

# bulletin

# What influence can parents have on cannabis prevention?

Paul Dillon, National Cannabis Prevention and Information Centre

#### Introduction

One of parents' greatest fears is that their child will become involved with illicit drugs. Their fear is based on concern that if they do experiment with these substances, a range of negative consequences may result. These may include physical, psychological and social consequences, depending on which drug is used. Often, of particular concern to parents, are the possible effects of use, such as poor educational attainment, development of mental health issues, involvement with criminal behaviour, dependency and, of course, death.

Cannabis is the illicit drug most likely to be used by young people. Studies have shown that the younger a person starts using cannabis, the greater the problems they will experience in the future, i.e., dependency, mental health issues and a range of social problems. Cannabis use by school-based young people has markedly reduced over the past decade but there is evidence to suggest that attitudes to the drug are changing within this group.

Although parents sometimes doubt their importance, particularly during the teenage years, research indicates they play an important part in the development of their adolescent children. As such, parents can influence adolescent substance use, and depending on the situation, can be either protective or contribute to future risky behaviours.

This bulletin will examine the current evidence on what parents can do to prevent, or at the very least, delay, cannabis use by their children. The majority of research examining parental influence on adolescent substance use does not look specifically at cannabis, but rather, discusses substance use more generally. Where information has been provided for cannabis, this will be noted. There has been much work conducted in the area of parental influence on adolescent tobacco smoking and alcohol use. Some of these studies have been included in this review but due to the illicit nature of cannabis, some of the findings may not necessarily be transferable.

# Cannabis use by young people and parental influence

The 2010 Australian School Students' Alcohol and Drug (ASSAD) Survey found that 14.8% of Australian secondary school students aged between 12–17 years had used cannabis at some stage in their life. The use of cannabis increased with age, with 3.4% of 12 year olds reporting ever having used cannabis compared to 29.2% of 17 year olds (White & Bariola, 2011).

Studies have shown that if a young person uses cannabis early in life (before the age of 16 years) and for a prolonged period of time, it can lead to a range of significant problems. While prevalence rates have markedly reduced since the late 90s, cannabis is still widely used by young people, and the possible impacts on adolescent development remains an important issue.

# ncpic bulletin

It is therefore important to focus on preventing cannabis use to reduce potential problems in the future. Research shows that even if the uptake of cannabis cannot be prevented, there are still benefits to be gained from delaying the age at which it occurs (van Ours & Williams, 2009). Early studies examining prevention of substance use focused on the risk factors that increased the possibility of use, but recently research has concentrated on identifying and enhancing protective factors. This change has been due to the realisation that many of the risk factors identified are often difficult or impossible to change (Piko & Kovacs, 2010) and that protective factors may not only foster competence but also neutralise the effect of negative risk factors.

Research indicates parents, and families more generally, can protect against adolescent substance use in instances where parenting skills, parent-adolescent communication and levels of warmth and affection are high (Werch et al, 1991; Kosterman et al, 1997; Forhand et al, 1997; Sawyer & Stevenson, 2008). In addition, Loxley and colleagues (2004) also identified attachment to the family and low parental conflict as protective factors.

There have been additional studies finding that youth substance use is more probable when parents engage in alcohol or other drug use or when parents directly or indirectly convey that these behaviours are normative and common (Sawyer & Stevenson, 2008). The lack of emotional warmth and less open communication between parents and their children has been shown to lead to developing problems (Laursen, Coy & Collins, 1998), and adolescent substance use is more likely in families with more frequent family conflicts (Ackard, Neumar-Sztainer & Story, 2006).

# Parental protective factors

There are a range of parental protective factors against adolescent substance use that have been identified in the literature. Velleman & Templeton (2007) listed the following seven areas in which parents, or the family more generally, can influence their children's substance use and misuse:

- family relations versus structure
- family cohesion
- family communication
- modelling of behaviour by parents
- family management
- parental supervision
- influence of parents and peers

They go on to stress the importance of the parent-child relationship, the harmony of the home environment, as well as the behaviour of parents and peers when it comes to factors that correlate strongly with the initiation of substance use and development of problems. As far as preventing future use, there are a range of factors that have been studied including bonding between teens and their parents, which has been shown to be effective (Wang et al, 2011). Parents' abstinence from substance use has also been shown to be protective, providing positive social modelling, with teens whose parents do not use drugs less likely to use themselves

Parental disapproval of drug use is another factor that has been investigated. One study examined how different age groups perceived both parent and peer disapproval of drug use and how these perceptions influenced intentions to use drugs in the future (Sawyer & Stevenson, 2008). They found, not surprisingly, that parent influence was more evident among the younger students, but young people retained consideration of parental preferences at least through to the eighth grade. Parental expectations have also been found to be protective (Simons-Morton, 2004).

