

## Does cannabis use cause dependence?

There is evidence that a dependence syndrome occurs in heavy, chronic users of cannabis. They report problems in controlling their cannabis use but they continue to use despite experiencing adverse personal effects.

It seems that the risk of becoming dependent on cannabis among those who have ever used the drug is similar to the risk for alcohol, but is less than for nicotine or opioids. The risk increases for those who use cannabis daily for weeks or months.

## What can schools do?

The possible serious consequences of poor performance on a young person's future mean that it is important to make efforts to reduce the effects of early cannabis use. But it will require a mix of strategies.

These could include (but not be limited to):

- Additional support in literacy and numeracy for children in primary school and the early years of secondary school where performance in these areas is poor;
- Discussions on the risks of cannabis use as part of broader school programs dealing with alcohol, tobacco and over-the-counter drugs;
- Broad-based support programs for the families of primary school children who are at risk of early cannabis and other drug use;
- Early treatment interventions for adolescents who are daily or near daily cannabis users.

This summary addresses the literature on the effects of adolescent cannabis use on educational outcomes. Schools need to be aware that there are other physical, social and economic effects of cannabis use. For further information please refer to the departmental publications *Drugs: Just the Facts* and *Cannabis: Information for students*.

## About the Centre

The National Drug and Alcohol Research Centre (NDARC) was established at the University of New South Wales in 1986. The Commonwealth Government funds it as part of the National Drug Strategy. The Centre's mission is to contribute to a more effective and efficient Australian treatment system for alcohol and other drug related problems. The Centre is multidisciplinary and collaborates with medical, psychology, social science and other schools of the University, and with other institutions and individuals in Australia and overseas. NDARC conducts research, with links to research in Australia and overseas, as well as conducting an annual symposium, special conferences, workshops and seminars.

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# Educational outcomes and adolescent

# Cannabis use

## Young People and Cannabis Use

This pamphlet summarises *Educational Outcomes and Adolescent Cannabis Use*, a report prepared in 1999 by Michael Lynskey and Wayne Hall from the National Drug and Alcohol Research Centre, University of New South Wales, for the NSW Department of Education and Training.

A copy of this report is available in every school. For further details, including a full discussion of the research on which this summary is based and a list of references, please refer to the full report.

A survey conducted in 1996 into Australian school students' alcohol and drug use found that just over 55 per cent of all 17 years olds and about 13 per cent of 12 year olds had used cannabis at least once in the past year.

In 1998 the National Drug Strategy (NDS) Household Survey found 44.6 per cent of young people aged 14 to 19 years reported using cannabis at some time in their lives, and just over a third reported they had used it in the past year. In 1995 the figures were 35.5% and 28.5%.

Lifetime cannabis use has increased in recent years even though most 12-17 year olds say they are not heavy users. Only 5 per cent said they used cannabis more than 40 times in the past year (approximately weekly use).

## The effects

There is evidence to suggest that while some young people use cannabis to achieve a "high" some also say there are negative effects ranging from anxiety and panic attacks to a fear of "going mad".



# Educational outcomes and adolescent

# Cannabis Use

## Is it dangerous?

There are some concerns in the community about whether adolescents who use cannabis become dependent on it. Can heavy use among young people bring about serious mental illness, such as psychosis and schizophrenia? Is it related to memory, attention and co-ordination difficulties?

The research indicates that young people who use cannabis regularly are at greater risk of using and abusing other substances and of criminal behaviour. They are also at risk of poorer mental health, impaired educational achievement and reduced life opportunities.

## Cannabis use—One reason for poor school performance?

There have been a number of studies in the USA and Australia, comparing the educational outcomes of students who used cannabis with students who did not.

They showed that low school commitment, poor performance, truancy and early school leaving are more likely to occur among young people who begin to use cannabis early (usually before the age of 15 years) and who are regular cannabis users.

It is also suggested that early cannabis use is associated with increased risk taking with an early transition into adult roles. This may take the form of engaging in early sexual activity, unplanned parenthood during adolescence, unemployment or leaving the family home early.

Although a number of studies suggest that there may be a link between cannabis use and poor school performance and early school leaving, there is debate about the best explanation for these links.

It is such an important issue to clarify that a large number of researchers have followed groups of young people through high school and into early adult life.

## Has the potency of cannabis increased?

A number of commentators in the alcohol and other drugs field have recently claimed that the THC content of cannabis used in Australia has increased between 10 and 30 times over the past two decades.

The THC content of Australian cannabis products has not been systematically tested by any Australian police force over the period in which average THC content has been claimed to have increased. There is therefore no Australian data to support the claim.

The USA is the only country that has regularly collected data on the THC content of cannabis plants over the past several decades and data there shows only a small increase in THC content.

Changes in the patterns of cannabis use and the cannabis market over the last two decades may explain the upsurge in the reported adverse effects of cannabis use. It would seem that earlier introduction of youngsters to cannabis; more regular use of more potent cannabis products such as the flowering tops of the stems, the greater use of water pipes and a possible increase in cannabis potency have all combined to increase the amount of THC being consumed by regular users.

They were selected before they began using cannabis and their progress at school and their personal and social adjustment were assessed at regular intervals.

The studies suggested that young people who were most likely to use cannabis in early adolescence were the same group who were at greatest risk of using other drugs.

This group was also most likely to engage in minor delinquency, have poorer mental health and do poorly at school *before they began to use cannabis*.

So not all of the relationship between cannabis use and poorer social outcomes can be attributed to cannabis use.

There is some evidence that early and regular cannabis use, by itself, may increase the risks of poor school performance and early school drop out.

## Possible explanations of the association between cannabis use and early school leaving

It is possible that the association between cannabis use and early school leaving can be explained by other factors that were not measured in the studies including neighbourhood environments and genetic vulnerability.

Other possible explanations have also been put forward.

One theory is that daily cannabis use may produce an "amotivational syndrome". This could show up in a reduced commitment to school with predictable results for school performance. Research has not supported the existence of a unique "amotivational syndrome" among adult chronic heavy cannabis users. Daily cannabis use may nonetheless impair motivation and performance because of the immediate effects of cannabis intoxication.

A second theory is that daily cannabis use produces changes in thinking processes that affect school performance.

While recent research has suggested that adults who have been daily cannabis users over many years may have experienced some cognitive changes, there is no evidence that regular cannabis users have the same severe memory deficits and cognitive impairment that is found in people who use alcohol heavily.

## Does cannabis use cause psychosis

Large doses of THC (delta-9-tetrahydrocannabinol - the psychoactive ingredient in cannabis) can produce confusion, amnesia, delusions, hallucinations, anxiety, and agitation.

Such reactions are rare however. They usually occur after heavy cannabis use and cease rapidly after abstinence from cannabis.

A study of 50,000 Swedish conscripts found an association between cannabis use and schizophrenia that suggests that chronic cannabis use may precipitate schizophrenia in some vulnerable individuals.

Biologists suggest that cannabis use can exacerbate the symptoms of schizophrenia and there is evidence that continued cannabis use predicts more psychotic symptoms in persons with schizophrenia.

However it is unlikely that cannabis use has caused cases of schizophrenia that would not otherwise have occurred.

The subtle changes found in adult cannabis users typically occur after many years of daily cannabis use.

It seems probable that cognitive changes which occur in adolescents are the result of "cannabis intoxication"— an effect on memory and attention which occurs immediately after use.

A third theory is that cannabis use is associated with the precocious adoption of adult life styles by young people who are not equipped to handle them. There is some support for this hypothesis from a number of studies that show adolescent cannabis use is associated with early marriage, early pregnancy and childbirth as well as early school leaving.