.3.2. Assessment

A comprehensive and robust assessment of needs and problem areas related to substance misuse are an essential first component of any intervention or treatment programme (Knight, Becan, Landrum, Joe, & Flynn, 2014). However, examination of the research literature reveals a dearth of assessment tools that have been fully tested or normed on large populations of adolescents. A substantial proportion of the research reviewed for this paper considered the use of internally developed assessment tools that have been tested, often in single studies, on small to medium populations (frequently ranging from tens of teenagers, to samples in the low hundreds). Examples include the Assessment of Liability and Exposure to Substance use and Antisocial behaviour (Ridenour, Clark, & Cottler, 2009); the Comprehensive Health Assessment for Teens (Lord et al., 2011) and the TCU Treatment Process Model (Knight et al., 2014). This has led Gans, Falco, Schackman, and Winters (2010) to conclude, following a study of 120 highly regarded substance use treatment programmes in the USA, that the quality of assessment practice varies and is often dependent on in-house and often untested assessment tools.

In addition, most of the research studies sought to demonstrate the psychometric properties of the tools in question, assessing internal reliability, or concurrent validity. Although it is essential to assess and document these properties, studies such as these focus more on refining and developing the assessment tool, rather than considering the usefulness for practitioners or how the tool might guide treatment and interventions or predict outcomes. For example, Ridenour et al. (2009) report on the psychometric properties of the 'Assessment of Liability and Exposure to Substance use and Antisocial behaviour for children' **(ALEXSA)**, an illustration-based computerised assessment tool for identifying risks and preventing substance misuse in young people aged 9 to12 years old. While the tool demonstrated good psychometric properties, the authors also describe it as a 350 item survey across nine different factors and 34 separate subscales. It is not clear therefore whether this tool poses a particular burden for young people or practitioners, and whether therefore it has practical utility. As a result, only the assessment tool that appeared to have the most widespread use and that was accompanied by multiple studies have been included here. This does not mean that there are not other suitable and well-tested assessment tools available, however these were not identified in the search for this study.

The literature review failed to identify validated or broadly used risk assessment tools when it comes to adolescents and substance misuse in Scotland although in practice the **Substance Abuse Subtle Screening Inventory (SASSI-A2)** SASSI adolescent version has been used in some local authorities, it is described more fully below by Gans et al. (2010) with regards to its use in the USA.

SASSI is described by Gans et al to be the most frequently used assessment tool in their survey of 120 highly regarded adolescent substance misuse treatment programmes in the USA. The SASSI has an adult and adolescent version **(SASSI-A2)**. The adolescent tool is aimed at young people aged 12 to18, contains 72 items and can be administered by paper and pencil or online with automated scoring. The authors of the tool suggest that the benefits of the SASSI-A2 are that it can distinguish between substance abuse and substance dependence, and that it has a built-in validity check, to try and identify where adolescents are providing socially desirable or inaccurate answers by including 'indirect' scales that look at attitudes and other factors as well as 'direct' scales that probe actual substance use (The SASSI Institute, 2015). The SASSI Institute report high levels of accuracy (94% accuracy in distinguishing between substance abuse and dependence) and high levels of validity and reliability in a sample of more than 2,300 adolescents. The Institute also indicates that the use of the SASSI-A2 remains appropriate across age, gender and ethnic variations.

Other studies have found more moderate results with the SASSI-A2. Feldstein and Miller (2007) undertook a review of 36 peer-reviewed studies of the SASSI, with a total sample size of more than 22,000. However, these studies also included the use of the adult SASSI and were not focused specifically on the use of the SASSI-A2 with adolescents. The authors found acceptable levels of internal consistency for the SASSI-A2, but that the direct scales were more useful for identifying substance dependence than the indirect scales (questioning the usefulness of the validity check), and no studies reported the high levels of accuracy reported by the SASSI Institute. However, it was not always clear whether the review findings applied to the adult version, the adolescent version, or both. Furthermore, all studies of the SASSI have been carried out with North American populations. Thus at present, while the SASSI may appear promising, further research would clarify whether the tool has potential for widespread use by practitioners in Scotland.