For the purposes of this bulletin, however, two protective factors will be examined in detail.



- parenting style
- parental monitoring

Although these two factors are inter-related, with parental monitoring often being examined as one component of parenting style, it is important to look at them separately, particularly with regards to their impact on cannabis use.

# Parenting style

Parenting style is usually categorised along two dimensions: parental support and parental control, with Maccoby and Martin's (1983) four styles being the most widely accepted model:

- authoritarian
- authoritative
- indulgent
- neglectful

Huver and colleagues (2010) described the four styles as following:

"Authoritative parents offer their children a democratic climate of both high support and strict control. Authoritarian parents provide strict control without being supportive, and are therefore perceived as demanding and power-assertive. Children experiencing support in the absence of strict control are being reared by indulgent parents, who are allowing and permissive. These parents apply few rules to constrain their children. Finally, parents with an uninvolved parenting style are neither supportive nor controlling, and are relatively more indifferent and uninvolved (or even neglectful) with respect to their children."

Parental support (often referred to as 'parental warmth') refers to parental affectionate qualities and is associated with characteristics like warmth, acceptance, and involvement. Strict control reflects parental control over children's behaviors and as such includes parental knowledge of activities as well as active monitoring attempts.

Authoritative parenting has been described as the "optimum style" (Montgomery, Fisk & Craig, 2008) having a range of positive impacts on adolescents, with authoritative parents being described as "demanding, yet warm and democratic" (Stephenson & Helme, 2006). Research has shown adolescents with authoritative parents show better psychosocial development, greater academic competence, less delinquent behaviour, and fewer somatic symptoms (Steinberg et al, 1994). They are also more likely to experience many health benefits, for example, they eat more fruit, smoke less, drink less alcohol, and are less likely to use cannabis (Huver et al, 2010). The positive effects of authoritative parenting have been found to be similar for males and females but inconsistent across ethnic groups (Jackson, Henriksen & Foshee, 1998; Garcia & Gracia, 2009).

Research provides support for the relationship between parenting style and illicit drug use and the apparent protective effect of a style incorporating strictness and warmth. Children of authoritative parents were less likely to use illicit substances than those of neglectful parents (Adalbjarnardottir & Hafsteinsson, 2001), and another study reported lower tobacco, alcohol and 'other' drug consumption among that group (Barnes, Farrell & Cairns, 1986). In their study on the effect of parenting style on ecstasy/polydrug use, Montgomery and colleagues (2008) reported those university students in their sample who rated their parents' style as authoritative had significantly lower lifetime consumption and average dose of ecstasy, relative to those from neglectful



backgrounds. They also had significantly smaller lifetime consumption of ecstasy and cocaine and significantly smaller average doses of cannabis, ecstasy and cocaine.

# Parental style effects on cannabis use

Few studies have examined the impact of particular parenting styles and their effect on cannabis use alone. One Dutch study examined the interaction of a number of parenting factors (rejection, overprotection and emotional warmth) on adolescent alcohol and cannabis use. In this example, the study revealed some substance-specific effects, such as regular alcohol use was more common in those that perceived their parents as overprotective, and cannabis use was enhanced by parental rejection and buffered by emotional warmth (Creemers et al, 2011). Similarly, high parental warmth predicted lower pro-cannabis attitudes and subjective norms in another study, although the author noted that the positive familial affect may not be enough to result in children refusing cannabis when offered (Lac et al, 2009). Cremmers (2011) suggested that a possible reason for the positive impact of warmth on potential cannabis use could be that teens experiencing such a relationship with their parents may be more likely to adopt parental rules, which are expected to be less permissive towards cannabis when compared to alcohol use.

Stephenson and Helme (2006) examined the role of authoritative parenting as a protective factor that prevented or buffered cigarette and cannabis use by adolescents with high sensation seeking tendencies. They found that authoritative parenting moderated the effect of sensation seeking on adolescent cannabis attitudes, intentions and peer influence, but not behaviours.

