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**A review of the literature on sport and physical
activity in relation to drug misuse prevention and
adolescents**

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Commissioned by

The Centre for Drug Misuse Research, University of Glasgow

CDMR

The Centre for Drug Misuse Research

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EXECUTIVE SUMMARY

The review set out to examine the evidence base in published work (refereed journal articles and expert reports) for the contention that participation in sport or related physical activity is beneficial within the specific contexts of health promotion aimed at preventing young people from becoming involved in using harmful substances, or specific intervention with young people using illicit drugs.

The sources were identified systematically by conducting keyword searches using electronic gateways. The date range included work published from 1990 onwards. The abstracts of potentially suitable papers and reports were screened to ensure that they met the review criteria of being sufficiently concerned with young people, their participation in sport/physical activity and drug use/prevention. As a result of this initial filtering stage, the database searches finally produced a total of 22 peer-refereed papers and 19 key reports which were relevant to the review criteria. The journal articles referred to research conducted in USA (most common), UK, Australia, Brazil, France, Netherlands, Switzerland and Slovakia. Six themes were identified as a way of organising the emerging issues for discussion:

1. The value of sport/physical activity as a form of protection from becoming involved in using harmful substances, including illicit drugs, and as a diversion from involvement.
2. Influences on young people which have significance in relation to their drug use attitudes and behaviours.

3. Wellbeing, self-esteem and a healthy lifestyle.
4. The impact of personal and social development.
5. Community development and intervention programmes.
6. Sport/physical activity as a means of addressing drug use, anti-social behaviour and crime.

The conclusions of the review are:

1. The review shows that participation in sport or physical activity or exercise is associated with positive health in adolescents. Those young people who are involved in physical activity are, in general, more likely to display other positive health behaviours.
2. There is evidence that young people engaging in high levels of sport/physical activity are less likely to use drugs. Similarly, the literature indicates that young people with low levels of physical activity are more likely to engage in drug taking behaviour.
3. While participation in sport is shown to have benefits for young people in terms of prosocial behaviour, there is some evidence of an association between involvement in sport in non-school settings and risk-taking behaviour.
4. Young people who participate in organised sport within well structured and well-planned programmes report lower levels of drug use.
5. The influence of family and friends is important in encouraging continued participation in sport/physical activity.

6. The encouragement of young people to see sport/physical activity as part of a spectrum of health-enhancing behaviour may be more effective in preventing substance use than concentrating on dangers and risks.
7. The literature points to the need to provide young people with opportunities to learn useful skills, rather than to participate in sport, music or other activities merely as a diversion strategy.
8. The development of interpersonal skills and the promotion of values appear to be an important element of prevention programmes.
9. While sport/physical activity appears to have a positive influence on the recovery of substance users, the literature indicates the need for on-going and continuing support from community services.
10. Because of the evidence that young people are experimenting with drugs at a younger age, programmes with a health-enhancing lifestyle approach should start at the primary school age. Attention should be given to how such programmes can be sustained and developed as young people mature.

Chapter One: Introduction

This literature review has been prepared by Joan Forrest and Graham Connelly, Senior Lecturers in the Faculty of Education at the University of Strathclyde. It was commissioned by Professor Neil McKeganey of the Centre for Drug Misuse Research in the University of Glasgow, on behalf of the Robertson Trust, a grant awarding foundation which supports a variety of educational and care projects in Scotland. The purpose of the review is to examine the evidence base in published work (refereed journal articles and expert reports) for the contention that participation in sport or related physical activity is beneficial within the specific contexts of health promotion aimed at preventing young people from becoming involved in using harmful substances, or specific intervention with young people using illicit drugs.

The social context for this literature review is a large increase in drug use and experimentation with drugs, particularly cannabis and ‘dance drugs’ such as amphetamines and ecstasy, amongst young people in the UK since the early 1990s. The increase in drug use has been accompanied by debates about the consequences of drug taking and efforts by government and other agencies to tackle what is widely regarded as a major problem. The Scottish Executive responded by setting up the Effective Interventions Unit to implement its drug misuse strategy, *Tackling Drugs in Scotland*, including identifying effective practice in prevention, treatment and rehabilitation (Scottish Office, 1999). However, understandings of young people’s drug use amongst policy-makers and key professionals vary considerably, and arguably have not kept pace

with changing attitudes to leisure and recreation held by young people themselves. In this respect, Parker et al. write:

When we find that half this generation has tried an illicit drug by the end of their adolescence and perhaps a quarter are fairly regular 'recreational' drug users, we can no longer use pathologising explanations. Today's young recreational drug users are as likely to be female as male and come from all social and educational backgrounds. They cannot be written off as delinquent, street corner 'no hopers'. (Parker et al., 1998, pp.1-2)

Parker et al. describe the hysteria surrounding adults' perceptions of drug use, personified in the pictures painted by some politicians and the tabloid press, which portray youth culture as threatening. They argue that government policy in the UK 'cannot deal with complexity,' and that it does not distinguish between different reasons for using drugs and the different circumstances and consequences of drug use. This they say has the effect of producing ineffective policy-making at central government level and confused strategies on the street. For most young people, drugs are a fact of life: many abstain; some experiment; some use regularly; and some have problems associated with their use.

Similar concerns have been expressed about low levels of physical activity in young people, particularly since habits developed in youth may have implications for health in adulthood.

...despite a widespread belief that levels of physical activity in youth have declined, the evidence suggests that this may not be so although the picture in relation to school provision...is unclear and makes any overall conclusion highly tentative. Even if it were true, it is still the case that one third of males and two thirds of females are not achieving the current target of moderate levels of physical activity. (West & Sweeting, 2002, p.40)

The Health Behaviours of Scottish Children surveys of non-school-based exercise among 15 year olds found that 85% of males and 61% of females report ‘vigorous’ exercise at least twice a week, figures that are slightly higher than those in many other countries (Todd, et al., 2000).

The specific focus of this review is to consider the research evidence which might support efforts to encourage those in the last category towards a healthier lifestyle. However, the discussion needs to be set within a broader context of young people’s attitudes to drugs and drug use and the section which follows provides a factual basis for this broader context by describing what is known about the extent of drug use by young people in the UK (and Scotland in particular) from official statistics and other sources.

Drug use by young people

Official statistics indicate a number of significant trends: firstly there was a steady increase in the number of young people (particularly 17-20 year olds) convicted of drug offences in the UK during the 1990s; secondly the range of drugs used is increasing; and thirdly the vast increase in drugs seized by the authorities is indicative of the market in illegal drug import and sale (Parker et al., 1998).

There are substantial differences in the rates of drug use between different countries. For example, UK and Irish young people appear to have high rates of

substance use compared with those in other parts of western Europe (McArdle et al., 2000). There are also different rates of use within countries. Across Scotland there are quite different patterns of use. Edinburgh, Dundee and Glasgow, which have longer-established drug scenes, have the highest concentrations of older users, while Aberdeen, West Dunbartonshire, North Ayrshire, Renfrewshire and Inverclyde have greater proportions of young drug users (Hay et al., 2001).

The Scottish Drug Misuse Database (ISD Scotland, 2002) provides a profile of drug misuse based on anonymous data of 'problem drug users.' The database shows that in 2001-02, a total of 10,798 'new' individuals were recorded, a rate of 224 per 100,000 of the Scottish population. Amongst problem users, both heroin and cocaine use has increased since 1997-8 (up from 67% to 79% and 2% to 7% of users respectively). The findings from the 2000 Scottish Crime survey show that 37% of 16 to 29 year olds surveyed in Scotland say that they have ever tried drugs, with one in six having taken drugs in the last year and one in eight in the last month (Scottish Executive Central Research Unit, 2002). The figures show that although men are more likely to have taken drugs than women, this gap may be narrowing. There is also evidence that whilst young people of all income groups are likely to have tried drugs, those from more deprived backgrounds are more likely to continue taking drugs. The survey found that young people who had spent three or more evenings away from home in the past week had 57% higher rates of drug use than those young people going out less, supporting a view that more time spent away from the home environment is associated with a greater likelihood of experimenting with drugs. The most common drug ever used is cannabis, and 48% of

those who had ever used drugs said that this was the only drug they had tried. However, 60% of 16-19 year olds who have tried drugs said they have used cannabis and other drugs. A survey of Scottish pupils with an average age of 13 found that 58% had been in situations where drugs were used, 52% had been offered drugs and 57% had friends with experience of drugs (Barnard et al., 1996). A recent Scottish survey of 470 young people aged between 12 and 18 years found that although most do not regularly use drugs, one in nine reported using cannabis every day, 83% of regular cannabis users are also regular smokers and those who drink weekly are more likely to have tried drugs (Hughes & Elder, 2003). However, West and Sweeting (2002) point out that: 'Having tried a drug 'ever' can by no means be taken as 'regular' use.'