4.3.3. Interventions

So what interventions might prove useful in achieving reducing substance misuse and the attainment of positive outcomes later in life? The literature reports on six different types of interventions, with the vast majority falling within family-based interventions or preventative approaches (typically universal school-based programmes). Other approaches identified in the literature included: cognitive behavioural therapy; motivational interviewing techniques; brief interventions; and pharmaceutical interventions. Several of these intervention types can be found in Appendix section 7.1.2.

a) Preventative Approaches

Preventative approaches mainly took the form of universal school-based programmes or large-scale programmes targeted at 'at-risk' populations. School-based programmes tended to be delivered in the late stages of primary school or in the early years of secondary education and, following the pattern identified before in this paper, of the research studies included here, all bar one were tested among pupils in North America. Most programmes included an element of skills-training in order to equip young people to make prosocial choices about their substance use at a later date.

For example O'Neill, Clark, and Jones (2011), studied the impact of the **Michigan Model for Health (MMH)** which is a broad-based health education curriculum spanning kindergarten (pre-school) to 12th Grade (17 or 18 years). The programmes aims to support skill development and promote healthy and prosocial behaviours through 20-50 minute lessons, and the curriculum focus of the 4th and 5th graders (ages 9 to 11 years) under study was: social and emotional health; alcohol, tobacco; and physical activity among other areas. Twenty five lessons were delivered in 4th Grade and 28 in 5th Grade. Schools were randomised to 25 intervention schools and 27 control schools and 2,512 pupils participated across the two conditions. Self-reported measures to capture knowledge, skills, intentions and behaviours were administered one week prior to the start of the intervention, one week following the intervention and again at approximately six weeks post-intervention. Pupils who had received the intervention reported significantly lower substance use intentions and behaviours, significantly lower aggressive behaviours as well as significantly improved social and emotional skills.

Other similar programmes have reported mixed results in relation to preventing substance use and other outcomes and one has been described in the Appendix.

An evaluation of the programme, **Towards No Drug Abuse** (comprising 12 classroom sessions of 45 minutes each) involving more than 1,400 pupils between 14 and 21 (mean age 16.8) found that immediately following the intervention there were significant reductions in the intention to use cigarettes, alcohol and illegal drugs compared to controls (Lisha et al., 2012). The only non-American trial included in this review was a large-scale multi-site European study (Faggiano et al., 2010) called **'Unplugged'** which was delivered to young people aged 12 to14 years for one hour per week over 12 weeks. More than 6,600 pupils were randomised to either intervention or control and completed self-report questionnaires prior to the intervention as well as 18 months after the pre-test. Significant reductions were observed in alcohol and cannabis use in the intervention conditions, but not in relation to cigarette smoking.

While school is the most obvious context in which to deliver a prevention programme to large numbers of young people, a small number of studies did consider the role of families in preventative approaches to substance use. **Preparing for the Drug Free Years (PDFY)** is a programme for the parents of young people aged 8 to14. One study of 429 families in the rural Midwest with a child in the 6th Grade (aged 11 or 12) followed up the impact of 10 hours of PDFY delivered to parents over five weeks over a decade (with the final session also involving the young person) (Mason, Schmidt, Abraham, Walker, & Tercyak, 2009). The self-reported follow-up was conducted when the young person was 22 and it was found that the levels of alcohol abuse in males whose families received PDFY were slightly (but not significantly) higher than those who had been randomly allocated to the control group. However, the rate of alcohol abuse was significantly lower among PDFY females at follow-up (6%) than controls (16%) and the authors note that this appeared to be mediated through an increase in prosocial skills immediately post-test (approximately aged 12).

A **Cochrane Collaboration** systematic review of family-based programmes aimed at preventing alcohol abuse in children and young people found that very few had been evaluated or reported sufficiently or robustly enough to permit a meta-analysis of their effectiveness (Foxcroft & Tsertsvadze, 2011). The review simply summarised the studies qualitatively instead, and found that nine of the 12 trials showed some evidence of effectiveness in the medium and longer term, but that the effects were quite small. The three remaining studies found no significant differences between intervention and control groups.