It is important to note that parenting style may change during stages of adolescence, that is, as children get older, parental control diminishes. In a study investigating the role of authoritative parenting on adolescents' smoking tobacco and drinking, researchers found that levels of parental control may diminish in late adolescence. Lower parents' demandingness, as well as paternal responsiveness were reported, as well as a decrease in positive identification with parents (Piko & Balázs, 2012).

In recent years, researchers have questioned the idea that authoritative parenting is always associated with optimal outcomes across all cultural and ethnic contexts. Garcia and Gracia (2009) discussed research findings where authoritarian parenting "successfully competed" with authoritative parenting for some optimal outcomes. Their own study (that did examine 'problem behaviours', including drug use) found that in Spain indulgent parenting appeared to be the optimum style.

There is a great deal of evidence to support the idea that children raised in a home with authoritative parents are less likely to use drugs, including cannabis, compared to those from non-authoritative homes. Rules and boundaries, provided in an environment where parental warmth is the norm, are much more likely to be accepted by adolescents. Teens are also much more likely to share their concerns or discuss problems they may be experiencing when they know they will be listened to in a non-judgemental way, thus providing parents with much more information about their children's lives. Stephenson and Helme (2006) describe the impact of this type of parenting style as follows:

"The implication is that specific parenting practices both designed to keep tabs on the adolescent and maintain a warm relationship facilitate the amount of knowledge that parents gain from their children and reduce the likelihood of adolescent substance use."

# Parental monitoring

Parents who know where their children are and with whom they are associating, and who communicate to their children that they are aware of and concerned about their activities, are said

# ncpic bulletin

to engage in parental monitoring (Dishion & McMahon, 1998). Adolescents whose parents use effective monitoring practices are less likely to make decisions that can negatively impact a wide range of health behaviours, such as having sex at an early age, smoking cigarettes, drinking alcohol, and being physically aggressive (Centers for Disease Control and Prevention, 2012). The effect of the supervision has been found to persist as the young people age (Li, Stanton & Feigelman, 2000) and has been found to be effective in both single and two-parent households (Choquet et al, 2008; Steinberg, Fletcher & Darling, 1994). Gender differences have been identified in a number of studies, with the protective effect more noticeable in girls than in boys (e.g., Bobakova et al, 2012).

Parental monitoring is not only an effective tool in the prevention of illicit drug use, but also in the amelioration of drug use (Steinberg, Fletcher & Darling, 1994). Put simply, the greater the perceived parental control, the lower the adolescent's substance use (e.g., Chilcoat & Anthony, 1996; Piko & Fitzpatrick, 2002; Choquet et al, 2008; Lac et al, 2009; Tornay et al, 2013).

As far as a relationship between parental monitoring and cannabis use among adolescents, a meta-analytic review found a 'robust link' between the two, with more intense monitoring being 'associated invariably' with less cannabis use (Lac & Crano, 2009).

Parental monitoring not only directly decreases the likelihood of substance use, it can also affect a child's friendship choices. Research has shown teens who perceive their parents provide substantial support are less likely to have with friends who use drugs, and of those who do have friends who use drugs, they are less likely to start using drugs themselves (Chilcoat & Anthony, 1996; Sigfúsdóttir et al, 2008; Kristjansson et al, 2010; Tornay et al, 2013).

Some studies have acknowledged that most parenting monitoring constructs actually measure parental knowledge of the child's activities, whereabouts and relationships, with 'parental knowledge' believed to be the critical factor (e.g., Stattin & Kerr, 2000). Parental knowledge represents what the parent actually knows versus what information parents are trying to get. Monitoring represents the seeking of information, while knowledge deals with the possession of the information, whether it be accurate or not (Stephenson & Helme, 2006). In their review, Lac & Crano (2009) reported that some studies have focused only on parental knowledge. They recommended future research to identify the components of parental monitoring that are most strongly associated with cannabis use.

It has also been hypothesised that the level of parenting monitoring may be associated with drug use. One Swiss study used four statements to represent increasing levels of parenting monitoring and subsequently found that one single level had a protective effect on alcohol misuse and ecstasy use, whereas two were needed for tobacco and cannabis use (Tornay et al, 2013). Researchers concluded by encouraging parents to:

"... improve their knowledge about with whom or where adolescents are in the evenings and to establish rules about what is allowed outside or inside the house ... to limit the negative influence of consuming peers on adolescent substance use."

