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COMPREHENSIVE REVIEWS

The role of the family in preventing and intervening with substance use and misuse: a comprehensive review of family interventions, with a focus on young people

RICHARD D. B. VELLEMAN[1], LORNA J. TEMPLETON[1], & ALEX G. COPELLO[2]

[1]*Mental Health Research & Development Unit, University of Bath, Bath, UK and* [2]*School of Psychology, University of Birmingham, Birmingham, UK, and Birmingham and Solihull Mental Health Trust*

Abstract

The family plays a key part in both preventing and intervening with substance use and misuse, both through inducing risk, and/or encouraging and promoting protection and resilience. This review examines a number of family processes and structures that have been associated with young people commencing substance use and later misuse, and concludes that there is significant evidence for family involvement in young people's taking up, and later misusing, substances. Given this family involvement, the review explores and appraises interventions aimed at using the family to prevent substance use and misuse amongst young people. The review concludes that there is a dearth of methodologically highly sound research in this area, but the research that has been conducted does suggest strongly that the family can have a central role in preventing substance use and later misuse amongst young people. [Velleman RDB, Templeton LJ, Copello, AG. The role of the family in preventing and intervening with substance use and misuse: a comprehensive review of family interventions, with a focus on young people. *Drug Alcohol Rev* 2005;24:93 – 109]

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Introduction

The use and misuse of alcohol and drugs is widespread amongst young people. Substance misuse by these young people, or by anyone else in the family, can result in harm to the individual and the wider community, as well as having a seriously negative impact on other family members. There are many terms in this field that are often used confusingly. We will generally refer to, and try to distinguish between, substance use and substance misuse ('use' meaning any use including experimentation; 'misuse' referring to problematic or very heavy use; 'substance' referring to alcohol, illicit drugs and volatile substances).

Recent data from the United States [1] indicate that approximately 9% (just under 20 million people) of the total population aged 12 years or more in the USA, and nearly 12% of young people aged 12 – 17, are current (last month) users of illicit drugs. These data also show that half the population (119 million) are current alcohol users, nearly a quarter are 'binge-drinkers', and around 7% are 'heavy drinkers'. The highest rates in the latter two groups are seen in young people 18 – 25 years.

UK estimates suggest that about six million people drink above the recommended daily guidelines with almost two million more drinking at harmful levels [2,3]. Other UK figures [4] indicate that over a third of the population aged 16 – 59 has 'ever' used an illegal drug, and currently there are estimated to be about four million users of illicit drugs in the UK, based on figures of 12% of 16 – 59 years olds reporting that they had taken an illegal drug in the last year. The National

Richard Velleman, PhD, MSc, BSc, Professor of Mental Health Research, University of Bath and Director of the Mental Health Research & Development Unit, Avon & Wiltshire Mental Health Partnership NHS Trust and University of Bath. Lorna Templeton, MSc, BSc, Senior Researcher and Manager of the Alcohol, Drugs and the Family Research Program, Mental Health Research & Development Unit, Avon & Wiltshire Mental Health Partnership NHS Trust and University of Bath. Alex Copello, PhD, MSc, BSc, Clinical Director, Birmingham and Solihull Substance Misuse Services and Senior Lecturer, School of Psychology, University of Birmingham. Correspondence to Richard Velleman, Mental Health Research & Development Unit, Wessex House Level 7, University of Bath, Bath, BA2 7AY, UK. E-mail: R.D.B.Velleman@bath.ac.uk

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Treatment Agency [5] estimates that about a quarter of a million people in England and Wales will develop serious problems associated with their drug use every year, and most of these people are in the younger age ranges: those in the younger age ranges are more likely to report rates of 'ever' and 'in the last year' drug use which are two to three times higher than the overall rates.

Other data corroborates this concern over young people's substance use and misuse. In December 2004, the results of the 2003 ESPAD (European Schools Project on Alcohol and other Drugs) were released [6–8]. This longitudinal project (previous phases occurred in 1995 and 1999) covers almost all of Europe (36 European countries: Austria, Belarus, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, the Faroe Islands, Finland, France, Germany, Greece, Greenland, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia, the Slovak Republic, Slovenia, Sweden, Switzerland, the Ukraine and the four component parts of the UK). In the 2003 survey, 100,000 young people from these 36 countries answered the ESPAD Project questionnaire, which consists of about 300 questions relating to behaviours, knowledge and beliefs concerning cigarettes, alcohol, solvents and illegal drugs. Results show high rates of misuse of alcohol and drugs amongst teenagers across all countries: a particular concern relates to the increased rates of binge-drinking and drug use amongst girls as opposed to boys, in many of the countries surveyed.

There are many potential causal and influencing factors behind young people's use and misuse of substances. Orford [9] discusses some of the key theories and studies that have been proposed for why people develop excessive behaviours related to drinking, drug-taking, gambling, eating, exercising and sexual behaviour: ''. . ..*it is a not unreasonable assumption that the origins of excess lie in adolescence at a time when most people adopt the relevant behaviours for the first time*'' (p138), concluding that ''. . ..*the origins of excess are likely to lie as much in social norms and group pressure as in character and attitudes; that the uptake of new behaviour does not occur in a psychological vacuum but as part of a constellation of changing beliefs, preferences and habits of thought, feeling and action; and that appetitive behaviour cannot be divorced from the demands, both biological and social, of the stage of the life-cycle at which a person finds him or herself*'' (p141).

There is, however, increasing evidence that the family plays a key part in both prevention and intervention, both through inducing risk, or encouraging and promoting protection and resilience. Furthermore, the family (and individual family members: spouse, children, parents, and siblings) is also affected when someone in it misuses substances. The family has been described as having a 'pivotal' role in the aetiology of problem behaviours such as substance misuse [10], and this review will focus only on family factors. Family influence, however, does not occur in a vacuum: clearly there are other determinants on drug and alcohol use and misuse, including intra-personal factors, peer influence, and wider – community and environmental – factors such as media influences, advertising, availability and environmental deprivation; these cannot be ignored in any comprehensive analysis of aetiology and correspondingly of prevention and intervention strategies.

This present review will look at two main areas related to the family:

1. The evidence for family involvement in young people taking up the use, and misuse, of substances.
2. Interventions aimed at helping the family prevent substance use and misuse amongst young people.

A companion review, to be published subsequently [11], looks at a further three areas:

1. The evidence for the impact that substance misuse can have on the family and individuals within it.
2. Interventions aimed at supporting those family members affected by the substance misuse of a relative, and responding to the needs of these family members in their own right.
3. Interventions aimed at using the family to stop or reduce the harm associated with substance misuse (to treat substance misuse), either by working with family members to promote the entry and engagement of misusers into treatment, or by the joint involvement of family members and misusing relatives in the treatment of the misuser.

The evidence drawn upon will primarily relate to the use and misuse of alcohol and drugs, although reference will be made to other behaviours (particularly smoking) where helpful.

Family involvement in young people taking up the use of, and misusing, substances

For some time researchers and practitioners have assigned a crucial role to the family in the development or prevention of all delinquent behaviours [12–15]. Quality of parenting has been found to interact with such variables as psychological well-being, life stress, and social support in predicting general antisocial behaviour, as well as substance use and misuse [16]. Many interventions have been based on the idea that the family plays an important part in socialising children to adjust to the demands and opportunities of the social environment. It is thought that if

inappropriate socialisation occurs within the family, a range of delinquent behaviours may develop [17], and studies have found that early antisocial behaviour is a strong predictor of later substance misuse [13,18,19].

As reviewed below, there have been many findings of statistically significant associations between drug and alcohol use and particular relational processes within the family. As with all correlatory results, causal relationships cannot be deduced from these. Questions remain, for example, as to whether conflict with parents increases the likelihood that a young person will misuse substances, or whether those who do use substances have other behaviours, which result in greater levels of conflict in the family. Particular personality characteristics may encourage certain young people to spend more time with their family and may, at the same time, encourage the avoidance of behaviours such as drug or alcohol use.

Nevertheless, there are many findings that demonstrate the importance of the family. Wood *et al.* [20], Clark [21], Olsson *et al.* [22], Repetti *et al.* [12], Ary *et al.* [23] and Forney *et al* [24] have all demonstrated the strength of parental influence (via both behaviour and attitudes) on young people commencing substance use. Social factors that affect early development within the family, such as a chaotic home environment, ineffective parenting, and lack of mutual attachment, have been shown to be crucially important indicators of risk [13]. The strongest social predictor of both drug and alcohol use has been shown to be use by parents and friends [25 – 33]. One earlier review [34] concluded that parent use of a specific substance is the most powerful influence on adolescent initiation into use of that substance.

Velleman and colleagues [35 – 37] have argued that there are seven areas in which the family context could influence the child's substance use behaviour: family relations versus structure, family cohesion, family communication, parental modelling of behaviour, family management, parental supervision and parent/peer influences. We shall briefly review each of these.

Family relations versus structure

A distinction has been made between the effects of relational aspects of families (*e.g.* cohesion, discipline, communication) as opposed to structural aspects (*e.g.* single parent families, family size, birth order) on general delinquency and substance use. Relational aspects of families seem to have a greater influence than structural aspects on forming drug-related behaviours [38,39].

Other studies have attempted to identify family structural variables, which may influence delinquency by focusing on family size and composition, social class, and parents' marital and employment status. There are a few examples of the effect of family structure on drug related behaviour. Evidence points to increased smoking prevalence in children from one-parent families [40], and a survey of adolescents in Surrey, England found that children in single-parent families, step-families, and in care or foster-care, were more likely to be offered and to use drugs, while little difference by gender or socio-economic status was noted [41].