While it appears that there are at least some beneficial aspects to school-based and family-based education programmes, the mixed results and methodological issues mean that we should be cautious in drawing any firm conclusions. Studies that reported the most positive results also tended to have the shortest follow-up periods (Lisha et al., 2012; O'Neill et al., 2011) or used substance use intentions rather than actual behaviours as the outcome measure (Lisha et al., 2012). Furthermore in each of the school-based studies, entire schools were randomised to conditions. Though schools were often found not to differ significantly on certain key characteristics (such as ethnic make-up or deprivation), and randomisation should eliminate any systematic bias, it might be that there were other variables in the schools under study that contributed to the observed differences (school leadership for example, or staff skills). Lastly attrition rates tended to be fairly high, up to 50% in some studies (Sloboda et al., 2009), and those who were unavailable at follow-up frequently reported higher use of substances at baseline (Faggiano et al., 2010; Mason et al., 2009; O'Neill et al., 2011). Similarly, in the PDFY study (Mason et al., 2009) parents with lower educational attainment were more likely to drop out of the study before completion, which may mean that the programme is not accessible to all parents. Systematic differences between those who complete and those who drop-out may also create a false impression about the effectiveness of an intervention.

b) Family-based interventions

A systematic review of interventions for adolescents with comorbid substance misuse and conduct problems (Spas, Ramsey, Paiva, & Stein, 2012) concluded that although there are a number of evidence-based interventions; those that incorporate family-based interventions appear to achieve the most positive outcomes. However, Hornberger and Smith (2011) observe that families are often seen as part of the problem and not part of the solution of adolescent substance misuse, and others note that engaging and maintaining families in interventions is challenging and rarely achieved (Wodarski, 2010). It is clear that if family

can be engaged there are often benefits to be had. In a study of the **Teams-Games Tournaments (TGT)** intervention to reduce alcohol misuse and violence among adolescents aged between 16 and 21, Wodarski (2010) found that the multi-modal intervention (peer counselling, anger management and assertiveness training) was enhanced when a family intervention component was added.

The only UK study in the sample considered the use of the **Strengthening Families Programme (SFP)** with young people aged 10 to 14 and their families (Coombes, Allen, Marsh, & Foxcroft, 2009). SFP was original designed for younger children of methadone using parents, where it was hypothesised that family dysfunction and poor parenting left children and young people at higher risk of substance misuse. SFP has since evolved and now involves parallel and joint sessions for young people and their families once per week for seven weeks. The programme is highly structured and supported by a manual, video and activities and at the end of each parallel session parents and young people come together to practise the skills and techniques that have been learned. The programme was assessed by the use of pre-and-post measures at the start and end of the intervention, supplemented by qualitative data from focus groups. However the study design meant that the follow-up period was short and the research did not incorporate a control group, so conclusions should be treated with caution at this stage. Nevertheless, evidence from a small sample of 58 families found some early promising results, with significant and positive changes observed in communication, emotional management and substance use.

Other family approaches are underpinned by more therapeutic theories of intervention, including Brief Systemic Family Therapy (BSFT); Functional Family Therapy (FFT); Multidimensional Family Therapy (MDFT) and Multisystemic Therapy (MST) (Baldwin, Christian, Berkeljon, Shadish, & Bean, 2012). The meta-analysis by Baldwin et al. (2012) summarised results from 24 studies that compared family therapy to either 'treatment as usual' or alternative therapies (i.e. group therapy; parents groups; family education therapy; individual treatment etc.) among young people aged 11to19 with offending, conduct problems or substance use. The researchers found a modest, but statistically significant, impact of family therapy over treatment as usual, alternative therapies or control. However, the effect size was smaller in the comparison with other interventions than with the control group comparison. In addition the meta-analysis revealed that studies focusing on the use of family therapy with substance misuse had less positive outcomes than those that focused more on addressing offending. The authors also note that there were not sufficient studies that enabled any comparison between the different types of family therapy.

Other studies covered the use of some of these therapies in more detail. In a systematic review, Spas et al. (2012) highlight **Multi Systemic Therapy (MST)** as a holistic and family-oriented intervention that, although not originally designed for substance misuse per se, showed promising effects in this area from two clinical trials. Both studies randomly assigned young people involved in offending to either MST or 'treatment as usual' and between them the studies reported reduced substance misuse, reduced substance-related offending and reduced violence crime in the MST condition.