In their sample of Hungarian secondary school students, Piko and Kovacs (2010) found that even though certain aspects of parental protection were important in terms of adolescent substance use, some of the parenting variables investigated were not as important as expected (e.g., social support from parents and having dinner together with the family). They concluded that parental support did play an important role in adolescents' behaviour but more research was needed to clarify the 'altered role of parent-child relationship in adolescents' substance use'.

Other studies have examined the impact of parental monitoring at particular times in a child's life, with one finding that youths being closely supervised in middle childhood were found to be less likely to start using cannabis and other drugs, compared to those with lower levels of monitoring at



that time (Chilcoat & Anthony, 1996). Certain parenting practices, including parental monitoring, in the middle years of childhood may have a lasting impact, potentially shielding young people from having the chance to experiment with cannabis throughout adolescence. (Chen, Storr & Anthony, 2005).

The illicit nature of cannabis also sets particular challenges for parents. A study of US college students found high parental monitoring during high school significantly reduced the risk for alcohol dependence during the first year of college but did not reduce the risk of cannabis dependence (Kaynak et al, 2013). The authors suggested that a possible reason for this could be that parents who continue to be highly involved with their child during college may feel comfortable having conversations about alcohol-related issues, such as drink driving and poor grades, but have difficulty talking about cannabis. Parent-child interventions did not seem to exist for illicit drugs, perhaps because this would mean that parents would need to acknowledge possible use.

As children develop into teenagers, parents often view them as more independent and less in need of monitoring. At the same time, adolescents may not be willing to share as much information as they once did and there is often increasing conflict as emotional closeness to their parents diminishes. But, consistent monitoring throughout the teen years is critical as teens' desire for independence can bring opportunities for unhealthy or unsafe behaviours. Studies confirm that parents and the family remain important through this time, although their role often changes to a less directive way of parental monitoring.

Borawski and colleagues (2003) investigated the practice of a 'negotiated agreement' between parents and adolescents. Best described as the 'bending of the rules' (e.g., around curfews and rules about having adult supervision), this can take place in later adolescence and was allowed as long as prior permission was granted for these exceptions. Teens who reported that their parents allowed them to negotiate in such a way were more likely to be sexually active and to use alcohol and cannabis than the adolescents who did not. It is important to note, however, these adolescents were also more likely to engage in sex-related protective behaviours, such as condom use, carrying protection or refusing sex when protection was not available. No information was collected on 'safer' drug use behaviour.

It is clear that parental monitoring has significant implications for adolescent substance use. The relationship is not clear though and may have a greater impact at different stages of a young person's life. For example, in one study, greater monitoring was found to be related to lower likelihood of substance use by age 13, but as teens made the transition to secondary school, the quality of family relationships emerged as an important predictor of use. Later in high school, family relationship quality remained a significant predictor but this was no longer the case in early adulthood (Van Ryzin, Fosco & Dishion, 2012).

Monitoring needs to be age appropriate and change over the course of the child's life to match their stage of development. Appropriate levels of behavioural control need to be applied in an environment that supports trusting and non-intrusive parent-child communication. This encourages disclosure by the child, thus ensuring that parents are able to access accurate monitoring information.

The Centers for Disease Control and Prevention (2012), in a resource developed by a panel of leading academic researchers in the field of parental monitoring, provided the following recommendations for parents:

 start monitoring in early childhood and continue monitoring consistently throughout the teen years



- talk with your teen about the plans he or she has with friends, such as after-school activities, and where and when these will occur
- clearly communicate expectations and explain the consequences for breaking rules

# Barriers to parental influence

Although research has shown that parents can play a major role in preventing, or at the very least delaying, their child's future cannabis use, there are a number of barriers that may impact upon their positive influence. Some of these may include the following:

- · 'peer pressure'
- mass media

#### 'Peer pressure'

Peer influence, or 'peer pressure' as it often referred, is regarded as a major risk factor for adolescent substance use. During adolescence, young people begin to spend more time with their peers and less with their parents and for many, the relationship they once had with their child can change quite dramatically in a very short period of time. As a decline in susceptibility to parental influence occurs, peer influence increases. This may not only affect their behaviour but also directly or indirectly have an impact on their well-being (Keresztes et al, 2008).

Adolescents' peer groups can be extremely influential with regards to cannabis use and interactions with peers can serve as either a protective factor or risk factor for substance use.