While of some use for identifying '*at risk*' groups, this approach is less useful for formulating intervention policies because structural variables are very difficult to manipulate. Effective interventions must have the flexibility to respond both when family and individual psychological factors predominate in early years, and when young people come under wider community influences during adolescence [14].

Family cohesion

The closeness of the parent-child bond has been found to discourage drug use both directly and through its impact on choice of non-drug using friends [42]. It also appears to have a bearing on whether experimental drug-use leads to a more serious pattern of drug involvement [43].

Liking and wanting to be like their parents, and a high level of family co-operation, have been seen to be very important factors in the family climate variable [44]. Bahr *et al.* [45] from a random sample of 27,000 students in Utah, USA, found that family bonding has a small but significant direct effect, and moderate indirect effect, on the frequency and amount of alcohol taken. Other evidence indicates that higher levels of family cohesion appear to suppress initial levels of use of alcohol, cigarettes, and marijuana, and can delay increase in cigarette use [46]. In addition, family bonding has a relatively strong positive association with educational commitment, and adolescents with a higher educational commitment tend to drink less often and use smaller amounts [45].

In a six-year prospective study, Doherty and Allen [47] found a direct relationship between family functioning, parental smoking and adolescent cigarette use. The interpretation offered was that low family cohesion predisposes adolescents towards deviant behaviour, especially that which is modelled in the home, and that parents in low cohesive families do not have enough influence to control their children [47].

In terms of low cohesion, adolescents reporting low maternal support and negative self-perception seem more likely to be involved with substance use [48].

Family communication

A low level of communication between parent and child, poorly-defined and poorly-communicated expec-

tations of a child's behaviour, excessively severe and inconsistent discipline, and high levels of negative interaction or family conflict have all been found predictive of increased risk of substance misuse, delinquency, and conduct disorders [49,50]. Similarly, the effect of negative consequences (*e.g.* scolding/criticism) on 11 – 15 year old children by mothers are themselves negative: the more negative consequences received, the more likely adolescents were to initiate or continue substance use [51]. Conversely, regular communication of parental warmth and affection, support for child competencies, presentation of clear prosocial expectations, monitoring of children, and consistent and moderate discipline can inhibit problem behaviour in children [16,52].

Whilst (as outlined above) the quality and level of family communication generally is important, so too is communication within the family about drugs and attitudes to drugs. A small study of parents and children from three high schools in Wales [53] showed that while both groups believed they should communicate about drugs, there was disagreement about whether this had taken place. While 93 per cent of the parents believed they had already discussed the subject with their children, only 46 per cent of the children felt this to be the case. Almost 90 per cent of parents and children strongly supported the idea of parents being helped to talk with their children by providing them with leaflets, a talk by a drugs-worker, or watching a TV program.

While young people have said the impetus for discussion about drugs should come from their parents [53], and one survey found that 50 per cent of secondary school children would prefer their parents to be the main source of their learning about drugs [54], there seems to be lack of effective communication, perhaps exacerbated by parents general lack of confidence concerning their level of knowledge [55].

Young people frequently cite television as a source of information about drugs, and although some positive comments are made about drug education in school, the majority of students in one survey wanted drug education from someone with direct experience of drug use or of working with drug users [41]. While this may imply limitations to the value of parental involvement in prevention it may, on the other hand, offer opportunities for parents and young people to learn together.

A needs assessment of 129 parents, carried out for the Health Education Board for Scotland [56], found that they required not only reassurance about their role in drugs education, but lacked an appropriate language and safe opportunities to explore drug-issues with young people. Nearly all respondents (99%) recognised increased parenting skills as crucial to building an understanding between parents and children, while 96 per cent were in favour of production of video clips by young people to enhance intergenerational discussion.

A review of four studies on health promotion within the family context also illustrates communication difficulties between parents and children [57]. This is particularly demonstrated in relation to sex education, a topic traditionally difficult to broach, and consideration of communication problems here may throw light upon parent-child communication regarding drugs. Key findings indicate that adults rarely ask children what they want in terms of information or mode of communication. As a result, despite being unhappy with their own parents' approach to sex education, many parents tend to repeat the same mistakes or omissions with their own children. Fathers appear reluctant and less articulate regarding personal issues, and teenagers are more likely to discuss developmental problems with their mothers. Parent-child discussions on sensitive emotional issues tend to be reactive to particular situations. Boys receive less formal sex education than girls, and although boys express a preference for receiving information from their fathers or another male, the research shows that they are less likely to ask for, or receive, advice from fathers. Sometimes mothers assume that fathers had spoken to their sons, but are uncertain as to the extent of the communication [57].

The implication for projects involving parents in drug prevention would seem to be that while young people prefer their parents to initiate discussion, the parents lack confidence in their own knowledge and ability to communicate. The findings from both the USA National Survey of Drug Use and Health [1] and a major Australian survey of over 5,000 students [22], both described in a later sub-section, show that there is a major relationship between parental communication of their disapproval of drug use and subsequent drug use or not.

Furthermore, despite boys' desire for more effective communication with fathers there does seem to be a real problem in getting fathers involved in projects which could enhance their communication skills. Where both parents have been involved in a multi-media training program, mothers showed new skills in the context of general family interaction, while fathers exhibited significantly improved communication only in problem-solving situations [49].

Family management and attitudes

A review of parent training suggested that the use of child-management practices which are consistent and contingent (*i.e.* rewards and punishments given for specific behaviours), can increase family attachment and cohesion, and decrease disruptive and delinquent behaviours among children [58]. It has been suggested that parents who lack effective family management skills are less well-equipped to protect their children from

negative peer influence [59], and that development of social skills in children may be an effective strategy for preventing drug misuse. Poor parenting skills tend to be passed from one generation to the next [60], and parents can feel overwhelmed.

Indeed, both excessively authoritarian and permissive parenting have been found to be associated with an earlier onset of drug and alcohol use [61]. A lack of consistency or structure and a tendency to vacillate between over-permissiveness and physical or verbal violence have been observed clinically in the parents of misusers of alcohol and other drugs [62]. In contrast, parents who are responsive, demanding, and provide a sense of self-efficacy, tend to have offspring who are less likely to engage in a range of misbehaviour, including drug use [63–65].

The USA National Survey of Drug Use and Health [1] shows that where young people reported that their parents would disapprove of them trying marijuana (and this was the majority, approximately 90%), the percentage of young people proceeding to try that drug was low (5.4%), but where parents would show less or no disapproval, far more young people reported trying it (nearly 30%). An Australian survey of over 5,000 students [22] found that, ''*cannabis use in year 9 was associated with permissive parent attitudes. . . .and delinquency. . . .and was particularly sensitive to small changes in the quality of the parent-child relationship with risk increasing threefold for those describing their attachment as 'good' compared with 'very good'*'' (p.143). The authors concluded that prevention programs could focus on strengthening parent-child attachment and promoting less permissive attitudes to drug use.

Parental modelling of behaviour

Adolescent drug use is encouraged by environmental factors such as the behaviour of influential role models, social support that encourages use, and easy access to a variety of drugs [66].

Forney *et al*. [24] showed in their study of adolescent drinking that parental behaviour was the most influential for young people. A Welsh study [40] of 1281 school pupils, 15–16 years of age, found that fathers' smoking was positively related to experimentation with smoking in boys, as was mothers' smoking with girls. Andrews *et al.* [51], found that parent behaviour was a major influence on adolescents of 11 through 15 years of age, in the initiation into and continued use of alcohol, cigarettes, and marijuana. This study considered both substance-specific and generalised effects of parent substance-use, attitudes towards use, and behaviour regarding use. Adolescents who initiate the use of a particular substance at an early age tend to have parents who caution less often about use, mothers who use the substance frequently, and fathers with a positive attitude towards the substance.

Despite the research evidence, parents do not have a strong sense of the importance of parental influence and modelling of behaviour on subsequent behaviour in their children. It would seem to be of primary importance to educate parents of their own behaviour in influencing young people's use of drugs [67].

Parental supervision

Results from a number of studies demonstrate that parental supervision or monitoring of children (*i.e.* knowing where children are and what they are doing) can prevent or delay onset of youthful drug use. Delay in onset may reduce risk of more serious involvement [68]: strong relationships have been found between early initiation and later problematic misuse of alcohol and other drugs [43,69–71], and this underscores the need for interventions which are effective in preventing early initiation [49]. Surrogate parental monitoring, by responsible adults or older peers, in structured after school programs or recreational activities, may also be effective [72,73]. The influence of parental supervision may be direct, in that it keeps children away from drugs, or indirect in that it reduces a child's contact with drug-taking peers. A lack of parental monitoring may allow the process of drug use to begin, and contact with peers may exacerbate the behaviour [63].

The combined factors of low level parental monitoring plus drug-using peers may serve as a marker of increased vulnerability in pre-teen children. A three-year longitudinal study of 926 children, beginning at age 8–10 years, found that higher levels of monitoring were associated with a two-year delay in onset of drug taking. It was estimated that up to 20 per cent of the incidence of marijuana, cocaine, and inhalant use could be prevented if the lowest quartile of parental monitoring increased to that of the second quartile, and a 56 per cent reduction could be achieved with an increase to the highest quartile level of monitoring. Higher levels of monitoring were shown to protect children against misuse even when exposed to peers who used a variety of drugs [72], and to encourage boys who are heavily involved to reduce use, and girls who are experimenting to stop [63].