A survey of lifestyle and substance use by Scottish school pupils was commissioned by the Information and Statistics Division (ISD Scotland) on behalf of the Scottish Executive and conducted by the Child and Adolescent Health Research Unit in the University of Edinburgh (Child and Adolescent Health Research Unit, 2002). The summary presented here is based on the interim report published in December 2002. The survey uses a sample of over 23,000 pupils in S2 (i.e. aged 13-14) and S4 (aged 15-16) in Scottish local authority and independent secondary schools. The survey has been conducted every two years since 1998. In summary, the report shows that 8% of 13-14 year olds surveyed and 23% of 15-16 year olds reported using drugs in the last month prior to survey. Higher proportions reported using drugs in the previous year (11% of 13-14 year olds and 33% of 15-16 year olds). Reported drug use amongst boys was higher than girls (e.g. 24% of 15-16 year old boys compared with 21% of girls) and the average

age of the first occasion of trying drugs reported by 15-16 year olds was age 14. No significant changes in use were noted since the first survey in 1998.

The 2002 survey included items not previously asked, for example, related to frequency of use, type of drugs used and money spent on drugs. Two percent (2%) of 13-14 year olds rising to 7% of 15-16 year olds said they took drugs once a week or more often. Half of all pupils reported having been offered drugs. Cannabis was the most frequently used drug (e.g. by 58% of 15-16 year olds). Six percent (6%) of all pupils had used stimulants (cocaine, crack, ecstasy, amphetamine and poppers), 4% had used solvents, 2% had used psychedelics (LSD, magic mushrooms) and 1% had used opiates (heroin or Methadone). The report found that of pupils using drugs once a month or more, 50% said they spent money on drugs each week, spending on average £9 per week. Alcohol was also used along with drugs in around 40% of pupils, with girls more likely to report this (44%, compared with 35% of boys). Most pupils who had ever taken drugs said they had not needed help, 72% said they knew where to get help and 69% knew where to get information about drugs.

To summarise: though most young people do not use drugs regularly, drug use among young people in Scotland is relatively high compared to other parts of Western Europe; just under 40% of 16-29 year olds say they have ever tried drugs; some children as young as 12 are already using cannabis; and young people from deprived backgrounds are more likely to continue using drugs.

Chapter Two: Method

The literature which forms the basis of this review falls into three main types: firstly, papers published in peer-reviewed journals; secondly, reports published by government departments or significant organisations within the field of drug use; and thirdly, text books and monographs by academics working in the area.

Papers in peer-reviewed journals are important sources of new knowledge and provide a basis for developing and guiding professional practice for the very reason that they tend to share certain characteristics of scholarship, which include having clear research questions, a rigorous approach to methodology and taking account of the substantive body of research previously published. Although it is possible to recognise a hierarchy of academic journals (e.g. using citation indices), no attempt was made in the present review to distinguish between sources on grounds of apparent prestige, partly because this would involve making judgements which could be subject to challenge, and also because the main aim of this review is to identify as many issues and ideas as possible which might usefully contribute to a wider discussion about good practice; restricting our search to apparently high-status journals might inadvertently exclude interesting practice-related work.

The sources were identified systematically in the first instance by conducting keyword searches using the electronic gateways Cambridge Scientific Abstracts, Electronic Reference Library (ERL) and Web of Science. By means of these gateways,

multiple relevant databases were searched, including ERIC (Educational Resources Information Center), MEDLINE (National Library of Medicine), PsychINFO (American Psychological Society), Sociological Abstracts, Social Service Abstracts and SPORT Discus. The searches were conducted both by the authors and by two specialist librarians.

Searches were initially restricted to materials published between 1995 and 2003, and the date range was later extended to include work published from 1990 onwards. Various combinations of keywords were used to improve the precision of the search. For example, entering the simple keywords 'sport' and 'drug' in combination in the database Cambridge Scientific Abstracts resulted in 182 'hits' for abstracts between 1990 and 2003 from MEDLINE. An initial visual sifting reduced this list to a possible 17 papers relevant to the review. Further searches were conducted using keyword combinations, including, for example, 'drug abuse or drug misuse or drug addiction or substance abuse or substance misuse and sport or physical activity or exercise.' Other materials were sourced from the results of internet searches using the *google* search engine, the reference lists of papers already identified and links from relevant web sites, including NHS Health Scotland and NHS Health Development Agency (England and Wales).

The abstracts of potentially suitable papers and reports were screened to ensure that they met the review criteria of being sufficiently concerned with young people, their participation in sport/physical activity and drug use/prevention. As a result of this initial filtering stage, the database searches finally produced a total of 22 peer-refereed papers and 19 reports which were relevant to the review criteria. The journal articles referred to

research conducted in USA (most common), UK, Australia, Brazil, France, Netherlands, Switzerland and Slovakia. These were reviewed independently by both authors and six themes (listed below) were identified as a way of organising the emerging issues for discussion.

1. The value of sport/physical activity as a form of protection from becoming involved in using harmful substances, including illicit drugs, and as a diversion from involvement.
2. Influences on young people which have significance in relation to their drug use, attitudes and behaviours.
3. Wellbeing, self-esteem and a healthy lifestyle.
4. The impact on personal and social development.
5. Community development and intervention programmes.
6. Sport/physical activity as a means of addressing drug use, anti-social behaviour and crime.

Each of these six themes is discussed in detail in Chapter Three, and conclusions in relation to the implications for work with young people are considered briefly in Chapter Four.

Chapter Three: Themes and Emerging Issues

1. The value of sport/physical activity as a form of protection from becoming involved in using harmful substances, including illicit drugs, and as a diversion from involvement

...there remains a widespread tendency within sporting, political and popular discourses to regard sport as an entirely wholesome activity for young people to be involved in, an activity which is conferred with a whole series of positive attributes to the exclusion of the social ills facing society. (Crabbe, 2000, p.381)

As Crabbe points out, there is a long history of associating sport, exercise and related physical activity with good health, a satisfying lifestyle and consequently avoidance of health-harming, risky and substance-abusing lifestyles. In this section, we examine the assumptions underlying this view, and the nature of the supporting and contradictory evidence within the published literature. In summary, the view that involvement in sport, or other physical activity, or exercise is associated with positive health, including avoidance of substance use, is generally supported by the literature we reviewed. But there are at least three particular reasons for maintaining a broadly sceptical approach towards the general proposition: one reason is that the evidence from the literature is contradictory; another is that the specific nature of individual studies (including samples used, methodology, definitions of sport and cultural context) is very varied and so qualifications are required in drawing conclusions; and a third reason is that it cannot be assumed that studies conducted in different countries are directly relevant to the UK and Scotland.

In a Swiss survey of 10,000 young people aged 15 to 20 and attending school (Ferron et al., 1999), researchers found that ‘athletic adolescents’ (defined as adolescents who do sports two to three times per week and belong to a sports club, or do sports daily whether or not they belong to a sports club) compared to ‘non-athletic adolescents’ had fewer health problems, a lower frequency of complaints about health problems, ‘superior well-being,’ and greater confidence about their future health, though the latter was also found to be related to social class. The study found that non-athletic adolescents were significantly more likely to engage in certain ‘risky’ behaviours (i.e. not using a car seat belt, lack of contraception use at first intercourse and no condom use at last intercourse) and were more likely to consume wine, tobacco and marijuana. However ‘athletic adolescents’ tended to drink as often as others and no significant differences were found in relation to the use of hard drugs, though the authors were cautious about the latter finding because of the small size of sub-samples. In relation to substance use, the researchers concluded from their cross-sectional study data that:

...our results on the relationship between tobacco and marijuana use and the level of sport activity agree with those of other studies...[frequency of use] is inversely correlated with the frequency of sport activity among adolescents. (ibid., p.231)

and therefore: ‘adolescents’ involvement in sport may be a protective factor as regards the use of tobacco as well as illegal drugs.’ Another, smaller-scale, US-based survey of 52 female and 37 male high school ‘seniors’ (the age range is not quoted) of middle to upper socio-economic status (Field et al., 2001) distinguished between those engaging in high levels of exercise (e.g. daily) and those with low levels (e.g. rarely, sometimes). The high exercise group reported lower drug use (alcohol, marijuana and cocaine) than the

low exercise group, and the authors concluded that this observation, together with others such as better relationships and higher academic performance: ‘highlight the importance of efforts by parents and schools to reinforce adolescents’ exercise habits.’