Young people have friends with similar interests due to either peer selection or peer influence. Peer selection is where adolescents befriend individuals who have similar interests prior to the formation of the relationship and peer influence. In this instance, adolescents become more similar to their friends over time, engaging in particular behaviour at the same time as their friends (Tilton-Weaver et al, 2013). There has been much debate as to whether it is peer selection or peer influence that is most important in terms of a risk factor for substance use. Regardless, parents can positively affect a child's friendship choices (i.e., peer selection) through effective monitoring (Chilcoat & Anthony, 1996) and parenting style can have a protective effect on peer influence (Stephenson & Helme, 2006).

It is important to ensure there is the right balance of parenting style and monitoring. Studies have found that when teens believed their parents were restrictive and asserted too much power, higher levels of peer orientation were reported (Fuligni & Eccles, 1993), and those young people who believed their parents used a non-authoritative style were more likely to be influenced by their peers to use drugs (Mounts & Steinberg, 1995).

Contrary to what many believe, parents can have a lasting impact on their children despite the increasing role of peer influence, with research finding that parental influence moderated peer influences into late adolescence (Wood et al, 2004). Mount's (2002) examination of the role of parental style on the management of adolescent peer relationships supports this finding, with the report suggesting parents can have a protective effect against negative peer influence:

"... parents do have an impact on their children's involvement in drug use, even when accounting for the effects of friends ... Although children may not always select friends who are engaging in desirable activities, specific parenting practices may prevent adolescents from being unduly influenced by these friends."

The findings of a study investigating the relative influence of perceived parent and peer disapproval for using drugs found that parents can have a robust protective role over and above peer influences (Sawyer & Stevenson, 2008). The authors reported that of special importance was the finding that,



although the strength of peer influence was stronger as they got older, parental influence continued to be a significant factor.

Dekovic and colleagues (2004) reported that children who experienced warm and supportive parenting were more willing to talk to their parents about their daily activities, feelings, and thoughts. As a result, these young people are more likely to seek advice and guidance from their parents rather than their peers.

It is clear that peers are a major influence on young people, with adolescents more likely to engage in a range of risky behaviours, including substance use, when they perceive that their peers will accept that behaviour. Whether it is peer influence or peer selection that is the stronger influence on adolescent substance use has not yet been proven, but regardless of that, research has found that positive parenting (i.e., authoritative style with appropriate monitoring) can have a protective effect on both of these.

#### Mass media

Young people are exposed to various types of media every day, for example, television, films, music, internet, newspapers and magazines and video games. There are a range of factors that are known to play an influential role in an adolescent's decision making and attitudes towards substance use, including the media. Media portrayals of illicit drug use are one potential influence shaping young people's views of a range of behaviours.

Stern (2005) analysed teen characters in films to assess the frequency, nature and experienced consequences of substance use depictions. She reported that drinkers and drug users were unlikely to suffer any consequences, rarely refused offers to drink or take drugs or regretted their substance use. Overall, she concluded that these 'teen-centred films' may teach young people that substance use 'is relatively common, mostly risk-free, and appropriate for everyone'. Interestingly, in a follow-up study published in 2013, Stern and Morr reported that fewer teen characters were shown using drugs in the films analysed this time, but still consequences of substance use were infrequently depicted.

Music also plays an important role in many teens' lives, with illicit drugs often being referenced in popular music. A content analysis found that according to Billboard magazine, 13.6% of the top songs of 2005 referenced cannabis (Primack et al, 2008).

There is growing evidence to support the idea that media exposure has significant associations with future substance use (Nunez-Smith et al, 2010). It is now well established that viewing smoking-related mass media messages (whether that be via television, films, internet or some other form) is associated with adolescent smoking initiation (e.g., Primack et al, 2009; Smith & Foxcroft, 2009). There have also been a number of studies that have reported an association between exposure to alcohol images in films and young people's alcohol consumption (e.g., Sargent et al, 2006), and in recent years, exposure to illicit drug use and its impact on adolescent drug use has also been examined (Primack et al, 2009; Hunt et al, 2011), with some studies explicitly reporting on cannabis (Primack, Douglas & Kraemer, 2009).

A study of Scottish secondary students found an association between film exposure to illicit drugs and ever use of cannabis (Hunt et al, 2011) while another reported an independent association between exposure to cannabis in popular music and early cannabis youth among urban American adolescents (Primack, Douglas & Kraemer, 2009). Another study attempted to determine which media exposures were more strongly associated with cannabis and alcohol use among adolescents, reporting that music was independently associated with cannabis use, while exposure to movies was associated with alcohol use (Primack et al, 2009).