One Australian study of teenage students found the only substantially distinguishing characteristics of users of all substances were a higher rate of truancy and a greater number of nights spent without adult supervision of recreation [48]. Analyses of combined data from longitudinal studies indicate that low level parental involvement and supervision of children have a strong predictive power for anti-social

behaviour [74,75], while a study of 1000 young people in the west of Scotland, looking at family structure, family activities, and conflict, found that young people who spent more time with their family were less likely to smoke or to have tried illicit drugs, were more likely to have left school with qualifications and, if female, were less likely to be pregnant by age 18 years [76].

Parent/peer influences

There is a strong association between adolescent drug use and contact with drug-using peers [45,46,77]. In the USA it has been found that the greatest increase in the level of initial use and the developmental trajectory in use of alcohol, cigarettes and marijuana corresponds with the opportunity for increased social contact with the transition from middle school to high school, at age 13 – 14 years [46]. Research on alcohol use in a random sample of 27,000 students aged 13 – 18 years, in Utah USA, found the total effect of family bonds to be about half that of peer influence [45]. This supports earlier research, also in Utah, with a sample of 1507 high school students, where the primary direct predictor of illegal alcohol and drug use was shown to be association with antisocial peers [44]. Peer bonding also has been found a more consistent factor than family bonds or parental smoking in identifying students likely to try smoking [78].

There are a number of issues here. First, there are effects of both *peer influence* versus *peer selection* on the drug-taking behaviour of young people [23,42,46,77,79,80]. There is increasing evidence that the family has an important role in enabling young people to select who their peers are: hence if they select peers who are themselves less likely to use drugs, there is a powerful parental influence at work. Aseltine [81] compared peer effects in middle and late adolescence with regard to both drug use and other delinquent behaviour, and found that while young people may appear to be socialised into delinquent behaviour by peers, *selection* of companions plays a major role in accounting for similarities in drug use among friends. Estimates of peer influences on adolescent drug use may be grossly exaggerated if the effects of selection of friends are not adjusted for [44,79,81,82]. Once experimentation with drugs has occurred, parental influence may exert itself indirectly through choice of friends by the adolescent [42,81]. Whether students choose positive or negative peers may be also influenced by self-esteem, which in turn is predicted by both family and school climates. Family and peer groups have become increasingly recognised as mutually influential and interdependent [77,83], and rather than searching to determine which influences dominate the likelihood of drug use in young people, a more productive approach may be to examine how these two forces interact [60].

Second, the significance of overt peer *pressure* in drug use is neither proven nor reliable [82] and emphasising the power of peers may lead to an underestimation of the effects that parents have on their children [67]. Third, there are arguments that peer influence may be a less important determinant of adolescent drug behaviour than has been commonly assumed [79]. Adolescents often attribute their cigarette smoking to the behaviour of their friends but there may be a strong tendency for adolescents to project their own behaviour onto their friends, and to believe that their friends smoke more than they actually do [79].

Further, adolescents' susceptibility to various sources of interpersonal influence have been found to vary at different stages of drug involvement. The influence of parents has been found to be strongest, even crucial, preceding initiation into adolescent delinquency and marijuana use [84]. The transmission of cultural values from parent to child may be important and younger adolescents who are still non-users are more susceptible to the influence of their parents as models and sources of authority [42]. Youths who enjoy a more positive relationship with their parents may be less influenced by drug-using peers, and consequently be less involved in drug-using activities [60]. Early drinking experiences generally take place within the family environment [85], and this may introduce appropriate behaviours regarding use. One study found that 69 per cent of delinquents initially used alcohol without parental permission, compared to 25 per cent of non-delinquents [86].

The family can continue to be a moderating influence throughout adolescence [20,85,87,88], although parental influences decrease as adolescents' age increases [89,90] and at particular stages of adolescent development [81]. Bailey and Hubbard [91] report that quality of communication with parents is the best predictor of marijuana use among seventh graders, but peer use and approval are better predictors of initiation amongst ninth graders.

Parents may affect *long-term* goals and values however [92,93]. One longitudinal study of smoking behaviour in Norway [94] found that at baseline and two years later, smoking in adolescents was strongly associated with smoking behaviour of friends and siblings, while after a 10 year interval, mothers' baseline smoking emerged as the most important predictor of daily smoking among young adults.

As well as these seven areas of direct influence, the family has indirect influences. Some key demographic factors that can be related to the family include academic achievement (of both parents and young people), poor social coping skills, age of first use, and previous use of other substances.

Academic achievement. Poor academic achievement is associated with drug using behaviour in adolescents [13,95], and high school dropouts in the USA are much more likely to be substance misusers than other young people [96]. Level of parental education has been found to be inversely related to adolescent substance use, when controlled for gender, ethnicity and family structure. Higher levels of parental education are positively related to parental support, higher self-esteem, perceived control, and inversely related to a range of negative life-events [97]. Lower socio-economic status, often coupled with lower levels of education, has been associated with greater drug use [98–101].

Poor social coping skills. Increased risk of drug use has been associated with poor social coping skills, inappropriately shy or aggressive classroom behaviour, affiliation with deviant peers, perception of approval for drug use [13], and general anti-social behaviour [102,103].

Age of first use. Age of first use is a strong predictor for alcohol, tobacco, and marijuana use, and the age at which experimentation begins is decreasing. In the USA, school-based surveys show that, in 2003, by 8th grade (13–14 years) more than 30% of children had used an illicit drug or a volatile substance such as glue, gas, aerosols etc. (this is a marked reduction from the peak of 1996, where almost 40% reported such use) [104]. Similar findings have emerged in the UK, with 12% of pupils aged 12–15 having used drugs in the last month and 20% in the last year, although in the UK figures are rising not falling. Drug use increases sharply with age: with cannabis, 1% of 11 year olds had used the drug in the last year compared to 31% of 15 year olds. Use of volatile substances among 11 year olds is more common than the use of cannabis: 4% had used volatile substances in the last year [105]. These figures are likely to be underestimates, however, in that a general problem with school-based surveys is that they fail to account for the drug-related behaviour of young people who do not attend school. For example, the figures above ignore the 15–20 per cent of all young people in the USA who drop-out of school and who are believed more likely to be substance-abusers than those who continue their education [98].

For some young people experimental and recreational use does not represent a long-term problem for the individual, their family, or the community. More sustained use however and, in some cases, relatively limited exposure to particular substances can lead to problems. And strong relationships have been found between early initiation and later problematic misuse of alcohol and other drugs [43,69,70].

Previous use. The strongest behavioural predictor of drug use has consistently been shown to be past use [13,106]. Alcohol, tobacco, and marijuana use have been shown to predate use of other drugs, including each other [107,108], and individuals who use greater amounts of one substance are more likely to use more of another [46].

As would be expected, many of these factors reviewed above are interactive: for example, Bahr *et al.* [45] showed that those with stronger bonds with other family members were then less likely to have drug-using peers, and were more likely to show a greater commitment to their education (itself correlated with a lower level of substance use). These results have been replicated in a number of studies.

It is clear from many reviews of both risk and protective factors [9,25–27,109,110] that the taking up of substance use and the development of problematic use is affected by a huge number of influences. It is also clear from the research reviewed in this section, however, that although there are many other influences, the factors associated with the family are highly important. This has implications for interventions aimed at preventing with substance use and misuse.

Interventions aimed at using the family to prevent substance use and misuse amongst young people

Drugs prevention has been traditionally sub-categorised into primary (direct prevention), secondary (early identification and treatment) and tertiary prevention (namely, treatment). More recently, three new categories of intervention have been identified as universal (whole population approaches), selective (targeted at identified high-risk groups) and indicated (early intervention with at risk groups with early evidence of problems but who have not sought help) [111]. Stockwell *et al.* [112] argue that, ''*universal prevention strategies are needed for late adolescent alcohol, tobacco and cannabis use and more targeted strategies for addressing harm related to early age drug use, frequent cannabis use and illegal drug use*'' (p67).

Prevention, harm reduction and harm minimisation were central principles and actions of the UK Updated Drug Strategy 2002 [113], which also highlights the impact on families and communities of drug use / misuse and proposes strategies to help in this area. Unfortunately, the recently produced National Alcohol Harm Reduction Strategy for England [3] generally ignored the family dimension in its proposed plans and actions.

Cuijpers [111] review of 30 years of drugs prevention activity identifies five key areas: school-based prevention programs, working with parents, working with professionals who work with drug users, working more holistically by involving schools, parents and the wider

community, and mass media campaigns. Cuijpers [111] review suggests that "*family-based drug prevention programs are a promising new area of drug prevention*" (p7).

This present review on family approaches will not look at schools-based prevention work, although there is on occasion some overlap between school base and family based interventions [114–117]. For example, the Adolescent Transitions Program (ATP) [118] is a tiered, multi-level (universal, selected and indicated) family centred prevention strategy that has been tested in a controlled study that allocated nearly 700 middle school students and their families to ATP or a control condition. Despite poor engagement in the selected and indicated interventions, results at follow-up showed that the cost-effective intervention "*reduced initiation of substance use in both at-risk and typically developing students*" (p191). Given evidence that integrated prevention strategies are more effective than single ones [111], such programs as this using family-centred integration into school based drugs prevention are important.