As a result of these preliminary findings, further randomised trials of MST were undertaken with a specific focus on adolescents who misused substances and had comorbid conduct problems. Spas et al. (2012) report that all studies find reduced substance misuse and reduced offending in the MST condition, compared to the 'treatment as usual' condition at short-term (four months) and long-term follow-up (four years plus). Of note is that the outcome measures included not just self-reported substance use but also urine analysis

which eliminates any errors or social desirability bias in the self-reporting. However, some caution should be taken as all MST studies reported in this review involved the developers of MST and, while of course this does not necessarily mean that there is bias in the research, it is clear that there is a dearth of fully independent research into MST and substance misuse. Certainly Spas et al. (2012) conclude that there is a need for more clinical trials that compare MST with other interventions that address the same multiple determinants of substance misuse.

Family-based approaches appear to be promising in relation to reducing adolescent substance misuse, potentially by providing an additional level of reinforcement for the young person, and in improving family relations. However, there remains a level of ambiguity with the evidence, particularly in comparing and distinguishing between the different types of family therapies. Furthermore, as with many interventions, there is very little evidence gathered outside of North America to inform practice in other contexts.

c) Motivational Interviewing

Motivational Interviewing (MI) is commonly used to promote behaviour change by reducing ambivalence and resistance to change through brief interventions and questioning techniques. It is therefore a common approach in substance misuse treatment (Spas et al., 2012). However research into MI with adolescent substance misuse is fairly limited and often has mixed results (Spas et al., 2012). MI has typically been found to have most impact when combined with other interventions such as CBT (Spas et al., 2012). For example, brief therapist and computer interventions, which contained an element of skills training and motivational interviewing, were found to be associated with fewer alcohol consequences six months after reporting to an A&E department, compared to a control (receiving an informational brochure) (Walton et al., 2010). Aggression was reduced in the therapist intervention at three months.

However, an additional study (Sussman, Sun, Rohrbach, & Spruijt-Metz, 2012) of the **Towards No Drug Abuse (TND)** prevention programme reported earlier, considered the impact of a motivational interviewing booster component. The MI element was delivered in 20-minute sessions by telephone on three occasions following the main intervention, and was compared to TND on its own as well as a control group. While TND was found to significantly reduce substance use at the one-year follow-up as described earlier, there was found to be no added benefit of the TND plus MI booster, as there were no significant differences in outcomes between them. Similarly, Sabri, Williams, Smith, Jang, and Hall (2010) compared a family intervention with an adolescent-only skills-training and motivational interviewing intervention and found there to be no difference in outcomes between the two approaches at three and six month follow-up. This suggests that MI with other interventions may still prove useful when family-based interventions are inappropriate or not feasible.

Other interventions such as those including the use of CBT or studies that examine the use of pharmaceutical methods are fewer in the literature and in some cases provide only weak arguments regarding their effectiveness for practice, for information they can be found in section 7.1.2 of the Appendix.

5. Conclusions

While the risk assessment debate has emerged in more recent years, and while proponents for differing methodological approaches continue to promote their particular preferences, the place for actuarial assessment and structured professional judgement is now established. As (Hong, Ryan, Chiu, & Sabri, 2013) indicated, static items such as age, ethnicity, or special education are important, while anger and irritability featured among the dynamic items are also related to re-arrests. The risk factors examined are variables that contribute to a measure of the likelihood of further offending. It continues to be the case that actuarial approaches have a good track record for providing a judgement on the likelihood of further offending based on group data of others with similar histories. Tempering those judgements with structured clinical judgement for the specific variability of individual offenders results in a constructive basis on which to build interventions and strategies for the management of the risks and needs identified. It is no longer the case of an either/or approach but a central acknowledgement of the contribution that both actuarial and structured clinical judgement bring to risk assessment. In this regard, the SAVRY has shown promise in relation to young people with violent behaviours. However, despite this, studies to date have found that no one risk assessment instrument has shown unequivocal positive results in predicting future offending amongst young people who display sexually harmful behaviour and that, as such, further independent research is required.