In the USA, the Centers for Disease Control Youth Risk Behaviour Study of high school students has been a convenient source of research data on adolescent lifestyles. In an analysis of data from the first survey in 1990, based on 11,631 students, researchers found evidence that: ‘physical activity behaviour is associated with several other important health behaviours’ (Pate et al., 1996). In particular, the study found an association between low activity and use of tobacco and marijuana, though no association with cocaine use. The study also found relationships between low activity levels and other indicators of an unhealthy lifestyle, such as poor diet. In a later study using data from the 1993 survey of 4,800 students in 51 schools in South Carolina, researchers found evidence of physical activity potentially operating as a ‘protective’ factor in relation to avoidance of substance use (Winnail et al., 1995). For example, the researchers found a decrease in the use of cigarettes and marijuana as levels of physical activity for White males. However, there were no statistically significant associations among White females, Black males or Black females, except in relation to use of smokeless tobacco by Black females. This study, like others reviewed later, also highlights the importance of recognising that the interaction between physical activity and substance can be quite different when the effects of gender and ethnicity are taken into account.

Further evidence of an inverse relationship between sport/physical activity and substance use was found in a US survey of 356 adolescent of both sexes aged 10 years, 12 year and 14 years from 58 different neighbourhoods who were interviewed at length in their own homes (Duncan et al., 2002). The young people were assessed on ‘antisocial activities,’ including alcohol, cigarette and marijuana use on a 9-point scale from 1 (never used) to 9 (two to three times per day), as well as ‘prosocial measures,’ including physical activity (defined as ‘any regular physical activity long enough to work up a sweat’) and the number of occasions in the past year of attending an organised sports activity. The results of the study showed that, overall, ‘greater levels of physical activity were associated with lower levels of substance use.’ Unsurprisingly, the 14 year olds reported higher levels of substance use than the 10 and 12 year olds. Other findings in the study are more complex. Ten year old and 14 year old girls had significantly higher mean levels of prosocial activities than other groups, 12 year old and 14 year old girls had significantly lower levels of physical activity, while 14 year old girls reported significantly higher levels of participating in organised sport.

Consistent, significant relations for all groups were found between organized sport and prosocial activities, between parenting type and substance use and deviant behaviours. Male and female youth who took part in more organized sport also had greater participation in other prosocial activities. Higher income was associated with greater involvement in organized sport, and less involvement in substance use and other deviant behaviours. Children from two-parent families had lower substance use and involvement in deviant activities. (ibid., pp. 433-434)

But the researchers found anomalies in the data which indicate a need for caution in generalising from the overall trends noticed, including higher involvement in organised

sport among 10 year old girls from single-parent families and a positive correlation between substance abuse and prosocial behaviour in 12 year old boys.

A survey conducted amongst 16,117 Brazilian high school students, found no strong evidence for a negative relationship between participation in sport and other 'extracurricular' activities and use of alcohol and drugs (Carlini-Cotrim & Aparecida de Carvalho, 1993). The researchers' paper does not report the context of activities and therefore it is not possible to distinguish between those that are school based, those organised by clubs and those engaged in by young people alone or with friends. However, the authors refer to a previous finding that Brazilian students who also hold jobs use drugs and alcohol more. They suggest that these findings indicate that simply filling up the free time of young people in the hope of preventing involvement with drugs and alcohol is unlikely to be successful.

Further contradictory evidence comes from a cross-sectional survey of 4,346 young adolescents conducted in 22 public middle schools in North Carolina, USA (Garry & Morrissey, 2000). The researchers found high levels of participation in organised sport in the study population, underlining the significance of sport as a major influence in the lives of the young people. The results showed a relationship between participation in organised sport and risk-taking behaviour. Team sport participation was found to be associated with current use of alcohol and the experimental use of cigarettes, cocaine and inhalants, while non-sports participants were not identified as being at increased risk for any of 17 risk-taking behaviours studied (e.g. including carrying a weapon and

involvement in physical fights). A more complex pattern emerged when the effects of ethnic group and gender were analysed, again raising the need for caution in attributing causation. However, the study raises some interesting issues. The young age of these pupils suggests that risk-taking behaviour, typically associated with older adolescents, begins much earlier and this may have implications for health education, an issue which we discuss later in this review. The association between sport and risk-taking, findings supported in other studies which we reviewed, raises questions about the role of sport in initiating or encouraging delinquent or health-harming behaviour. For example, in a national school survey of 10,807 French 14-19 year olds (Peretti-Watel et al., 2002) researchers found some evidence of a relationship between intensity of physical activity and substance use in boys only: 'partially for repeated use of alcohol and cannabis use, more convincingly for heavy smoking.' Another large US study, which followed 12 to 16 year olds over three years, found higher rates of initiating alcohol consumption amongst the most active males or males who participated in competitive athletics; however, the most active females were least likely to initiate cigarette smoking (Aaron et al., 1995). Also, the finding by Garry and Morrissey (ibid.) that sports participation was not associated with current cigarette use suggests that experimentation does not necessarily lead to long-term use and that young people are, however, susceptible to advice about the incompatibility of sport and substance use.

Peretti-Watel et al. also found that the relationship between drug use and sporting activity also depends on the type of sport. They noted a significant link between team sports and repeated use of alcohol in both sexes, and with recent drunkenness in boys.

They drew attention to other research implicating sports with a sliding motion (skiing, surfing, skateboarding etc.) in high levels of substance use, and to the relationship between strength and combat sports and use of cannabis and recent drunkenness in girls. The relationship between type of sport and substance use was reported by researchers in another French study (Challier et al., 2000) which distinguished between sport activities in clubs and those engaged in with friends. Certain sports consistently showed no link with substance use (tobacco and alcohol but not illicit drugs) in both contexts (e.g. mountain biking, volleyball, rugby) whilst others did show such a relationship (e.g. football, swimming, throwing events, tennis). The authors speculate that the explanation may lie in ‘repetitive meetings between the adolescents at risk.’

A key issue is whether participation in physical fitness activities can lead to reduction in substance use. This is of interest both in informing health education programmes for the general adolescent population and also in devising approaches to intervention with problem users. In relation to the former, an evaluation of First Choice, a physical fitness programme for at-risk youth in USA, examined data from six sites within the state of Illinois over a four year period (Collingwood et al., 2000). The programme included 24 different modules which embedded physical fitness within other important life skills on three days per week over a nine to 12 week time period. The results showed consistent general improvement in levels of fitness measured by objective tests, accompanied by consistent reductions in substance use. These reductions were significant only for a high school sample for cigarette use and in one community site for use of

smokeless tobacco and alcohol, and the study sample was not high substance using. The use of specific intervention programmes is discussed more fully later in this review.

A study which included both populations was reported by researchers based in Bratislava, Slovak Republic, who examined the role of sports activities in the prevention of illicit drug abuse (Okruhlica et al., 2001). They conducted a questionnaire survey with 215 patients in treatment for heroin dependency (mean age 23 years) and 231 school pupils (mean age 15 years). The results of this cross-sectional comparison did not provide support for the view that participation in physical exercise provides protection from drug abuse. For example, 31 (17%) of the heroin users: ‘started with their illicit drug use during the time they still conducted sports activities.’ However, the researchers were able to distinguish between results showing that participation in ‘regular competitive physical exercise’ does not appear to provide protection against developing problem drug use and their clinical experience of the positive value of recreational sport within the context of therapy. Support for the use of recreational physical activity within substance abuse programmes comes from a US-based survey of 50 ‘therapeutic recreation specialists’ who reported walking as the most important physical activity, particularly since it can be a group activity, is inexpensive to engage in, is not physically stressful, and can be continued beyond treatment (Kremer et al., 1995).

Clearly the factors which motivate young people to experiment with harmful substances or engage in regular use, whether or not they participate in sport or physical

activity, are varied. Influences on young people in relation to drug use and physical activity are discussed further in the following section.