Evidence from reviews

Foxcroft and colleagues [119] conducted a systematic review of primary psychosocial and education-based alcohol misuse prevention programs amongst young people. Only one program, the Strengthening Families Program, demonstrated effectiveness on any level (the identified number needed to treat [NNT] over 4 years for three alcohol initiation behaviours is 9), and this was shown to be the case particularly in the long-term (more than three years). Foxcroft *et al.* also noted, as have we above, that most of the studies reviewed were undertaken within the United States, where the core prevention outcome tends to be abstinence. They suggested that consideration needs to be given to how these prevention approaches may transfer to other countries, where messages regarding consumption of alcohol, tobacco and other drugs are very different.

NIDA [120], in its review, showed that family-based prevention programs which deal with many of the issues outlined earlier in this review (enhance family bonding and relationships; include parenting skills; include practice in developing, discussing, and enforcing family policies on substance misuse; and training in drug education and information [121]) are to be encouraged. Their review argues that "*Family bonding is the bedrock of the relationship between parents and children. Bonding can be strengthened through skills training on parent supportiveness of children, parent-child communication, and parental involvement* [122]. ... "*Parental monitoring and supervision are critical for drug abuse prevention. These skills can be enhanced with training on rule-setting; techniques for monitoring activities; praise for appropriate behaviour; and moderate, consistent discipline that enforces defined family rules* [123]" ... "*Drug education and information for parents or caregivers reinforces what children are learning about the harmful effects of drugs and opens opportunities for family discussions about the abuse of legal and illegal substances* [124]" and that "*Brief, family-focused interventions for the general population can positively change specific parenting behaviour that can reduce later risks of drug abuse* [125]."

Kumpfer *et al.* [126] found evidence of effectiveness for a number of types of family-based prevention approaches, including in-home family support, behavioural parent training, family skills training, family education and family therapy. These authors stated that family based prevention approaches have effect sizes 2–9 times greater than approaches that are solely child focused, and they argue that "*effective family strengthening prevention programs should be included in all comprehensive substance abuse prevention activities*" (p1759). Core components of family-focused prevention programs, which they identify, include that they are interactive, able to engage and retain hard to reach families, and aim to build the core elements of resilience.

Bolier & Cuijpers [127] (reported in [111]) conducted a systematic review of family-based drugs intervention programs, and identified seven such programs which had mounted a controlled evaluation. The STARS (Start Taking Alcohol Risks Seriously) for Families program undertook a randomised controlled trial of their intervention versus minimal intervention control with 650 school students [128,129]. They demonstrated the intervention's effectiveness at one-year follow-up, with those in the intervention arm being significantly less likely to intend to drink in the next six months. This is encouraging as intention has been shown recently in the area of smoking initiation to be "*most proximal and important cognitive antecedent of behaviour*" [130], with meta-analytic studies showing that "*intention accounts for 20–30% of the variance in behaviour*". Wilkinson & Abraham's study [130] showed that intention, along with perceived ease of smoking, were the primary predictors of smoking behaviour six months later.

Evidence from individual studies

Velleman and colleagues [131,132] undertook an evaluation of five drug prevention programs which involved parents, and which used a wide variety of approaches, including drugs awareness events, 'Living with Teenagers' and 'Parenting Teenagers' courses, interventions to raise self-esteem, peer education training, volunteer befriender schemes and parent-child shared learning. These projects showed that it is possible to recruit parents and secure their active

participation, although most projects found it difficult to recruit the poorest or most marginalised parents, who did not attend school events or respond to discussion opportunities. Lack of time, money, childcare and fear of stigma were all barriers to involvement. The projects also found it difficult to recruit fathers, even though there was much evidence to show that boys wanted more communication about drugs from their fathers, and are influenced by their father's behaviour. The research found several positive effects on parents, including more accurate knowledge and realistic understanding of the potential of drugs prevention; greater confidence in communicating with their children, in positively influencing them and in coping with any drug-related behaviour. The evaluation concluded that a key task for such programs is to improve parenting skills: many parents need to develop confidence, communication skills and general understanding of young people through small, more intensive courses. Longer-term support is needed for families in difficulties. The evaluation concluded that more focused 'drugs' work should not be conducted at the expense of these vital activities. Velleman *et al* argued that drug prevention work involving parents needed to try to equip parents with three types of skill:

- parenting skills giving parents the skills to develop family cohesion, clear communication channels, high-quality supervision and the ability to resolve conflicts;
- substance-related skills providing parents with accurate information and highlighting the need to model the attitudes and behaviour they wish to impart;
- and confidence skills to enable parents to communicate with their children about drugs.

Most of the studies cited above have been of parents and families from within the general population. Some programs, however, work in families who are very high risk, usually ones where the parents themselves have serious substance misuse problems. Focus on Families is such an intervention: it aims to both reduce risk of relapse in the parents, and use of substances by the children. One of the first randomised studies of such an intervention with such a population was undertaken by Catalano *et al*. [133], who recruited 144 parents who were currently receiving methadone treatment, and assigned 82 to an experimental group (methadone program plus parenting program) and 62 to a control group (methadone treatment only). Their key finding was that "*experimental parents held more family meetings to discuss family fun, displayed strong refusal/relapse coping skills, demonstrated stronger sense of self-efficacy in role-play situations, and had lower levels of opiate use than control subjects.*" (p699). On the other hand, "*No significant differences in family bonding, family conflict, or other measures or drug use were found*" [133]. The program appeared to have little direct impact on the children [134], and as yet no longer term follow up has been reported regarding longer term maintenance of these changes.

Werch *et al*. [129], in their evaluation of a program delivered over two years (annual consultations and posted materials to parents at home), showed that there was increased motivation to avoid drinking, and lower total alcohol risk. The program contained prevention messages targeted at risk and protection, and at youth status, defined in a similar way to Prochaska and DiClemente's Stages of Change model.

There is some evidence that a combination of family- and child-focused approaches might work well. The best-known example is the Strengthening Families Program (SFP), which has been successfully evaluated, and subsequently replicated in different settings and with different groups (with a replication in the UK currently underway). This program is a US based community program for parents and their children (it primarily is a drug and alcohol problems prevention program, although it has also been used with parents of substance misusing young people and these young people, and with the children of substance misusing parents and these parents).

The program (developed by Spoth and Molgaard at Iowa State University) emerged from a major revision of the earlier Strengthening Families Program (SFP), developed by Kumpfer and associates at the University of Utah. The original SFP was developed for substance-misusing parents and their children 6 to 10 years of age, and the current Iowa SFP has extended the age range to 10 – 14. The main features of this program are that it has been extensively tested, with diverse audiences, across a wide age range of children (aged 6 up to 14) and families, in both rural and urban settings, and across a number of socio-cultural groups within the USA.

The program, which has components for each group (parents and children) independently, and for the two groups combined, runs over half-day weekly sessions for 14 weeks. The program is designed to develop a number of specific protective factors, and to work to reduce a number of specific risk factors. These include the development in parents of improved communication styles with their children, greater school involvement, a more nurturing and supportive parenting style, and a greater use of contingent parenting; and the development in children of positive goals for the future, a far greater incidence of following rules, improved family communication, improved relation-

ship with parents, stress management, and skills for dealing with peer pressure.

There have been a number of evaluations of this program [125,135–137], including one which randomly assigned 446 families (who lived in areas with a high percentage of economically-stressed families) to either the program or a control condition, and where these families have been followed up from the children's 6th through to their 10th grade. Their findings included the following:

- Youth attending the program had significantly lower rates of alcohol, tobacco and marijuana use compared to control youth.
- The differences between program and control youth actually increased over time, indicating that skills learned and strong parent-child relationships continue to have greater and greater influence.
- Youth attending the program had significantly fewer conduct problems in school than youth in the control group.
- Parents showed gains in specific parenting skills including setting appropriate limits and building a positive relationship with their youth.
- Parents showed an increase in positive feelings towards their child.
- Parents showed gains on general child management including setting rules and following through with consequences.
- Parents increased skills in general child management such as effectively monitoring youth and having appropriate and consistent discipline.

One effectiveness trial of 118 families with substance misuse problems, randomised to SFP or care as normal, showed a range of significant effects, including on the substance use of children and the substance misuse of parents, and on "*educational skills of parents, self-efficacy of the parents, social skills in the children, and improvements in family relations*" [138]. Another randomised trial [136] of two brief family-based interventions (Strengthening Families (using non-substance misusing parents) and Preparing for Drug Free Years) versus a minimal contact control found significant effects for both interventions in terms of onset of use (alcohol, tobacco and marijuana) and current use. Other studies of the Strengthening Families project are ongoing, including:

- One studying 691 youth and families in economically disadvantaged areas, comparing control youth and families to those who take part in either a school-based program only or a school-based program plus the SFP 10–14, and
- Another studying African-American families in an urban area.

As outlined above, Foxcroft *et al.* [119] noted that SFP was only program in their systematic review to demonstrate continued benefits in the longer-term (ie more than 3 years). Cuijpers [111] concluded that evidence for family focussed approaches, whilst limited, is promising, but that further work was necessary before there should be widespread dissemination.

Protective factors and resilience

One of the key ideas in work designed to use the family to prevent substance use and misuse amongst young people is that of developing family protective factors and promoting family and individual child resilience [139,140]. Bry *et al.* [141] (reported in [126]) identify five protective family factors – parent-child relationship, positive discipline, monitoring and supervision, family advocacy and information and help seeking for child's benefit. Furthermore, "*parenting support in helping children to develop dreams, goals and purpose in life is one of the most important, if not the most important, protective factor in preventing drug abuse*" (p1766). Increasing family resilience to prevent / reduce substance use among high-risk youths aged 12–14 years was the aim of the Creating Lasting Connections community demonstration project [142]. Two key findings from this work were that family resilience can be developed, and that this can be a positive moderator for the use (including initiation) of alcohol and drugs by the young people. Resilience factors were: knowledge and beliefs about substance use, communication, family management, bonding, parental modelling and family seeking of help.