In relation to interventions, again confidence in what appear to be promising interventions is somewhat tempered by the presence of mixed results, frequently small-scale studies and an evidence-base mainly rooted in North America. Therefore, this paper cannot offer any clear solutions for practitioners and policymakers. A common theme running through the three strands, however, was of the potential utility of family-based interventions to address high-risk behaviours and this is worth fuller consideration for interventions in Scotland. It certainly appears that investment in family-oriented approaches may have the potential to improve outcomes across a range of high-risk behaviours, although there is little homegrown evidence to indicate with any certainty that these approaches will work here, in Scotland, today. An iterative and evidence-informed learning process through pilot studies and better evaluation of existing programmes will be essential. Clearly though, there are also implications for more preventative practice and earlier interventions (especially those delivered by universal services), as these approaches become less effective if the family relationship is badly or irreparably damaged.

It is therefore clear that the evidence in relation to assessment and interventions for young people involved in high risk behaviours is somewhat limited. Studies often produce contradictory results, contain methodological flaws or lack sufficient detail to allow implementation outside of the study site. In addition there was a dearth of research that originates in the UK or in Scotland. Furthermore, the evidence-base has not developed substantially since 2007, with many of the more popular or well-known interventions currently in use stemming from an evidence base developed some time ago. There is a clear need to generate more home-grown evidence, as many of the assessments, interventions and practices that are currently used in Scotland with young people displaying high-risk behaviours are underpinned by a strong theoretical base, but lack sufficient research to draw firm conclusions about outcomes and effectiveness.

While Randomised Control Trials (RCT) remain important and a robust form of evidence, it may be that a more pragmatic and flexible approach is required in the short-term, in particular in the form of encouragement and support for practitioners to generate and share their own high quality evidence. A sustained effort from a range of sources (both at the policy and practice level), producing evidence that is as rigorous as possible, is required to ensure continued practice development and innovation and to improve outcomes for Scotland's most vulnerable at risk young people.

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7. Appendix of alternative assessments and interventions

During the examination of the literature some further articles that fit the criteria were identified but these did not significantly further our understanding or knowledge of good practice due to having unclear findings. Similarly some articles were identified that demonstrated some positive outcomes within the conditions of the research, however, these more divergent studies did not fit into the themes of the main body. Rather than omit them entirely they have been included in the Appendix for completeness.

7.1.1. Further assessments and interventions for use with violent young people

Young people's **exposure to violent forms of media** is an issue that has caught the imagination of the public in recent times. In 2009, 500 children aged 6 to 9 years and a control group of 242 were examined after the intervention group experienced a seven month curriculum featuring lessons about sensible television viewing and discussion of alternatives (Rosenkoetter, Rosenkoetter, & Acock, 2008). These children reported watching less violent TV, identified less with violent superheroes and expressed more critical attitudes concerning television violence, this was seen in both girls and boys and maintained for a further eight months when there was a follow up. However, aggressive behaviour itself was not measured. In a study by Moller, Krahe, Busching, and Krause (2012), self-reported aggression was examined in 683 young people with an average age of 13 years, the intervention itself was a programme lasting five weeks which used Bandura's (1977) social learning theory and Huesmann's (1998) script theory, there were also two parents evenings during this period. Self-reported aggression was recorded seven months post intervention and both physical and relational aggression was reduced in the intervention sample, however, again this was a fairly short-term study and suffers from using a self-reported measurement.

The Nurse Family Partnership is a nurse home visiting intervention for parent training and was found by Sidora-Arcoleo et al. (2010) to have no long lasting effects on either verbal ability or physical aggression after age 2, when tried with a sample of over 1,000 low education, unmarried or unemployed first time mothers and their children. Any measurable effects were gone by ages 6 and 12.

Choi, Lee, and Lee (2010) examined if a **group music intervention** would reduce aggression and improve self- esteem with highly aggressive children. The mean age of the young people was 11 and they were randomly assigned to intervention and control samples. This was based on previous research that suggested music therapy can reduce aggressive behaviour. The intervention involved 30 sessions of music therapy including; playing an instrument or writing songs. The intervention group was found post-test to be statistically lower in aggression and had significantly increased self-esteem. The authors did suggest, however, that although it could be argued that there were bio-physiological effects from the intervention it might also have been partially due to the increased attention they received from therapists during the intervention period.