Unfortunately, there is no research examining the possible protective effect that positive parenting may have on the influence of media on adolescent substance use. That said, it would be surprising if the protective effect of parenting that has been identified in relation to peer influence was not mirrored to some degree for the impact of the mass media.

# Can parents make a difference?

The adolescent years are a difficult time for both the young person and their parents. It is a time when the child-parent relationship will change and that can be frightening, particularly for parents. Hair and colleagues (2008) stated that parents are frequently being told by the media that their adolescent children do not value them and that they should step back from their parenting roles. Their findings, along with other evidence, challenge this, instead highlighting the ongoing importance of parenting during adolescence. Some of their conclusions included that the quality of the parent-adolescent relationship matters, even for teens beginning the transition to adulthood; both the father-adolescent and the mother-adolescent relationships are important; and parents matter for both sons and daughters (Hair et al, 2008).

One of the greatest concerns for parents during the adolescent years is alcohol and other drug use. There are a wide range of determinants of substance use in young people, with families, and particularly parents, shown to be especially important. Parents can be protective in nature, or alternatively, increase the risk that their children will go on to use drugs. As far as cannabis is concerned, parental and peer substance use and their approval of such use have been found to be among the main factors contributing to use (Gruber & Pope, 2002).

The evidence is clear that parents can make a real difference in terms of either preventing, or at the very least, delaying their child's future cannabis use. This is best done by adopting a particular type of parenting style (i.e., 'authoritative'), one that has equal levels of strictness and warmth. Jackson and colleagues (1998) described it as follows:

"The demanding behaviours characteristic of authoritative parenting include setting and enforcing clear standards of behaviour, actively monitoring and supervising a child's activities, maintaining structure and regimen in a child's daily life, and making maturity demands consistent with the developmental phase of a child. The responsive behaviours characteristic of authoritative parenting include being affectionate and accepting, providing comfort and support, being involved in children's academic and social development, and recognizing children's achievements."

Parental monitoring has also proven to be protective in terms of future cannabis use, that is, knowing where your teen is, who they are with and when they will be home. Clear communication about your expectations is also very important, with research finding that teens who believe their parents disapprove of risky behaviours are less likely to choose those behaviours.

This evidence can be summarised into some simple practical parenting tips, as Copeland, Rooke and Matalon (in press) have done. Although these were written specifically with cannabis in mind, they apply for any adolescent risk behaviour.

- · develop and maintain good communication with your child
- be involved in your child's life
- make rules clear and enforce them consistently
- be a positive role model
- help your children choose friends wisely



There are of course barriers to parental influence, with peers in particular becoming more important as a child enters adolescence. Research has found, however, that peer influence can be countered to some extent by positive parenting, whether that be in influencing their child's friendship choices or simply having a relationship that encourages greater communication and trust. In addition, Tilton-Weaver and colleagues (2013) suggest a range of 'guiding, supporting, and coaching strategies' for parents to assist in reducing the selection and influence of peers. These strategies include talking about friendship choices, supporting friendships, and giving advice when requested.

The influence of the media cannot be underestimated and there is now evidence that exposure to cannabis in media (whether that be in film, music or whatever) may lead to future cannabis use. There has been no evidence as to the protective effect positive parenting may have on this influence.

The evidence is clear that parents can make a difference in terms of cannabis prevention. According to Lac and Crano (2009), "parents are far from irrelevant, even when it comes to an illegal and often secretive behaviour on the part of their adolescent children". Parents need to be encouraged to set simple and clear rules for their children about what is expected of them and what will not be tolerated from an early age. They should know where their children are and who they are with. If the rules are broken there are consequences that will be applied. This approach, provided in an environment where the children feel loved and cared about could have a protective effect on adolescent cannabis use.

#### References

**Adalbjarnardottir, S. & Hafsteinsson, L.G.** (2001). Adolescents' perceived parenting styles and their substance use: concurrent and longitudinal analyses. *Journal of Research on Adolescence* 11, 401-423.

**Australian Institute of Health and Welfare.** (2011). 2010 National Drug Strategy Household Survey report. *Drug statistics series no. 25*. Cat. no. PHE 145. Canberra: AIHW.

**Barnes, G.M., Farrell, M.P. & Cairns, A.** (1986). Parental socialization factors and adolescent drinking behaviours. *Journal of Marriage and the Family 48*, 27-36.