The idea of promoting resilience in children living in risky family environments (such as ones where one or both parents misuse alcohol or drugs) is becoming more widespread [139,143]. However, Waaktaar *et al.* [144] have identified a reluctance, particularly focused in the USA, to integrate principles of resilience into mainstream clinical practice, certainly without further clinical research and evaluation. Waaktaar et al. note that of 161 Positive Youth Development Programs in the United States, less than a fifth (13%, N = 22) made any reference to resilience.

It seems to be the case that there is less resistance to these ideas in the UK, with two guidelines to support practitioners in promoting resilience [145,146] having been developed, and the concept being clearly incorporated within the Child Assessment Framework [147]. This body of work is not seeking to develop resilience in children or families in order to reduce substance use or misuse in those children, but the evidence reviewed earlier in this review suggests that the development of more positive family functioning and better parent-child relationships is likely to lead to these positive outcomes as a by-product. Certainly in the UK there

appears to be the start of a shift in policy direction towards initiatives which are more family or child focused and integrative in their approaches to prevention and treatment (eg the Framework for the Assessment of Children in Need and their Families [147], the new National Service Framework for Children's Services [148], and 'Every Child Matters' [149], the UK Governments Green Paper (Discussion Document) which is the precursor to the new Children's Bill [150]). This policy development, however, is presently divorced from policy initiatives within the substance misuse field, where the recent consultation draft of Models of Care for Alcohol Misusers [151] makes no mention of work with families nor of any activity to develop resilience in children.

In conclusion, there is a dearth of methodologically highly sound research in this area, but the research that has been conducted does suggest strongly that the family can have a central role in preventing substance use and later misuse amongst young people. There are many ways whereby the family can have this effect, including developing positive family functioning, improved parent-child relationships, and developing and increasing family resilience. Some of the best research to date suggests that programs which involve both parents and children, and both separately and together, may work best.

Discussion/Conclusions

There is considerable evidence that family factors are important in increasing risk and also in protecting young people in relation to their taking up of the use of various substances, and in the development in some of those young people of problematic substance use. There is also some evidence that family involvement in prevention programs may lead to reduced levels of substance use and misuse.

There are a variety of conclusions that can be drawn from this review.

The first set of conclusions relate to what we now know about the importance of the family.

- It is clear that the family and the structures and processes within it are important. These processes can serve to increase the risks that young people will misuse substances (and/or become involved in other activities, harmful to themselves and/or to society). Alternatively, these processes can serve to increase young people's resilience, against the lure of substance misuse and/or of engagement in other potentially harmful behaviours.
- It is also clear, therefore, that prevention programs need to harness the family in ways which strengthen it, with the knowledge that such strengthening of family processes and structures will serve to increase the likelihood of preventing substance use or misuse and (if necessary) of successfully intervening with people who have already developed such problems.
- It is likely that such family strengthening programs will work by having both a specific effect on substance use and misuse, and also a more general one of building levels of resilience to many adversities within all family members. Funding organisations need to be aware that these outcomes are mutually advantageous and, also, difficult to disentangle.
- The idea that utilising families will act both preventatively and as an effective intervention is also corroborated by reviews from the area of treatment for substance misuse problems, which demonstrate the important of social support and social networks. For example, Miller & Wilbourne [152] showed that three of the top eight most effective treatments for alcohol problems were ones that were highly 'social' in nature: Behavioural Marital Therapy, Community Reinforcement, and Social Skills Training. As they concluded: '*Attention to the person's social context and support system is prominent among several of the most supported approaches'* (p.276). This area has been reviewed within the companion review to the present one [11].
- It is also important that different arms of governmental policy work in concert in this area. Family issues and substance misuse ones are usually dealt with by different governmental and NGO organisations, which often do not communicate effectively over issues. In the UK, although the Department of Health has some responsibilities for substance misuse, the lead Government Department is increasingly the Home Office, with its major concerns over policing, the criminal justice system, and security; family policy is increasingly being dealt with by the Department for Education and Skills, although again the Department of Health has some responsibilities. This means that, although in the UK there appears to be the start of a shift in policy direction towards initiatives which are more family or child focused and integrative in their approaches to prevention and treatment, there are signs that this emphasis is not being matched within the policy making arms of Government Departments responsible for substance misuse policy.
- There is also an underlying conclusion here about 'resilience' and the overall shift within the social and medical sciences away from a focus solely on risk, towards a more equal consideration of more positive elements. Historically, theory, practice and research in health and social care has been preoccupied with illness, vulnerability and the pathology of life's problems [153]. More recently [154] there has been a growth of interest in 'positive psychology', which is

more concerned with health and well-being, and the positive aspect of life's problems: thinking about families in terms of what they do well, strengthening families, the emphasis on resilience.

The second set of conclusions are concerned with the relationship between the different strands of research:

- Even though any comprehensive program will need to look at a wide range of issues, it is certainly the case that prevention programs that do not include the family are much less likely to succeed. It seems clear that, as Vimpani and Spooner [10] argued, there is a need ''*to move from programs that are short-term, contextually naïve, and focused upon individuals and single problems (drug abuse) to programs that are long-term, developmentally and culturally appropriate, concerned with individuals within the context of families and with the spectrum of problems that typically accompany drug abuse*'' (p.253).
- It is also vital that the intervention and prevention programs utilise the considerable amount of research that has been undertaken on the underlying family processes and structures, which seem to lead to increased risk, or increased resilience. Prevention initiatives must be informed by findings from the areas reviewed in the first section of this paper; yet at the moment there is poor integration between the various strands of research. The findings from studies that suggest mechanisms for increased risk and for increased resilience are not well integrated into the development of and research into prevention strategies. This is especially concerning given that much of the research on underlying processes and on the development of resilience is now some years old.
- There are also clear links between the research reviewed in this paper and the role that family members and family processes have related to interventions with adolescents and adults who themselves have substance misuse problems. The fact that family factors are so connected to initiation into use, and sometimes misuse, of substances implies that the family might play a significant role in treatment. The companion review to this present one [11] examines this area in some detail, but it is of concern to note that, in the recent Supplement to the November 2004 issue of *Addiction*, which was given over entirely to 'perspectives on treatment for adolescent alcohol use disorders', there are virtually no mentions of the family at all in any of the papers, other than in the one paper which focuses on this issue [155]. This implies that family factors are still seen as marginal ones, to be covered as a 'special issue' as opposed to being integrated into treatment as a whole.

The third set of conclusions relate to methodological concerns.

- Although this paper has reviewed a very large number of studies, there is still a dearth of high quality methodologically rigorous studies of interventions and prevention programs. In particular there is a need for more trial type (especially RCTs) and longitudinal studies. A promising development is the emergence of systematic and meta-analytic reviews (e.g. Foxcroft, Cuijpers) but they are only able to work with a small number of studies, mainly due to these methodological limitations.
- There has also been very little work examining the cost-effectiveness of prevention and intervention programs. Although one recent study did examine the cost-effectiveness and cost-benefit analysis of two interventions (Strengthening Families and Preparing for Drug Free Years, [137], finding that, because one outcome of the intervention programs was to delay the onset of alcohol use, the cost of the interventions were far lower than the costs to society due to the otherwise earlier onset of alcohol use), this is a very rare type of analysis.
- There has been almost no evaluative work undertaken on self-help prevention approaches for young people, or of the related area of the use of new technologies (e.g. work based on CD-ROMs, or the Internet, or telephone and texting, etc). These are increasingly the media that young people are using to inform and entertain themselves, yet they are not at the forefront of most prevention approaches [156]. Even those interventions that do use new technologies are rarely rigorously evaluated. An example is the recent ENCARE project (www.encare.info), which developed internet-based resources focused on children who are at-risk due to living within families where alcohol is misused. Although the main website was aimed at professionals, the site provides links to websites in local languages across many European Union countries which are aimed at supporting children; but little evaluative work has been done so far as to the usefulness of these self-help sites.
- If these methodological issues were resolved, this would enable advances in both policy and practice to develop at a faster rate.

The final set of conclusions relate to the fact that family factors, although vital, are only one component of a comprehensive prevention approach:

- In the same way as there is no one reason why a person starts to use, or to misuse, substances, so there is no one method of prevention or intervention which will work with everybody:

- There is good evidence that multi-faced prevention approaches, which work with all three elements (families, schools and communities), are much more likely to be effective [157].
- It also seems clear that, although family factors are vital, ''*a comprehensive prevention policy must include elements that have universal applicability to young people*'' [112], p76), such as pricing, marketing and availability.