2. Influences on young people which have significance in relation to their drug use attitudes and behaviours

A number of the studies reviewed refer to the influences of friends, family, school and sports clubs in encouraging and moderating the substance use of young people. Though these influences were often not central to the aims of the studies, their emergence in outcomes merits some discussion here.

Indications from research suggest that ‘family time, authoritative and supportive parenting are related to reduced levels of substance use, sexual experience and greater likelihood of educational success,’ while not living with both birth parents and also ‘conflict, problem relationships and lack of parental support appear to be related to poorer health, increased smoking and reduced educational achievement’ (West & Sweeting, 2002). Nevertheless, there is also evidence that ‘traditional family’ and academic success are not inevitably barriers to drug use by males in high drug use European cities (McArdle et al., 2000). The support of family and friends is likely to be important in encouraging young people to initiate and sustain involvement in sport or physical activity. Not surprisingly there is evidence that children’s levels of exercise is related to those of their parents (Alpert et al., 1990). In the study of high school seniors

referred to previously (Field et al., 2001) researchers found that high levels of exercise were associated with better relationships with parents.

The extent to which participation in sport with others also provides the conditions which might encourage experimentation with and regular use of drugs is an issue which has emerged in research. West and Sweeting (*ibid.*), in their review of the literature on peer group and lifestyles, report evidence for the view that a move from adult-organised activities to peer-oriented leisure pursuits and to reliance on peer support rather than the family, may increase vulnerability to engage in substance use. However, they caution against the simplistic view that peers encourage involvement in substance use. They give the example of analyses of smoking from one study showing that young people may actually select friends on the basis of their smoking characteristics. The issue may therefore be less to do with the negative influence of peers and more about the protection afforded by engaging in sport in organised settings, particularly in school. For example, in a study of anabolic-androgenic steroid use amongst adolescents in Massachusetts, USA, researchers found some evidence that 'poly-drug use' may be greater among male students engaging in non-school-sponsored sport than among those participating in school sports (DuRant et al., 1997).

Despite the need to be cautious about possible negative effects of the social environment where young people engage in sport with others, the health advantages of being physically active are arguably more important considerations, particularly where there is high quality adult supervision.

...it is possible that participation in organized sports promotes health by placing youth in prosocial environments during time periods that are otherwise available for participating in problem behaviors. (Pate et al., 2000, p.908)

In any case, the research evidence is ambivalent on this point. Peretti-Watel et al. (2002), for example, in discussing the context of sporting activity, report their own finding that adolescents registered in a club reported less frequent substance use than those who were not. They also refer to a survey by the French Monitoring Centre for Drugs and Drug Addictions which found that boys who practised sports alone or with friends consumed significantly more cannabis than those who played for a club. They comment that:

...playing sports alone or with friends makes it easier to use substances because it takes adolescents away from adults' control, whereas in a club adult management extends the social control usually provided by the school or family (ibid., p. 714).

A number of drug projects have been specifically built around the establishment of self-help or therapeutic communities, making quite deliberate use of the sociology of group process: 'which would recognize the role that sport can play in providing alternative means of achieving status and identity in contexts of social and economic exclusion' (Crabbe, 2000). Sport intervention programmes are therefore viewed as:

a means through which to make connections within excluded communities, generate new modes of peer pressure implicitly based on healthy lifestyles and to introduce alternative training and employment options (Crabbe, ibid., p.385).

Crabbe's observations of initiatives based around football teams highlight the importance of consistent supportive circumstances. Participation in sport acts as a catalyst for a significant group experience. Peer pressure can operate in different ways: providing

the basis for building confidence and the ability of individuals to make decisions for themselves; or alternatively promoting the use of drugs and deviant behaviour.

The relationship between participation in sport and physical activity and healthy lifestyles is considered in the following section, while the use of community sports programmes in addressing substance misuse is discussed in more detail in Section 5.

3. Wellbeing, self-esteem and a healthy lifestyle

A health-enhancing, or healthy, lifestyle relates to a holistic approach to well-being where the physical, mental and social aspects of health are equally considered. Aspects such as diet, physical activity, substance use, along with mental well-being and social elements such as interpersonal skills, are incorporated in this approach. In addition, the importance of young people having a level of choice and a disposition to maintain a positive lifestyle emerged in a number of studies in relation to developing strategies for tackling adolescent substance use.

The Swiss study by Ferron et al. (1999) referred to previously, examined the relationships between sport activity and health behaviours, and particularly on perceptions of health and self-image. This large survey used a self-administered health and lifestyle questionnaire. Broadly, the ‘non-athletic’ adolescents reported more health problems, such as skin problems, headaches and sleep problems. While a higher proportion of the ‘athletic’ group was confident about future health and well-being and

tended to think that health is not a 'chance' thing but is related to personal behaviours or personal efforts, it is important to note that the lack of control over the individual's health was not attributed specifically to those with a low level of sport activity.

The study's findings indicated that the more athletic adolescents appeared to be less anxious and more energetic and happy. They had a more positive body image. While the 'athletic' adolescents used substances such as wine, tobacco and marijuana less frequently, there was no difference in the consumption of beer between the two broad groups. The authors are cautious about the causal relationship between sports activity and self esteem; on the one hand, the activities may increase self esteem but, on the other hand, those with high self esteem may be more likely to take part in sports activities. However, it is clear that the 'athletic' young people in this study did hold a higher personal value and took fewer risks with, for example, use of seat belts, tobacco and cannabis use. The researchers concluded that there were close links between sports activities and health-enhancing lifestyles within their study population. They suggest that education, or prevention, programmes should emphasise the short and long-term benefits of a healthy lifestyle, including sport, instead of focusing separately on, for example, the dangers of drug use, alcohol or lack of exercise.

Further evidence of an alternative, healthy lifestyles approach can be found in the evaluation of the U.S. 'First Choice' programme, previously described (Collingwood et al., 2000). The focus of this highly structured programme was on physical fitness as a means of promoting a range of life skills, and ultimately an alternative lifestyle to

counteract a substance abuse lifestyle. The target group was ‘at-risk’ young people aged 10 to 16 years from schools in small rural communities and from inner city community sites. The results indicated that for all participants there were ‘significant increases in self-concept.’ Overall, the participants reported significant decreases in risk factors such as low self esteem, anxiety and depression. While the researchers were careful to indicate that the sample participants did not have a very high substance abusing profile, they were clear that the programme had a positive effect on changing risk and usage patterns.

Establishing a physical activity lifestyle can aid in facilitating the development of the health enhancing lifestyle so that a youth is more “immune” to the substance abuse lifestyle. (ibid., p.450)

In a substantial literature review (Mutrie & Parfitt, 1998) researchers examined the links between physical activity and mental, social and moral health of young people. Four areas were investigated: prevention and treatment of mental health problems; the promotion of good mental health; cognitive development and social and moral development. Aspects of their review are not directly related to the focus of our review; however, some of the general conclusions are of relevance. The authors emphasised the need for further longitudinal and experimental studies and also urge caution in reaching conclusions. In relation to the focus on the promotion of good mental health they note:

Given these limitations, conclusions must be cautious, but available data suggest that physical activity is associated with good mental health and low levels of mental health problems in youth. Meta-analytic studies provide most confidence in the conclusion that physical activity programmes can increase self-esteem and decrease anxiety and depression. (ibid., p.57)

In a US-based study described earlier in this review, researchers considered the associations between physical activity and other health behaviours (Pate et al., 1996). The

study set out to determine whether adolescents who had low levels of physical activity were more at risk in terms of health behaviours than their ‘highly active’ peers. While the researchers are cautious about providing a definitive statement on the causal relationship between physical activity and other health behaviours, they found that those students who were less active were also displaying other negative behaviours in their lifestyle, such as tobacco and marijuana use, lower fruit and vegetable consumption and greater television watching. However, in this large and complex study, other evidence regarding, for example, alcohol consumption leads the researchers to indicate that socio-cultural factors may have an effect on relationships between physical activity and some health behaviours.