**Best, D., Gross, S., Manning, V., Gossop, M., Witton, J., & Strang, J.** (2005). Cannabis use in adolescents: the impact of risk and protective factors and social functioning. *Drug and Alcohol Review 24*, 483-488.

**Boawski, E.A., levers-Landis, C.E., Lovegreen, L.D., & Trapl, E.S.** (2003). Parental monitoring, negotiated unsupervised time, and parental trust: the role of perceived parenting practices in adolescent health risk behaviours. *Journal of Adolescent Health 33*, 60-70.

**Bobakova, D., Madarasova Geckova, A., Klein, D., Reijneveld, S.A., & van Dijk, J.P.** (2012). Protective factors of substance use in youth subcultures. *Addictive Behaviors 37*, 1063-1067.

**Centers for Disease Control and Prevention** (2012). Parental Monitoring of Adolescents: Current Perspectives for Researchers and Practitioners. http://www.cdc.gov/healthyyouth/protective/pdf/parental\_monitoring\_factsheet. pdf. Accessed on 17 April, 2014.

**Chen, C., Storr, C.L. & Anthony, J.C.** (2005). Influences of parenting pratices on the risk of having a chance to try cannabis. *Pediatrics 115*, 1631-1639.

**Chilcoat, H.D. & Anthony, J.C.** (1996). Impact of parent monitoring on initiation of drug use through late childhood. *Journal of American Academy of Child and Adolescent Psychiatry 35*, 91-100.

**Choquet, M., Hassler, C., Morin, D., Falissard, B., & Chau, N.** (2008). Perceived parenting styles and tobacco, alcohol and cannabis use among French adolescents: gender and family structure differentials. *Alcohol & Alcoholism* 43, 73–80.

Copeland, J., Rooke, S. & Matalon, E. (in press). Cannabis: what we know and how to help.

Creemersa, H.E., Harakeh, Z., Dick, D.M., Meyers, J., Vollebergh, W.A.M., Ormelf, J., Verhulst, F.C., & Huizink, A.C. (2011). DRD2 and DRD4 in relation to regular alcohol and cannabis use among adolescents: Does parenting modify the impact of genetic vulnerability? The TRAILS study. *Drug and Alcohol Dependence 115*, 35-42.

**Dekovic, M., Wissink, I. B. & Meijer, A. M.** (2004). The role of family and peer relations in adolescent antisocial behavior: Comparison of four ethnic groups. *Journal of Adolescence 27*, 497-514.