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References

[1] Department of Health and Human Sciences. Overview of Findings from the 2003 National Survey on Drug Use and Health. Obtained via http://www.samhsa.gov, 2003.
[2] Prime Minister's Strategy Unit. National Alcohol Harm Reduction Strategy: Interim Analysis. Online at: www.pm.gov.uk/output/Page4498.asp, 2003.
[3] Prime Minister's Strategy Unit. Alcohol harm reduction strategy for England. London: The Cabinet Office. Online at: http://www.strategy.gov.uk/su/alcohol/index.htm or www.pm.gov.uk/output/Page3669.asp, 2004.
[4] Condon J, Smith N. Prevalence of drug use: key findings from the 2002/2003 British Crime Survey. London: Home Office Findings 229, 2003.
[5] National Treatment Agency. Background. www.nta.nhs.uk/about/background.htm (accessed 10 May 2005).
[6] Ireland Department of Health and Children. Obtained via: http://www.dohc.ie/press/releases/2004/20041214.html accessed 22/12/04, 2004.
[7] Poppel B, Andersen T. Alcohol and other drug use among students in Greenland – a comparison between some 1999 and 2003 ESPAD data. Obtained via: http://ijch.oulu.fi/issues/63suppl2/ICCH12_Poppel.pdf accessed 22/12/04, 2004.
[8] Hibell *et al*. The ESPAD report 2003:alcohol and other drug use among students in 35 European countries. Stockholm; Swedish Council for Information on Alcohol and Other Drugs, 2004.
[9] Orford J. Excessive Appeitites: A Psychological view of Addictions (Second Edition). Chichester, England: John Wiley & Sons Ltd, 2001.
[10] Vimpani G, Spooner C. Minimizing substance misuse by strategies to strengthen families. Drug and Alcohol Review 2003;22:251 – 4.
[11] Copello A, Velleman R, Templeton L. Family interventions in the treatment of alcohol and drug problems. Drug & Alcohol Review 2005; in press.
[12] Repetti R, Taylor S, Seeman T. Risky families: family social environments and the mental and physical health of offspring. Psychological Bulletin 2002;128:330 – 66.
[13] NIDA (National Institute on Drug Abuse). Preventing Drug Use Among Children and Adolescents: a research-based guide. National Institute of Health Publication No. 97-4212, 1997.
[14] Sullivan R, Wilson MF. New directions for research in prevention and treatment of delinquency: a review and a proposal. Adolescence 1995;30,117:1 – 7.
[15] Tolan P, Cromwell R, Brusswell M. Family therapy with delinquents: A critical review of the literature. Family Process 1986;25:619 – 49.
[16] Yoshikawa H. Prevention as cumulative protection: Effects of early family support and education on chronic delinquency and its risks. Psychological Bulletin 1994;115:28 – 54.
[17] Quay H. Handbook of Juvenile Delinquency. New York: Wiley, 1987.
[18] Robins LN, McEvoy L. Conduct problems as predictors of substance abuse. In: LN Robins and M Rutter, eds. Straight and devious pathways from childhood to adulthood. Cambridge, England: Cambridge University Press, 1990.
[19] Gittelman R, Mannuzza S, Shenker R, Bonagura N. Hyperactive boys almost grown up: 1. Psychiatric status. Archives of General Psychiatry 1985;42:937 – 47.
[20] Wood MD, Read JP, Mitchell RE, Brand NH. Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. Psychology of Addictive Behaviours 2004;18(1):19 – 30.
[21] Clark D. The natural history of adolescent alcohol use disorders. Addiction 2004;99 (Suppl. 2):5 – 22.
[22] Olsson C, Coffey C, Bond L, Toumbourou J, Patton G. Family risk factors for cannabis use: a population based survey of Australian secondary school students. Drug and Alcohol Review 2003;22:143 – 52.
[23] Ary D, Tildesley E, Hops H, Andrews J. The influence of parents, sibling and peer modelling and attitudes on adolescent use of alcohol. International Journal of Addictions 1993;28:853 – 80.
[24] Forney MA, Forney PD, Ripley WK. Predictor variables of adolescent drinking. Adv Alcohol Substance Abuse 1989;8(2):97 – 117.
[25] Madu SN, Matla MP. Correlations for perceived family environments factors with substance use among adolescents in South Africa. Psychological Reports 2003; 92(2):403 – 15.
[26] De Micheli D, Formigoni MLOS. Are reasons for the first use of drugs and family circumstances predictors of future use patterns. Addictive Behaviours 2002;27(1):87 – 100.
[27] Challier B, Chau N, Predine R, Choquet M, Legras B. Associations of family environment and individual factors with tobacco, alcohol and illicit drug use in adolescents. European Journal of Epidemiology 2000;16(1):33 – 42.
[28] Blane HT. Prevention issues with children of alcoholics. British Journal of Addiction 1988;83:793 – 798.
[29] Halebsky MA. Adolescent alcohol and substance abuse: Parent and peer effects. Adolescence 1987;22:961 – 7.
[30] Hundleby JD, Mercer GW. Family and friends as social environments and their relationship to young adolescents use of alcohol, tobacco and marijuana. Journal of Marriage and Family 1987;49:151 – 64
[31] Oetting ER, Beauvais F. Common elements in youth drug abuse: Peer clusters and other psychosocial factors. Journal of Drug Issues 1987;17:133 – 51.

[32] Fawzy FI, Coombs RH, Gerber B. Generational continuity in the use of substances: The impact of parental substance use on adolescent substance use. Addictive Behaviors 1983;8:109 – 14.
[33] Hurd P, Johnson CA, Pechacek T, Bast LP, Jacobs DR, Luepker RV. Prevention of cigarette smoking in seventh grade students. Journal of Behavioral Medicine 1980;3:15 – 28.
[34] Glynn TJ. From family to peer: A review of transitions of influence among drug-using youth. Journal of Youth and Adolescence 1981;10:363 – 383.
[35] Velleman R, Mistral W, Sanderling L. Involving Parents in Drug Prevention: A review of the literature. Review for Home Office Central Drugs Prevention Unit, 1997.
[36] Velleman R, Mistral W, Sanderling L. Parents and Drugs Prevention. In: Evaluating Effectiveness: Drugs Prevention Research Conference Paper 20. Home Office, DPI, 1999. [On-line]. Available: www.drugs.gov.uk/ReportsandPublications/DPIResearch/1033751407/1033751450.pdf; accessed 16/10/04, 1999: 17 – 9.
[37] Mistral W, Velleman R. Involving parents in drug prevention: a review of the literature. London, UK; Home Office, 1997.
[38] Piercy FP, Volk RJ, Trepper T, Sprenkle DH, Lewis R. The relationship of family factors to patterns of adolescent drug abuse. Family Dynamics of Addiction Quarterly 1991;1:41 – 54.
[39] Coombs RH, Paulson MJ. Contrasting family patterns of adolescent drug users and non-users. Journal of Chemical Dependency Treatment 1988;1:59 – 72.
[40] Smith C, Roberts CC, Moore L. Parents and adolescent smoking. Journal of the Institute of Health Education 1995;33(4):104 – 9.
[41] Roker D, Coleman J. Young People and Drugs in Surrey. Report for South West Surrey Health Authority. Trust for the Study of Adolescence, New Road, Brighton, 1995.
[42] Kandel DB, Andrews K. Processes of adolescent socialisation by parents and peers. International Journal of the Addictions 1987;22:319 – 42.
[43] Kandel DB. Epidemiological and psychosocial perspectives on adolescent drug use. Journal of the American Academy of Child Psychiatry 1982;21:328 – 47.
[44] Kumpfer KL, Turner CW. The Social Ecology Model of Adolescent Substance Abuse: Implications for Prevention. The International Journal of the Addictions 1991;25, 4A:435 – 63.
[45] Bahr SJ, Marcos AC, Maughan SL. Family, Educational and Peer Influences on the Alcohol Use of Female and Male Adolescents. Journal of Studies of Alcohol 1995;56(4):457 – 469.
[46] Duncan TE, Tildesley E, Duncan SC, Hops H. The consistency of family and peer influences on the development of substance use in adolescence. Addiction 1995;90,12:1647 – 60.
[47] Doherty WJ, Allen W. Family functioning and parental smoking as predictors of adolescent cigarette use: a six year prospective study. Journal of Family Psychology 1994;8,3:347 – 53.
[48] Crundall IA. Correlates of student substance abuse. Drug and Alcohol Review 1993;12(3): 271 – 6.
[49] Kosterman R, Hawkins JD, Spoth R, Haggerty KP, Zhu K. Preparing for the Drug Free Years: Effects on Videotaped Family Interactions. Seattle: Social Development Research Group, University of Washington, 1995.
[50] Brook JS, Brook DW, Gordon AS, Whiteman M, Cohen P. The psychological etiology of adolescent drug use: A family interactional approach. Genetic, Social, and General Psychology Monographs 1990;116:2.
[51] Andrews JA, Hops H, Ary D, Tildesley E, Harris J. Parental influence on early adolescent substance use: specific and non-specific effects. Journal of Early Adolescence 1993;13:285 – 310.
[52] Coie JD, Watt NF, West SG, Hawkins JD, Asarnow JR, Markman HJ, Ramsey SL, Shure MB, Long B. The science of prevention: A conceptual framework and some directions for a national research program. American Psychologist 1993;48:1013 – 22.
[53] Quinn L. Mobilising parents. Druglink. London: ISDD, 1996;11,2:9 – 10.
[54] O'Connor L, Best R. Drugs, Drugs Education, and Young People - Missed Opportunities. Unpublished report. London: Roehampton Institute, 1997.
[55] Blackman S. Police Schools Liaison in Kent. Report. Christchurch College, 1995.
[56] Robertson N. Speaking the same language. Druglink. London: ISDD, 1996;11,2,11.
[57] Hogg C, McGuire C, Barker R, eds. Health Promotion and the Family: Messages from four research studies. Health Education Authority, 1996.
[58] Fraser MW, Hawkins JD, Howard MO. Parent training for delinquency prevention. Family Perspectives in Child and Youth Services 1988;11:93 – 125.
[59] Wilson H. Parental supervision: a neglected aspect of delinquency. British Journal of Criminology 1980;20:203 – 35.
[60] Walters GD. Escaping the Journey to Nowhere. London: Taylor and Francis Ltd, 1994.
[61] Baumrind D. Familial antecedents of adolescent drug use: A developmental perspective. NIDA Research Monograph Series 1985;56:13 – 44.
[62] Wurmser L. The Hidden Dimension. New York: Jason Aronson, 1978.
[63] Steinberg L, Fletcher A, Darling N.Parental monitoring and peer influence on adolescent substance use. Pediatrics 1994;93,6:1060 – 4.
[64] Lamborn SD, Mounts NS, Steinberg L, Dornbusch SM. Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. Child Development 1991;62:1049 – 65.
[65] Baumrind D. Rearing competent children. In: W. Damon, ed. Child Development Today and Tomorrow. San Francisco: Jossey Bass, 1989:349 – 78.
[66] Perry CL, Kelder SH. Models for effective prevention. Journal of Adolescent Health 1992;13:355 – 63.
[67] McCallum T. Who Influences. Youth Studies Australia, Spring issue, 1996:36 – 41.
[68] Robins LN, Przybeck TR. Age of onset of drug use as a factor in drug and other disorders. In: Implications for Prevention, NIDA Research Monograph Vol. 56 DHHS Publication ADM, 91-1813. Washington DC: US Govt Printing Office, 1985.
[69] Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. Psychological Bulletin 1992;112:64 – 105.
[70] Kandel DB, Simcha-Fagan O, Davies M. Risk factors for delinquency and illicit drug use from adolescence to young adulthood. Journal of Drug Issues 1986;16:67 – 90.