In a wide-ranging and extensive review of the health and health behaviours of young people in Scotland, MRC researchers based in the University of Glasgow (West & Sweeting, 2002) drew upon a large number of sources. In summarising the evident links between individual lifestyles and peer group activities, they referred to the outcomes of three substantial pieces of research as they related to a range of health behaviours. Based on their own study into teenage health (West and Sweeting, *ibid.* and (Karvonen et al., 2001) and similar findings from the Scottish Young People’s Leisure and Lifestyles Survey (Hendry et al., 1993), and a subsequent study into the lifestyles of rural youth (Hendry et al., 1998), four types of lifestyles with related health behaviours were identified through responses to leisure activities. With young people following ‘conventional’ lifestyles (i.e. involved with hobbies, scouts etc.) rates of smoking, drinking and drug use were reduced slightly; for those who were considered to have a

'sports/games' lifestyle (i.e. involved with watching sport, taking part in sport and computer games), smoking and drug use rates were much more reduced. However, for this group alcohol rates were not reduced. The third lifestyle, 'commercialised' leisure, described those who listed shopping, listening to music and clubbing as their main leisure activities. For this category, the results indicated that rates of smoking were higher and the use of alcohol and illicit drugs, 'much higher.' The fourth lifestyle, 'street-based,' provided evidence that all three behaviours of smoking, drinking and drug use were 'much higher.' After examining the importance of social class and lifestyles for health behaviours, the authors concluded that the role of lifestyles was the more important of the two.

In general, a sports/games lifestyle was protective for all health behaviours, a result found in other studies (Pate et al.,1996), while commercialised leisure elevated risks for drinking and drugs, and street-orientation the risks for all three behaviours, irrespective of the social background of young people. (West & Sweeting, 2002, p.56)

From this evidence, young people's self esteem and mental well-being are linked closely to their lifestyles. It should not be assumed that high self esteem means non-substance use and therefore the converse is true of low esteem. The issue of self esteem and young people is complex; West and Sweeting (ibid.) report on a number of studies that challenge the assumptions made about low self esteem and smoking. For example, they refer to a 1997 study by Michell and Amos which describes a particular peer group of 'top girl' smokers who display high self esteem and confidence. A 1990 survey of the health behaviours of Scottish school children (Currie et al., 1993) found that those 11-15 year olds considered the most socially integrated were also those most likely to report

smoking, drinking and drunkenness. Conversely, these young people also reported engaging in frequent exercise.

A pilot project involving the Edinburgh Rocks Basketball Team was developed in four secondary schools in Glasgow (Lowden et al., 2000). The purpose of the programme was to promote a healthy lifestyle using positive role models. A total of 535 pupils (aged 13-14: 267 male and 268 female) took part. The Team visited each school for one day only and undertook a 40-50 minute session with each class; this allowed for a 20-minute skills-based session and a 20-minute informal discussion. The discussion was wide-ranging but had an underlying theme of promoting lifestyle choices and pupils' goals and aspirations. The evaluation revealed that 93% of the respondents indicated that the programme had relevance to their lives. One boy commented: 'We had fun whilst being taught something important in life.' However, there was a difference in perception on the potential impact of the programme between those who used drugs and those who did not. There appeared to be more scepticism from the former. For example, when asked if they believed whether the visit (by the Team) would help them to stop or avoid taking drugs, 86 % (406) of the non-drug users agreed and 43% (28) of the current drug users agreed. However, 32 % (21) of the current drug users disagreed with the statement. The researchers reported that approximately one in five of the illegal drug users thought that the approach adopted by the programme was not a good way to learn about drugs. Unfortunately, the evaluation does not provide an explanation of this finding. Overall, when asked whether the Edinburgh Rocks' visit would help other young people of their age to stay healthy and away from illegal drugs, 76% of the pupils agreed. A final

important point: both pupils and teachers felt that the session was too short for the discussion, and, in particular, for the basketball skills. Disappointment was expressed by some that there was little time to practise the skills.

4. The impact of personal and social development

Crabbe (2000) makes the point that there is a tendency to accord to sport a range of attributes addressing the social ills of our society. He quotes the Labour Party's 1997 statement from *Labour's Sporting Nation* which suggests that young people, by participating in sport, 'can learn to differentiate between good and bad behaviour'.

Crabbe also points out that being concerned about the role of sport in 'character building' is not new. Although understandings of the concept of 'character' may be varied, it is likely that characteristics such as team-work, leadership, fairness and self-discipline would feature. The development of social skills also appear to be important in most definitions of character building, or, to use the more accepted terminology, 'personal and social development,' and Mutrie and Parfitt (1998) quote an example taken from The Scottish Sports Council's strategy document relating to youth sport.

Playing sports can promote leadership skills, improve physical development and provide young people with a broad range of social skills. These positive experiences can help social interaction and awareness, increase self-esteem and the development of moral values. (Mutrie and Parfitt *ibid.*, p.59)

In their review of the research, Mutrie and Parfitt provide a contrasting perspective. In discussing the literature pertaining to physical activity and social and moral development,

they raise the possibility of some sports operating within a different moral code to what may be considered the social norm. In particular, they found some evidence for the view that sport could encourage anti-social, rather than pro-social behaviour:

The potential for physical activity involvement to provide opportunities for social and moral development is widely recognised, however, empirical evidence is scarce and there is some support for the notion that sport (especially male team sports) is associated with low levels of moral reasoning. (ibid., p.64)

Crabbe (ibid.) highlights one specific programme of activity for local, ex- and stabilised drug users. The Leyton Orient Community Sports Programme (CSP) is discussed in more detail later. However, it is worth noting here that some of the main outcomes related to the development of skills such as leadership and decision-making. The development of personal values such as commitment and loyalty were evident as well as increased ability to make and maintain positive personal relationships within the group.

An Australian review of programmes specifically designed to reduce antisocial behaviour in young people concludes that 'sport and physical activity programs can provide an important vehicle through which personal and social development may occur and positively impact behaviour' (Morris et al., 2003). The Australian Institute of Criminology's report, funded by the Australian Sports Commission, considered the aims, processes and outcomes of more than 600 programmes that used sport and physical activity as their focus. The summary of the findings indicates that the development of leadership skills, social skills, self esteem and education/employment skills were common features in a great many of the programmes.

Adventure and outdoor recreation approaches have a relatively long history in programmes for at-risk young people. Methods which have their origins in the thinking of Robert Baden Powell and Kurt Hahn and the philosophy of Outward Bound, have also led to more recent inner-city based outdoor projects run by organisations such as Fairbridge. Part of the appeal of adventurous activities is the degree of excitement, or 'buzz,' afforded by participation in sports with an element of risk, even if this is generally highly controlled by qualified instructors. One argument advanced in support of adventurous activities is that they take young people away from their own environment for a short time, to extend their horizons and allow them see that there are other ways of having excitement. Outdoor adventure clearly provides opportunities for developing interpersonal skills and self-confidence. However, the research literature is inconclusive about whether adventurous approaches are any more effective than other methods in altering behaviour (McCormack, 2003). This is particularly the case where individuals go away for a short period on an adventurous activity and return to a home environment containing the same substance-using and offending influences as before. An alternative approach is the developmental youth work model which uses elements of adventurous activity in urban settings. It is argued that there are benefits in working directly with whole peer groups of young people, in terms of team-work skills, sense of belonging and trust. Outdoor and adventurous activities can clearly contribute greatly to young people's personal and social development, but sustaining the benefits of such an experience is crucial. Unfortunately most evaluations of projects tend to be short-term and McCormack makes the point that such research may lack sufficient time to assess any significant lasting benefits.

5 .Community development and intervention programmes.

Many drug prevention programmes are community-based by nature and indeed the composition of the Drug Action Teams (DAT) in Scotland with their partnership approach ensures that involvement is inclusive. The underlying principles of the Community Planning policy, jointly developed by the Government and COSLA, add to the strength and coherence of the work of the DATs. In a comparison of two community development approaches to drug prevention in England, the authors emphasise the importance of knowing the community and its needs and avoiding ‘imposing’ ideas on a community.

The key point that emerges from this comparative study is the importance of being knowledgeable about the complexity of local conditions and sensitive to matters relating to this. The key factor which affects what happens is the shape and nature of existing networks in a locality. (Duke et al., 1996, p.5)

It is beyond the scope of this review to consider in detail the use of community-based drug prevention programmes; however, in this section we examine some examples as a means of highlighting important features.