Shechtman (2009) looked at **bibliotherapy** as a potential treatment for adolescent aggression in his book called 'Treating Child and Adolescent Aggression through Bibliotherapy'. He describes how this could be carried out and how it might potentially be effective with what he describes as aggressive children whose actions stem from anger, shame, fear or guilt. He highlighted particular problems aggressive young people have in

relation to empathy, authority figures and self-control, arguing that bibliotherapy could tackle this. He did not however describe any findings that showed this.

Burt and Butler (2011) described the potential of making use of **Capoeira, a Brazilian martial art** as a method to address adolescent aggression arguing that martial arts in general can provide aggressive adolescents with non-violent approaches that can result in positive outcomes, particularly, they argued, with ethnic minority young people and gang members.

Dean, Adam, Bor, and Bellgrove (2010) looked at **fish oil** as an alternative to standard pharmacological treatment for aggressive behaviour in a small sample of young people aged 7 to 14 years. The young people in the study met the criteria for a diagnosis of disruptive behaviour disorder. At six weeks the sample on the fish oil significantly differed from the placebo leading the authors to suggest there might be potential efficacy for fish oil in the treatment of aggression in children and adolescents.

Larson, Sheitman, Kraus, Mayo, and Leidy (2008) examined the use of **padded rooms** as a more ethical and effective response to violent young women in an acute adolescent in-patient unit. The study found a significant reduction in the use of mechanical restraint following the installation of the padded room, however, although the number of seclusions (use of the room) reduced this was not a significant reduction.

7.1.2. Further interventions for use with substance misusing young people

Cognitive-Behavioural therapy is under-researched in the adolescent substance misuse literature and the studies that exist suggest a limited correlation with treatment outcomes, and that CBT may be less effective with females, or younger adolescents (Spas et al., 2012). A study of CBT use with 34 adolescent females in custody (Roberts-Lewis, Parker, Welch, Wall, & Wiggins, 2009) would appear to confirm this as it found there were significant changes in their cognitive skills, but no changes in aggressive behaviour. However, this study is very limited in terms of its small sample size, lack of comparison group, and contextual setting in which it is not possible to measure the impact on actual substance use. Furthermore the CBT was delivered as part of a wider therapeutic intervention and it is not possible to disentangle the effects of the different elements. A comparison of CBT and MDFT (Liddle et al. 2008, cited in Spas et al., 2012) suggested that there were similar results in relation to adolescent drug use at a one-year follow-up.

Other interventions include **pharmacological interventions** which have potential for use in adolescent opiate use, especially for those injecting, but these do rely on medication adherence (Subramaniam et al., 2011). However, studies that focus on adolescents appear fairly infrequently in the literature.

The **'Take Charge of Your Life'** programme was trialled among almost 20,000 7th Grade students (aged approximately 12 or 13) in 83 schools, with 41 schools randomly allocated to the 'treatment' condition and 42 to the 'control' condition (Sloboda et al., 2009). The aim was to raise awareness of the personal, social and legal risks of substance use and to provide skills-training in communication, decision-making and assertiveness. The programme was delivered by trained police officers across 10 lessons in 7th Grade, supplemented by a seven-lesson booster programme in 9th Grade. Annual self-report surveys were undertaken over five years, with the final survey completed in 11th Grade (at 16 or 17 years of age). Despite previous evidence of success in more 'controlled'

conditions, at the final follow up the pupils in the treatment condition reported significantly higher alcohol and cigarette use in the past 30 days and significantly higher levels of binge drinking in the previous 14 days. There were no statistically significant differences for cannabis use or alcohol use over the preceding 12 months.

With other therapies the results are not always clear cut either. In a review of the literature on **Multi-dimensional Family Therapy (MDFT)**, Rowe (2010) concludes that MDFT compares favourably to other treatments, such as CBT or manualised interventions, in the reduction of substance use and negative behaviours such as aggression. However, in a comparison of BSFT and treatment as usual with 480 adolescents (aged 12-17), Robbins et al. (2011) found that there was no significant difference between BSFT and treatment as usual in urine analysis screening results, but a weak difference in self-report drug-use days. However, BSFT was more effective at engaging and retaining people in the intervention, and families in this condition reported higher levels of family functioning at the end of the intervention.