[71] Pitkänen T, Lyyra A, Pulkkinen L. Age of onset of drinking and the use of alcohol in adulthood: a follow-up study from age 8–42 for females and males. Addiction 2005;100:652–661

[72] Chilcoat HD, Anthony CA. Impact of Parent Monitoring on Initiation of Drug Use through Late Childhood. Journal of the American Academy of Child Adolescent Psychiatry 1996;35,1:91–100.

[73] Richardson JL, Radziszewska B, Dent CW, Flay BR. Relationship between after-school care of adolescents and substance use, risk-taking, depressed mood, and academic achievement. Pediatrics 1989;93:32–8.

[74] Loeber R, Stouthamer-Loeber M. Family factors as correlates and predictors of juvenile conduct problems and delinquency. In M Tonry and N Morris, eds. Crime and Justice: An annual review of research. Chicago: University of Chicago Press, 1986:7:29–150.

[75] Loeber R, Dishion T. Early predictors of male delinquency: A review. Psychological Bulletin 1983;94:68–99.

[76] Sweeting H, West P. The relationship between family life and young people's lifestyles. Findings. York: Joseph Rowntree Foundation, 1996.

[77] Duncan SC, Duncan TE, Biglan A, Ary D. Contributions of the social context to the development of adolescent substance use: a multivariate latent growth modelling approach. Drug and Alcohol Dependence 1998;50:57–71.

[78] Conrad KM, Flay BR, Hill D. Why children start smoking: Predictors of onset. British Journal of Addiction 1992;87:1711–24.

[79] Bauman KE, Ennett ST. On the importance of peer influence for adolescent drug use: commonly neglected considerations. Addictions 1996;91(2):185–98.

[80] Chassin L, Presson CC, Sherman SJ, Montello D, McGrew J. Changes in peer and parent influence during adolescence: longitudinal versus cross-sectional perspectives on smoking initiation. Developmental Psychology 1986;22:327–34.

[81] Aseltine RH. A reconsideration of parental and peer influences on adolescent deviance. Journal of Health and Social Behaviour 1995;36(2):103–21.

[82] Coggans N, Mckellar S. Drug use amongst peers: peer pressure or peer preference? Drugs: Education, Prevention and Policy 1994;I, (I).

[83] Parke RD, Ladd GW, ed. Family-Peer Relationships: Modes of Linkages. Hillsdale, NJ: Lawrence Erlbaum Associates, 1992.

[84] Patterson GR, Reid JB, Dishion TJ. Antisocial Boys. Eugene, OR: Castalia Press, 1992.

[85] Foxcroft DR, Lowe G. Adolescent drinking behaviour and family socialisation factors: a meta-analysis. Journal of Adolescence 1991;14:255–273.

[86] Pearce J, Garrett HD. A comparison of the drinking behavior of delinquent youth versus non-delinquent youth in the states of Idaho and Utah. Journal of School Health 1970;40:131–5.

[87] Brook JS, Whiteman M, Gordon AS, Brook DW. Father's influence on his daughter's marijuana use viewed in a mother and peer context. Advances in Alcohol and Substance Abuse 1985;4:165–90.

[88] Krosnick JA, Judd CM. Transitions in social influence at adolescence: who induces smoking? Developmental Psychology 1982;18:359–68.

[89] Kandel DB. Of processes of peer influences in adolescent drug use: a developmental perspective. Advances in Alcohol and Substance Abuse 1985;4:139–63.

[90] Forster B. Upper middle class adolescent drug use: Patterns and factors. In: B Stimmel ed. Alcohol and drug use in the affluent, 27–36. Binghamton NY: Haworth, 1984.

[91] Bailey SL, Hubbard RL. Developmental variations in the context of marijuana initiation among adolescents. Journal of Health and Social Behaviour 1990;31:58–70.

[92] Sebald H. Adolescent's shifting orientation towards parents and peers: a curvilinear trend over recent decades. Journal of Marriage and the Family 1986;48:5–13.

[93] Wilks J. The relative importance of family and friends in adolescent decision making. Journal of Youth and Adolescence 1986;15:323–5.

[94] Oygard L, Klepp KI, Tell GS, Vellar OD. Parental and peer influences among young adults: ten-year follow-up of the Oslo youth study participants. Addiction 1995;90,4:561–69.

[95] Mills CJ, Noyes HL. Patterns and correlates of initial and subsequent drug use among adolescents. Journal of Consulting and Clinical Psychology 1984;52:231–4.

[96] Johnson EM, Amatetti S, Funkhouser JE, Johnson S. Theories and models supporting prevention approaches to alcohol problems among youth. Public Health Report 1988;103:578–86.

[97] Wills TA, McNamara G, Vaccaro D. Parental education related to adolescent stress-coping and substance use: development of a mediational model. Health Psychology 1995;14,5:464–78.

[98] Johnson CA, Pentz MA, Weber MD, Dwyer JH, Baer N, MacKinnon DP, Hansen WB, Flay BR. Relative effectiveness of comprehensive community programming for drug abuse prevention with high-risk and low-risk adolescents. Journal of Consulting and Clinical Psychology 1990; 58,4:447–456.

[99] Dawkins MP. Alcoholism prevention and black youth. Journal of Drug Issues 1988;18:15–20.

[100] Thompson T, Simmons-Cooper C. Chemical dependency treatment and black adolescents. Journal of Drug Issues 1988;16:537–68.

[101] Gibbs JT. Black adolescents and youth: An endangered species. American Journal of Orthopsychiatry 1984;54:6–21.

[102] Hawkins JD, Lishner DM, Catalano PF. Childhood predictors of adolescent substance abuse. Journal of Children in Contemporary Society 1987;18:1–65.

[103] Jessor R, Jessor SL. Problem behavior and psychosocial development: A longitudinal study of youth. New York: Academic Press, 1977.

[104] Johnston LD, O'Malley PM, Bachman JG, Schulenberg JE. Table 1 in Ecstasy use falls for second year in a row, overall teen drug use drops. University of Michigan News and Information Services: Ann Arbor, MI. [On-line]. Available: www.monitoringthefuture.org; accessed 16/10/04, December 19, 2003.

[105] Jeffery D, Klein A, King L. UK Drug Report on Trends in 2001. Report from the UK Focal Point to EMCDDA, published 2002, Drugscope. [On-line]. Available: http://www.drugscope.org.uk/druginfo/drugreport.asp; accessed 16/10/04, 2002.

[106] Newcomb MD, Bentler PM. Consequences of Adolescent Drug Use. Newbury Park, CA: Sage Publications, 1988.

[107] Collins LM, Sussman S, Mestel-Rauch J, Dent C, Johnson CA, Hansen WB, Flay BR. Psychosocial predictors of young adolescent cigarette smoking: A sixteen month, three wave, longitudinal study. Journal of Applied Social Psychology 1987;17:554–73.