In an attempt to consider the value of ‘diversionary’ activities as a means of communicating drug prevention ‘messages,’ six projects in England were examined as part of the Home Office Drugs Prevention Initiative (Davis & Dawson, 1996). The focus of the various projects ranged through music, local newspaper and newsletter production, summer play schemes, drama, art and camping activities. Ages ranged from 5 years to

mid-teens. The Southwark young people's music project aimed to influence attitudes to drugs by using a medium that is often associated with drug use. The participants had opportunities to develop music skills (and take part in the Young Musicians Against Drugs (YMAD) European tour) as well as gaining an awareness of drugs and drug use. The drug prevention approach was more focused on shared discussion rather than a 'don't do it' message. All participants and staff signed a contract agreeing not to use drugs during the length of the project. The researchers were impressed particularly with this project, mainly because it was well-constructed and organised and the focus was kept firmly on music-making. They concluded that this project was able to exemplify the 'diversion' theme far more effectively than any of the other projects. One of the young participants commented: 'I've learned something new and it's kind of exciting, so you can spend a lot of time on it.' While the report is unclear whether the young people were active drug users, the following statement provides an interesting insight:

When I've got up at the mike and I haven't taken anything, it's like I've taken Ecstasy. Your adrenalin is so high, it's like you may as well have taken an E because you're just buzzing. You get a high. You get a natural buzz from it. You may as well not take any drugs to do it because you're going to feel that way anyway. (ibid. p13)

In summarising the main learning from the projects, Davis and Dawson state that whatever the activity, music, sport or computer technology: 'The activity on offer must excite the passion of young people...' They are quite clear that any drug intervention must have an appropriate setting: 'Bolting on a drugs element to an inappropriate medium does not work. Sometimes it weakens an otherwise perfectly viable project.' They also felt that short-term projects, like the summer schemes and play schemes they evaluated, were inappropriate vehicles for including a drugs element.

When considering any drug prevention initiative, it is important to identify what it is that makes the programme effective. In a systematic review of school-based drug prevention programmes, (Cuijpers, 2002) attempted to extrapolate the key features that might be used as quality indicators. While the review does not specifically focus on sport and drug prevention, and Cuijpers is cautious about translating effective models from one culture to another, nevertheless the general principles are worth noting.

Cuijpers recognised that the wide range of studies he focused on had different features, such as the target group, design and theoretical models. Despite this, he felt confident that several features could be highlighted as ‘evidence-based criteria’ such as: the use of inter-active methods, the use of peer leaders, adding community interventions to school-based interventions, adding life-skills training to social influence programmes and most importantly, ‘proven effects,’ i.e. using a model of intervention that has proven to be effective. This was not a characteristic of a program as such, but Cuijpers was clear that there ought to be evidence that any planned intervention is based on ‘well-designed scientific research’ and should be capable of being developed, or replicated within a school setting.

Starting Young

It is essential, when considering community-focused programmes, to consider those developed with a younger audience in mind. The idea that drug education should be developed as an integral part of a healthy lifestyles approach for young people is not new.

Many experts in the health promotion field agree that such approaches must begin at the primary school age. The following initiatives are indicative of many projects being used in Scotland.

The Healthy Lifestyles Project: Primary School Phase 2, a community-based project promoted, through the primary school curriculum, learning about a health-enhancing lifestyle, incorporating aspects relating to substance use as well as physical activity, diet and cardiovascular health (Lowden, 2003). The project was based in South Coatbridge in Scotland, an area that has high levels of deprivation and is a designated Social Inclusion Partnership area (SIP). A wide range of community partners are involved, both public and private, and funding, in the main, is provided by Scotland Against Drugs. In Phase 2, 283 pupils, age 10-11 undertook a programme comprising classroom sessions and physical activity sessions (the Ford Tag Rugby game). In summary: the pupils felt that the programme met their needs, they felt more in control of their health, and in particular, a number of them indicated that the programme had 'strongly influenced their attitudes on smoking, drug use and to some extent, drinking alcohol.' The report's author concludes that, in order to assess the longer-term impact of this holistic approach, the project would have to develop in a sustained and coherent way, enabling the young people to build on their knowledge and attitudes as they mature and move through adolescence.

An earlier, similar project, also involving primary aged pupils was developed by the Glasgow Drugs Prevention Team (GDPT) in conjunction with the Parks and

Recreation Department (P&RD) of Glasgow District Council and the Health Promotion Department of Greater Glasgow Health Board. The purpose of the project was to train a number of sports coaches in drug prevention/awareness in order for them to lead a series of after-school sessions with upper primary aged children (9-11) in a combination of physical activity and information about drugs, with a view to enabling the children to make positive healthy choices about drugs (Forrest et al., 1998).

This was not considered the sole contribution to the children's drug education; rather, it was viewed as complementary to any classroom-based drug education. The evaluation revealed a number of worthwhile issues and implications. In the first instance, the children were very enthusiastic about the project and the crucial disposition to learn was created by a combination of the informal approach of the coaches, the interest in drug education, the sports activities and the novelty of a new person working with the children. While the evaluation indicated that aspects such as the level of training required for the coaches (rather than the quality) was inadequate, and that closer links with the schools to ensure continuity was essential, this short-term pilot project had the children's full approval.

Well, it depends what kind of person you are...me, I would stay away (from drugs) because I want to be a football player and I know if I take drugs it will affect me. It's been good fun. I would love to do it again.
(ibid., p.59)

The Scottish Drugs Challenge Fund, through Scotland Against Drugs has provided opportunities for communities to work together to develop a series of projects across Scotland which promote 'positive healthy alternatives' for young people. A brief

description of one or two of the current projects is outlined here, as evaluations of the current projects for 2003-04 have not yet been undertaken. Common features include: a community-based approach with support from both the public and the private sectors; a focus on sport /physical activity; a partnership approach and for many, an informal input on aspects of a positive lifestyle, including discussion on alcohol and substance use.

Choose Sport First is based in Clackmannanshire and provides a programme of football, swimming and aerobics/dance for 10-24 year olds. Coaching, competition and coach education comprise the main activities. *The Primary School Diversion Project* is based in Perth & Kinross. Participants are children aged 8-11 who are considered 'at risk' for a number of reasons. The programme comprises football coaching sessions at St. Johnstone Football Club in Perth. Local police, football club staff and players and members of the Behavioural Services are involved with the sessions. In addition, young people aged 14-16, who have attended a similar programme, will act as mentors to the younger children.

The Star Project is based in Dundee and involves groups of young people who have been, to some extent, in conflict with each other. Issues addressed have been identified by the young people themselves and include drug misuse, and there is a focus on developing social skills and self esteem. A range of community members were involved including both of Dundee's professional football clubs, youth work agencies, Tayside Police and Fitness First Health Clubs. A structured programme of activities is combined with sessions on, for example, anger management, conflict resolution and

health. Finally, the *Positive Options Programme* is based in the Highland region and focuses on vulnerable and excluded young people aged between 10 and 16. The target group are considered 'at risk;' this may be through a drug or alcohol problem, offending behaviour, school exclusion or risk of exclusion, or are looked after by the local authority. The young people will take part in 'taster days'- sampling a range of physical activities as an encouragement to develop a health-enhancing lifestyle.

The above synopsis of a range of projects aimed at children and young people demonstrates that much of the community-based effort today is going into this type of approach as a means of promoting a healthy lifestyle, and through that, hoping to reduce the risk of negative health behaviours becoming part of the young people's lives.

6. Sport/physical activity as a means of addressing drug use, anti-social behaviour and crime

Many drug projects based in the community use sport as a vehicle for their treatment or interventions. As Crabbe (2000) points out: 'One of the principal reasons why sport is used in drug prevention and treatment interventions is because young people enjoy it.' Crabbe cites the Leyton Orient Community Sports Programme (CSP) and specifically one development of it. The CSP originated as an independent charity which involved members of the local community in community activities. Using its links with professional football, the CSP deliberately set out to attract residents from socially

excluded groups. As the programme developed, it considered new ways in which sport could be central in wider community development activities. One element of the programme related to rehabilitation and ‘relapse prevention;’ a multi-agency approach which brought together a group of ex-and stabilised drug users, with the objective of providing a programme of activity with sport and ‘personal development opportunities.’

In contrast to conventional approaches, the relationship between sport, crime and drug use was not viewed in a simplistic or romantic way, rather sport was seen as a means through which to make connections within excluded communities, generate new modes of peer pressure implicitly based on healthy lifestyles and to introduce alternative training and employment option. (Crabbe, *ibid*, p.385)

Participants were referred from a number of agencies and the focus was initially on football coaching, with a view to establishing a competitive team. However, other sports and vocational opportunities were available for those who did not wish to follow the football route. The initiative was successful in a number of ways and there was a great deal of support for continued involvement in the sports activities beyond the initial 8-week programme. One participant, due to complete his stint, commented:

I mean I’m finished there (at Cable Street) next week anyway but I’d like to carry on with the football. I’ve not even played football in a team before and I’d like to carry on now I’ve started. I’m all sorted out with a painting and decorating course as well now and so with that and the football things are looking up and hopefully I can stay out of trouble if I keep them both up. (*ibid.*, p.387)

Crabbe is cautious regarding the difficulties a number had in adjusting to the competitive nature of some sporting activities. Loyalty and team work were initially problematic for some. He concludes that the focus for such an intervention has to be on community development, rather than merely a sports project: ‘...since it is about

developing relationships with people on the basis of trust and mutual understanding as a platform for building a broader range of relationships and opportunities.’