[108] Kandel DB, Logan SA. Problems of drug use from adolescence to young adulthood: Periods of risk initiation, continued use, and discontinuation. American Journal of Public Health 1984;74:660 – 6.
[109] McIntosh J, Gannon M, McKeganey N, MacDonald F. Exposure to drugs among pre-teenage schoolchildren. Addiction 2003;98(11):1615 – 23.
[110] Spooner C. Causes and correlates of adolescent drug abuse and implications for treatment. Drug and Alcohol Review 1999;18(4):453 – 75.
[111] Cuijpers P. Three Decades of Drug Prevention Research. Drugs: Education, Prevention and Policy 2003;10(1):7 – 20.
[112] Stockwell T, Toumbourou JW, Letcher P, Smart D, Sanson A, Bond L. Risk and protection factors for different intensities of adolescent substance use: when does the Prevention Paradox apply? Drug and Alcohol Review 2004;23:67 – 77.
[113] Home Office. Updated Drug Strategy. Home Office; London, 2002.
[114] Wagner E, Tubman J, Gil A. Implementing school-based substance abuse interventions: methodological dilemmas and recommended solutions. Addiction 2004; 99(s2):106 – 19.
[115] Cowen E, Durlak J. Social policy and prevention in mental health. Development & Psychopathology 2000;12:815 – 34.
[116] Dumas J, Prinz R, Smith E, Laughlin J. The EARLY ALLIANCE prevention trial: an integrated set of interventions to promote competence and reduce risk for conduct disorder, substance abuse, and school failure. Clinical Child and Family Psychology Review 1999;2:37 – 53.
[117] Catalano R, Arthur M, Hawkins D, Berglund L, Olson J. Comprehensive community- and school-based interventions to prevent antisocial behaviour. In R Loeber & D. Farrington, eds. Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions. Thousand Oaks, CA: Sage, 1998.
[118] Dishion TJ, Kavanagh K, Schneiger A, Nelson S, Kaufman NK. Preventing early adolescent substance use: a family-centred strategy for the public middle school. Prevention Science 2002;3(3):191 – 201.
[119] Foxcroft DR, Ireland D, Lister-Sharp DJ, Lowe G, Breen R. Longer-term primary prevention for alcohol misuse in young people: a systematic review. Addiction 2003;98:397 – 411.
[120] NIDA. Prevention Drug use among children and Adolescents, Second edition. Maryland, USA; NIDA, 2003.
[121] Ashery RS, Robertson EB, Kumpfer KL., eds. *Drug Abuse Prevention Through Family Interventions*. NIDA Research Monograph. No. 177. Washington, DC: U.S. Government Printing Office, 1998.
[122] Kosterman R, Hawkins JD, Spoth R, Haggerty KP, Zhu K. Effects of a preventive parent-training intervention on observed family interactions: Proximal outcomes from 'Preparing for the Drug Free Years'. Journal of Community Psychology 1997;25(4):337 – 352.
[123] Kosterman R, Hawkins JD, Haggerty KP, Spoth R, Redmond C. 'Preparing for the Drug Free Years': Session-specific effects of a universal parent-training intervention with rural families. Journal of Drug Education 2001;31(1):47 – 68.
[124] Bauman KE, Foshee VA, Ennett ST, Pemberton M, Hicks KA, King TS, Koch GG. The influence of a family program on adolescent tobacco and alcohol. American Journal of Public Health 2001;91(4):604 – 10.
[125] Spoth RL, Redmond D, Trudeau L, Shin C. Longitudinal substance initiation outcomes for a universal preventive intervention combining family and school programs. Psychology of Addictive Behaviors 2002b ;16(2):129 – 34.
[126] Kumpfer KL, Alvarado R, Whiteside HO. Family-based interventions for substance use and misuse prevention. Substance Use and Misuse 2003;38(11 – 3):1759 – 87.
[127] Bolier L, Cuijpers P. Effectieve verslavingspreventie op school, in het Gezin en in de Wijk (Effective Drug Prevention at School, in the Family and in the Community). Utrecht: Trimbos-instituut, 2000.
[128] Werch CE, Pappas DM, Carlson JM, DiClemente CC. Six-month outcomes of an alcohol prevention program for inner-city youth. American Journal of Health Promotion 1999;13:237 – 40.
[129] Werch CE, Owen DM, Carlson JM, DiClemente CC, Edgemon P, Moore M. One-year follow-up results of the STARS for Families alcohol prevention program. Health Education Research 2003;18(1):74 – 87.
[130] Wilkinson D, Abraham C. Constructing an integrated model of the antecedents of adolescent smoking. British Journal of Health Psychology 2004;9:315 – 33.
[131] Velleman R, Mistral W, Sanderling L. Taking the Message Home: involving Parents in Drugs Prevention. London; Home Office. Drugs Prevention Advisory Service Paper, Paper 5, [On-line]. Available: http://www.drugs.gov.uk/ReportsandPublications/DPASPublications/1033750749/1033750783.pdf; accessed16/10/04, 2000a:47.
[132] Velleman R, Mistral W, Sanderling L. Taking the Message Home: involving Parents in Drugs Prevention@ a Briefing. London; Home Office. Drugs Prevention Advisory Service Paper, Briefing 5 (a summary of DPAS Paper 5), [On-line]. Available: http://www.drugs.gov.uk/ReportsandPublications/DPASPublications/1033750750/1033750786.pdf; accessed 16/10/04, 2000b: 4.
[133] Catalano RF, Haggerty KP, Gainey RR, Hoppe MJ. Reducing parental risk factors for children's substance misuse: Preliminary outcomes with opiate-addicted parents. Substance Use and Misuse 1997;32(6):699 – 721.
[134] Banwell C, Denton B, Bammer G. Programs for the children of illicit drug-using parental: issues and dilemmas. Drug and Alcohol Review 2002;21(4):381 – 6.
[135] Molgaard V, Spoth R. Strengthening Families Program for young adolescents: Overview and outcomes. In: SI Pfeiffer & LA Reddy, eds, Innovative mental health programs for children: Programs that work. Binghamton, NY: Haworth Press, 2001:15 – 29.
[136] Spoth RL, Redmond C, Shin C. Randomised trial of brief family interventions for general populations: Adolescent substance use outcomes 4 years following baseline. Journal of Consulting and Clinical Psychology 2001;69(4):627 – 42.
[137] Spoth R, Guyll M, Day S. Universal family-focused interventions in alcohol-use disorder prevention: Cost effectiveness and cost-benefit analyses of two interventions. Journal of Studies on Alcohol 2002a ;63:219 – 28.
[138] Cuijpers P. Prevention Programs for children of problem drinkers: a review. 2004;Under review.
[139] Velleman R, Templeton L. Reaching Out – Promoting Resilience in the children substance misusers. In: D Evans, F Harbin & M Murphy eds. Secret Lives: Understanding and working with children who live with substance misuse. Russell House Publishers, in press, 2005.

[140] Velleman R, Orford J. Risk and Resilience: Adults who were the Children of Problem Drinkers. London: Harwood Academic, 1999.

[141] Bry BH, Catalano RF, Kumpfer KL, Lochman JE, Szapocznik J. Scientific findings from family prevention intervention research. In: RS Ashery, EB Robertson & KL Kumpfer, eds., NIDA Research Monograph: Vol. 177. Drug abuse prevention through family interventions. Rockville, MD: National Institute on Drug Abuse, 1998:103–129.

[142] Johnson K, Bryant DD, Collins DA, Noe TD, Strader TN, Berbaum M. Preventing and reducing alcohol and other drug use among high-risk youths by increasing family resilience. Social Work 1998;43(4):297–308.

[143] ENCARE. The European Network for Children Affected by Risky Environments within the family. www.encare.info, 2004

[144] Waaktaar T, Christie HJ, Borge AIH, Torgersen S. How can young people's resilience be enhanced? Experiences from a clinical intervention project. Clinical Child Psychology and Psychiatry 2004;9(2):167–83.

[145] Newman T. Promoting Resilience: A review of effective strategies for child care services. Centre for Evidence-based Social Services, Exeter, England & Barnados, 2002.

[146] Gilligan R. Promoting Resilience: A resource guide on working with children in the care system. London: BAAF, 2000.

[147] Department of Health, Department for Education and Employment, Home Office. Framework for the Assessment of Children in Need and their Families. London: The Stationery Office, 2000.

[148] Department of Health & the Department of Education and Skills. Core Standards - National Service Framework for Children, Young People and Maternity Services. London: The Stationery Office, 2004.

[149] Department for Education & Skills. Every Child Matters. Obtained via: http://www.everychildmatters.gov.uk/ accessed 22/12/04, 2004.

[150] UK Parliament. Children's Bill. Obtained via: http://www.publications.parliament.uk/pa/cm200304/cmbills/144/2004144.pdf accessed 22.12.04, 2004.

[151] National Treatment Agency. Models of care for alcohol misusers: Consultation document. Department of Health & National Treatment Agency Available On-line at: http://www.nta.nhs.uk/program/national/docs/Models%20of%20Care%20Alcohol%20Misuse%20Consultation%20April%202005l.pdf; accessed 10/05/05; or at: http://www.alcoholconcern.org.uk/doc/914; accessed 10/05/05, 2005.

[152] Miller W, Wilbourne P. Mesa Grande: a methodological analysis of clinical trials of treatments for alcohol use disorders. Addiction 2002;97:265–77.

[153] Richardson GE, Neiger BL, Jensen S, Kumpfer KL. The Resiliency Model. Health Education 1990;21(6):33–9.

[154] Flynn RJ, Ghazal H, Legault L, Vandermeulens G, Petrick S. Use of population measures and norms to identify resilient outcomes in young people in care: an exploratory study. Child and Family Social Work 2004;9:65–79.

[155] Liddle H. Family-based therapies for adolescent alcohol and drug use: research contributions and future research needs. Addiction 2004;99 (s2):76–92.

[156] Skinner H, Maley O, Smith L, Chirrey S, Morrison M. New frontiers: using the internet to engage teens in substance abuse prevention and treatment. In: P Monti *et al.*, eds. Adolescents, Alcohol and Substance Abuse: Reaching Teens through Brief Interventions. New York: Guilford Press, 2001.

[157] Burkhart G. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2003) Selective prevention: First overview on the European situation. Lisbon: EMCDDA, 2003. http://www.emcdda.eu.int/index.cfm?fuseaction = public.Content&nNodeID = 400&sLanguageISO = EN