Calton Athletic Recovery Group was founded in Glasgow in 1985 by a former addict and ex-offender. The general strategy combines sports and physical activities, and day programmes (group opportunities to discuss significant issues relating to drug misuse) with education and employment advice. Those who join the group have all had difficulties with substance use and while a member of the group, are required to follow a ‘total abstinence’ rule. An underlying theme to the approach is the importance of a holistic view of recovery, attending to the mental and emotional aspects as well as the physical. The Under 21 project provided opportunities for young people to develop a healthy lifestyle, mainly through participation in sports with a particular emphasis on football. The project was staffed by individuals who have all had problems with drug use in the past. To some extent, participants were ‘diverted’ from their substance use and negative lifestyle by making constructive use of their leisure time. However, the approach was more complex than this and there had been, indeed, much controversy in the last few years, some of it without a resolution. An unpublished review of the Under 21 Pilot Project recommended, in relation to rules:

There is too much emphasis on the so-called ‘golden rule’ and an almost inevitable criticism of any methods to reduce addiction other than ‘total abstinence’. While this approach may seem to Calton to be the ideal method to tackle this problem others in the drug field point out that it would be extremely naïve to presume that it is the only way. (Dordi, 1999, pp.59-60)

Calton Athletic's School Team was created to undertake drug prevention work in schools. The Team would talk to a group of pupils about their experiences, resulting, at times, in a harrowing and hard-hitting dialogue. Views are conflicting about the value of such an approach. A process evaluation of the School Team's work provides a clue to the controversy.

While Calton Athletic themselves felt that their sessions exerted a 'powerful influence' and young people, in the main, were positive, some pupils questioned whether the School Team's personal experiences of addiction reflected that of users of any illicit drug (McKeganey & McPike, 1997). A number of issues arose from the evaluation, with several conclusions addressing the most controversial aspects of the approach. One particular conclusion suggested that Calton Athletic should not exclude teachers from the sessions with young people; teachers felt that they needed to be present in order to provide a sense of continuity to further drug education.

A small, exploratory survey involving intravenous drug users (IDUs) focused on the level to which sport had an impact on their lives (Powers et al., 1999). The 45 participants were all considered high risk in terms of exposure to HIV. Behaviours included injecting drug use, smoking crack and 'risky' sexual activity. While this cohort falls outside the age range of this literature review, (the average age being 40, with 32 men and 13 women taking part in the survey) the qualitative responses add an interesting dimension to perceptions among drug users of the role of sport on individuals' lives.

From the small sample, 29 (64%) stated that sport played a part in their lives (25 men and 4 women). The researchers considered this to be a significant number for the nature of the sample group (individuals defined by their injecting lifestyle). One participant stated: ‘...[sport] gives a mental release for tension and stress,’ while another said: ‘when you are an addict, you have to put things in place to keep your mind occupied...sport was one way for me.’

Being a sports fan, i.e. watching sport, also had a high response: 32 (71%) indicated that they were sports fans (24 men and 8 women). Psychological benefits were identified and comments such as, ‘sports calms me down and prevents me from being anxious,’ were cited.

The group was asked about the positive and negative aspects of sport and exercise. Comments included, ‘sport teaches people how to lose,’ and, ‘sport keeps me healthy.’ Examples of a more negative stance were, ‘too much money to athletes,’ ‘[drug] dealers look to people who play sports,’ and, more commonly comments relating to the health risks, ‘you can get injured and die.’ Further negative responses related to gambling and becoming ‘addicted’ to sports.

The researchers highlighted two comments which, to them, provide support for the notion that sports participation can be beneficial and that the physiological and psychological effects accrued from exercise and sports participation may be greater than that derived from being a spectator or fan. One participant stated: ‘The sport atmosphere

takes away from doing drugs.’ A final comment supports this: ‘If you are involved in sports, you don’t have time to be involved in drugs or around people involved in drugs.’

While this was a rather specialist study, with a small cohort, it adds to the general picture of the role of sport in interventions and rehabilitation and highlights the similarities found in other, larger studies. It is worth noting here that the study undertaken in the Slovak Republic discussed earlier in this review (Okruhlica et al., 2001) concluded that participation in recreational sport as part of the therapeutic treatment of heroin dependency, had beneficial effects. The researchers emphasised the value of recreational sport rather than competitive sport.

As part of a multidisciplinary, holistic approach to the treatment of substance abuse problems in one area of the United States of America, Therapeutic Recreation Specialists (TRS) are trained to provide physical activity as a means to improve both the physiological and psychological state of those in the treatment programmes. Research into this work focused on the prevalence of physical activity provision in adult substance abuse programmes and the perceptions of the TRS of their own training (Kremer et al., 1995). Although the age group does not fall within this review, there are some interesting aspects worth noting. Fifty responses to the survey were used in the analysis. As this amounted to just 25% of the original sample, results have to be treated with caution. The most common activity employed by the TRS was walking (84%). The researchers explain that more physically stressful activities may have a detrimental effect on individuals as a result of their various physical disorders. They suggest that walking can have beneficial

effects in terms of developing friendships and practising social skills. It is also something that can be continued post-treatment. Concerns were expressed by the respondents about the need to have a more appropriate curriculum for their training. At times, they were asked to facilitate activities for which they had little or no training, thus compromising the various rehabilitation programmes. Given that recreation therapy is now an established part of many substance abuse programmes, Kremer and colleagues conclude that skilled TRS are in demand and therefore the content of the training curricula require re-examination.

The Australian Institute of Criminology, in conjunction with the Australian Sports Commission considered the role of sport and physical activity in preventing crime and reducing antisocial behaviour in youth. In brief, the first summary paper concludes that, combined with other interventions, sport and physical activity appeared to reduce crime in particular groups and communities (Cameron & MacDougall, 2003). The writers considered a range of programmes including a 'wilderness therapy' approach where the length of the programme and the post-programme support appeared to be important factors in any sustained success. It would be difficult to discuss all the programmes considered by Cameron and MacDougall in this review. Their report was, in the main, a summary of the evaluations and reviews provided by other people. Many of the youths involved in the programmes had substance abuse problems, although this was not common to all. The strong message coming from this short paper is the importance of the community as a setting for interventions and the positive role that recreation and physical activity can have.

A more recent paper from the Australian Institute of Criminology (Morris et al., 2003) was referred to earlier in this review. However, it is worth extending the discussion at this stage. The responses from the youth programme organisers indicate that many programmes used outdoor activities (for example, camping and wilderness experiences), while others used sport activities or a combination of both. The original concept for the programmes generally fell into two categories: meeting the needs of young people and the need to decrease antisocial behaviour. Reducing drug and alcohol use and reducing crime emerged as key outcomes and the authors of the report acknowledge that these outcomes were not always achieved. The report's authors suggest that it was more to do with the difficulties in measuring change rather than any failure to meet aims. Often this is exacerbated by the short-term nature of the funding (leaving little time for evaluations) and the fact that the majority of the staff were part-time volunteers. As in the earlier paper from the same organisation, the issue of continuity in the community post-programme was highlighted.

The evidence from this study suggests that follow-up in the community is an important factor in the success of programs and should therefore be an integral component of program development. (ibid., p.5)

The researchers conclude that the programmes had positive outcomes in relation to affecting behaviours positively, achieved mainly by 'focusing on improving underlying risk factors that predispose individuals to such behaviour.' They offer three themes as the basis for programme development: 1) *Involve the youth in program delivery and provide opportunities for leadership*; 2) *Create a safe and engaging environment for youth*, and 3) *Provide follow-up care and activities within the community*.

Thus, although the literature is somewhat limited and more research is required, existing studies indicate that there is a place for using sport/physical activity within programmes for drug users. The advantages of recreational activity, as opposed to competitive sport, should be considered and programmes are more likely to be successful where there are opportunities for continuing encouragement and support to continue activities within drug users' own communities.

CONCLUSIONS

1. The review shows that participation in sport or physical activity or exercise is associated with positive health in adolescents. Those young people who are involved in physical activity are, in general, more likely to display other positive health behaviours.
2. There is evidence that young people engaging in high levels of sport/physical activity are less likely to use drugs. Similarly, the literature indicates that young people with low levels of physical activity are more likely to engage in drug taking behaviour.
3. While participation in sport is shown to have benefits for young people in terms of prosocial behaviour, there is some evidence of an association between involvement in sport in non-school settings and risk-taking behaviour.
4. Young people who participate in organised sport within well structured and well-planned programmes report lower levels of drug use.
5. The influence of family and friends is important in encouraging continued participation in sport/physical activity.
6. The encouragement of young people to see sport/physical activity as part of a spectrum of health-enhancing behaviour may be more effective in preventing substance use than concentrating on dangers and risks.
7. The literature points to the need to provide young people with opportunities to learn useful skills, rather than to participate in sport, music or other activities merely as a diversion strategy.

8. The development of interpersonal skills and the promotion of values appear to be an important element of prevention programmes.
9. While sport/physical activity appears to have a positive influence on the recovery of substance users, the literature indicates the need for on-going and continuing support from community services.
10. Because of the evidence that young people are experimenting with drugs at a younger age, programmes with a health-enhancing lifestyle approach should start at the primary school age. Attention should be given to how such programmes can be sustained and developed as young people mature.

These conclusions, and the literature review, upon which they are based, led to the following outline proposal for potential sport and leisure initiatives for consideration by the trustees of the Robertson Trust.

Context

This proposal is guided by a literature review which gives several pointers that could be used to underpin thinking about an initiative. The most relevant ones are:

- Young people who participate in organised sport within well-structured and well-planned programmes report lower levels of drug use.
- The encouragement of young people to see sport/physical activity as part of a spectrum of health-enhancing behaviour may be more effective in preventing substance use than concentrating on dangers and risks.
- The addition of community interventions can strengthen existing school-based interventions.

- There is value in providing young people with opportunities to learn useful skills, rather than participating in sport, music or other activities merely as a diversion strategy.
- The development of interpersonal skills and the promotion of values appear to be an important element of effective prevention programmes.

Considerations

Some things to avoid in an intervention:

- Drug education or lifestyle advice merely as an ‘add-on’ to an activity programme.
- Using the notion of ‘diversion’ as an explicit objective.
- Focusing on a single sport or activity.
- Raising expectations that cannot be met or sustained.

Some ideas which could influence the design of an intervention:

- The existing community infrastructure, programmes and initiatives need to be taken into account to ensure cohesion and sustainability.
- Opportunities for broader personal and social development should be at the heart of the initiative - developing skills in, for example, music and drama, as well as sport and physical activity, developing and benefiting from good, supportive relationships etc.
- Creative planning to encourage wide participation by young people.
- Reinforcement of health promotion, e.g. in encouraging a health-enhancing lifestyle needs to be present, in a way that avoids the artificial ‘add-on’ approach.
- Skilled leadership is crucial, including good communication with young people, effective liaison with key professionals and agencies and ability to provide and/or tap into community arts, sport/physical activities.
- Involvement of young people in planning and provision.
- Consider targeting 10-14 age group (because of the evidence that young people are experimenting with drugs at a younger age and to include the primary-secondary school transition stage).

- Review other initiatives currently underway in Scotland (e.g. the Scottish Drugs Challenge Fund (Scotland Against Drugs) provides opportunities for the development of a series of sport-related projects throughout Scotland varying both in size and in approach).
- A direct approach to Scotland's Drug Action Teams may provide a fuller insight into initiatives that are currently taking place, or being planned.
- Include an evaluation strategy.

Possible Projects

1. Sport/ Physical Activity for Looked After Children About 11,000 children and young people aged under 18 are looked after by Scottish local authorities. About one quarter receive social work help while staying within the family, while the rest are looked after by foster parents or in residential homes or schools. These children typically do badly in education and experience health problems. The project would aim to encourage improved health and avoid risk taking behaviour by encouraging participation in sport/physical activity. This would be achieved by appointing a sports co-ordinator, perhaps working under the auspices of an existing organisation such as Who Cares Scotland, who would work across one or more local authority areas. The co-ordinator would act as a conduit/facilitator between looked after young people and existing sport/activity opportunities, would liaise with full-time carers and would also work directly with children and young people. The co-ordinator would be knowledgeable about sport/activity opportunities and clubs in the area and would actively encourage participation by helping to develop a culture of interest in sport amongst looked after children. A related project would involve sponsoring corporate membership to sport/leisure centres for looked after children.
2. Expedition Scholarship and Mentoring Scheme This project would centre on sponsoring young people 'at risk' aged 16+ to participate in a major expedition (e.g. through Raleigh International Youth At Risk Programme, British Schools Exploring Society) and in funding a liaison worker who would collaborate with social work agencies in identifying young people and in providing mentoring/support both prior to and following expeditions. We think that the provision of mentoring is important because of the need for substantial preparation to help young people with confidence building prior to entering an expedition programme, and to provide support when they return to their own community in making the most of the personal and social skills developed.
3. Inner City Adventure Project This project would involve contributing funding either to support an existing inner city adventure project or setting up a project in an area where one does not exist. An example of an existing project is the Drumchapel Adventure Group, which provides outdoor and wilderness

experiences for young people referred by social work agencies, schools, Reporters to the Children's Panel etc.

4. Out of School Activity Project The project would centre around making provision for young people of upper primary and secondary school age (10-17) to participate in sport or other activities (e.g. music, drama) on a regular basis outside school hours. The project would not be run by a school but the setting would be the catchment area of a secondary school and feeder primaries. We suggest that a New Community School in an area where a lack of sport/activity opportunities for young people has been identified would be an appropriate setting. The aim of the project should be to encourage young people to develop a healthy lifestyle through enjoyment of sport or other activity. The project should not depend on a single activity and should ideally offer a range of options. Funding would be required for some central administration, to pay for sessional sport coaches/activity leaders, including a coach/leader development programme and for equipment. The initiative would be adult-led, but opportunities should be created for young people to be meaningfully involved. Established musicians, actors and sport personalities might be encouraged to contribute at some stage (to promote continuation of the skills rather than as 'no-drugs' messengers). This project would require very close inter-agency collaboration, both to ensure that young people 'at risk' are encouraged to participate and also to ensure that the project is sustained beyond the period of initial funding. An interesting model for such a project is the Durness Youth Leisure & Recreation Project, supported by the Scottish Drugs Challenge Fund. This is based on a village hall and the project funding will be used to create an outdoor, all-weather surface to support a range of sports.
5. Coach Scholarship Scheme The purpose of this programme would be to increase the pool of sport coaches able to introduce young people to sport. We propose that the scheme might give special emphasis to older adolescents/young adults from deprived backgrounds, proficient in sport, and showing willingness to encourage young people to participate in sport. Funding would be used to pay fees for coaching courses run by sports' governing bodies and for equipment/clothing. Discussion with relevant agencies such as SportScotland might be appropriate in order to ensure that trained coaches could be placed where they could help to encourage sport development.
6. Summer Academy of Sport Many universities run summer schools which variously target and offer programmes to young people from backgrounds with little or no history of progression to higher education. Our proposal would be to use some of the underlying principles of university summer schools and have a focus on sport. The target group would be youngsters aged 10-14. The idea would be to offer two weeks of coaching in sport – perhaps one week introducing a range of sport, with a second week concentrating on one, or two weeks of intensive coaching. The summer school would include close mentoring aimed at helping to overcome barriers to participation 'at home,' allied to practical help to identify opportunities to continue in the sport, join a club etc. Funding might also

be used to give each participant a 'start-up grant,' e.g. club membership fee, and also for follow-up mentor support. Perhaps sport personalities could provide master classes. A university sport centre might be a suitable location.

Useful links

British Schools Exploring Society

www.bses.org.uk/

Centre for Drug Misuse Resear

www.glasgow.ac.uk/centres/drugmisuse/index.html

Raleigh International

www.raleigh.org.uk/

The Robertson Trust

www.therobertsontrust.org.uk

Scotland Against Drugs

www.sad.org.uk/

Sport Scotland

<http://www.sportscotland.org.uk/>

Who Cares Scotland

<http://www.whocarescotland.net/>

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