- **Dishion, T. J., & McMahon, R. J.** (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review 1*, 61–75.
- **Fuligni, A.J., & Eccles, J.S.** (1993). Perceived parent-child relationships and early adolescents' orientation towards peers. *Developmental Psychology* 29, 622-632.
- **Garcia, F. & Gracia, E.** (2009). Is always authoritative the optimum parenting style? Evidence from Spanish families. *Adolescence* 44, 101-131.
- **Grayson, J.L.** (2011). The relation between parent substance use and adolescent risk behaviors: A normative study of direct and indirect influences in the family environment. (PhD-Dissertation, Ohio University, USA).
- Gruber, A.J. & Pope, H.G. (2002). Marijuana use among adolescents. Pediatric Clinics of North America 49, 389-413.
- Hair, E.C., Moore, K.A., Garrett, S.B., Ling, T., & Cleveland, K. (2008). The continued importance of quality parent-adolescent relationships during late adolescence. *Journal of Research on Adolescence 18*, 187–200.
- **Hunt, K., Sweeting, H., Sargent, J., Lewars, H., Young, R., & West, P.** (2011). Is there an association between seeing incidents of alcohol or drug use in films and young Scottish adults' own alcohol or drug use? A cross sectional study. BMC Public Health 11, 259.
- **Huver, R.M.E., Otten, R., de Vries, H., & Engels, R.C.** (2010). Personality and parenting style in parents of adolescents. *Journal of Adolescence 33*, 395-402.
- **Jackson C., Henriksen L. & Foshee V.** (1998). The Authoritative Parenting Index: predicting health risk behaviors among children and adolescents. *Health Education & Behavior 25*, 319–37.
- **Keresztes, N., Piko, B., Pluhar, Z., & Page, R.M.,** (2008). Social influences of leisure time sports activity among early adolescents. *Journal of the Royal Society for the Promotion of Health 128*, 21–25.
- **Kovach Clark, H., Ringwalt, C.L. & Hanley, S.** (2012). Predicting high risk adolescents' substance use over time: the role of parental monitoring. *The Journal of Primary Prevention 33*, 67-77.
- **Kristjansson, A.L., James, J.E., Allegrante, J.P., Sigfusdottir, I.D., & Helgason, A.R.** (2010). Adolescent substance use, parental monitoring, and leisure-time activities: 12-year outcomes of primary prevention in Iceland. *Preventive Medicine 51*, 168-171.
- **Lac, A. Alvaro, E.M., Crano, W.D., & Siegel, J.T.** (2009). Pathways from parental knowledge and warmth to adolescent marijuana use: an extension to the theory of planned behavior. *Prevention Science 10*, 22-32.
- **Lac, A. & Crano, W.D.** (2009). Monitoring matters: Meta-analytic review reveals the reliable linkage of parental monitoring with adolescent marijuana use. *Perspectives on Psychological Science* 4, 578-586.
- **Li, X., Stanton, B. & Feigelman, S.** (2000). Impact of perceived parental monitoring on adolescent risk behavior over 4 years (Conference Paper). *Journal of Adolescent Health 27*, 49-56.
- Loxley, W., Toumbourou, J.W., Stockwell, T., Haines, B., Scott, K., Godfrey, C., Waters, E., Patton, G., Fordham, R., Gray, D., Marshall, J., Ryder, D., Saggers, S., Sanci, L., & Williams, J. (2004). The Prevention of Substance Use, Risk and Harm in Australia: A Review of the Evidence. Commonwealth of Australia, Canberra.
- **Maccoby, E.E. & Martin, J.A.** (1983). Socialization in the context of the family: Parent-child interaction. In **P. Mussen and E.M. Hetherington**, (eds), *Handbook of Child Psychology, Volume IV: Socialization, personality, and social development*, pp 1–101. New York: Wiley.
- **Montgomery, C., Fisk, J.E. & Craig, L.** (2008). The effects of perceived parenting style on the propensity for illicit drug use: the importance of parental warmth and control. *Drug and Alcohol Review 27*, 640-649.
- **Mounts, N.** (2002). Parental management of adolescent peer relationships in context: the role of parenting style. *Journal of Family Psychology 16*, 58-69.
- **Mounts, N.S. & Steinberg, L.** (1995). An ecological analysis of peer influence on adolescent grade point average and drug use. *Developmental Psychology 31*, 915-922.
- Nunez-Smith, M., Wolf, E., Huang, H. M., Chen, P. G., Lee, L., Emanuel, E. J., & Gross, C. P. (2010). Media exposure and tobacco, illicit drugs, and alcohol use among children and adolescents: A systematic review. *Substance Abuse* 31, 174–192.
- **Piko, B.** (2000). Perceived social support from parents and peers: Which is the stronger predictor of adolescent substance use? *Substance Use and Misuse 35*, 617-630.
- **Piko, B.F. & Balázs. M.Á.** (2012) Authoritative parenting style and adolescent smoking and drinking. *Addictive Behaviors* 37, 353-356.
- **Piko, B. & Fitzpatrick, K.M.** (2002). Without protection: Substance use among Hungarian adolescents in high-risk settings. *Journal of Adolescent Health 30*, 463–466.
- **Piko, B.F. & Kovacs, E.** (2010). Do parents and school matter? Protective factors for adolescent substance use. *Addictive Behaviors 35*, 53-56.
- **Primack, B.A., Dalton, M.A., Carroll, M.V., Agarwal, A.A., & Fine M. J.** (2008). Content analysis of tobacco, alcohol, and other drugs in popular music. *Archives of Pediatrics and Adolescent Medicine 162*, 169–75.
- **Primack, B.A., Douglas, E.L. & Kraemer, K.L.** (2009). Exposure to cannabis in popular music and cannabis use among adolescents. *Addiction 105*, 515-523.



- **Primack B. A., Kraemer K. L., Dalton M. A., & Fine M. J.** (2009). Association between media exposure and marijuana and alcohol use in adolescents. *Substance Use & Misuse 44*, 722–39.
- **Sargent, J.D., Wills, T.A., Stoolmiller, M., Gibson, J.,& Gibbons, F.X.** (2006). Alcohol use in motion pictures and its relation with early-onset teen drinking. *Journal of Studies on Alcohol and Drugs 67*, 54-65.
- **Sawyer, T.M. & Stevenson, J.F.** (2008). Perceived parental and peer disapproval toward substances: Influences on adolescent decision-making. *Journal of Primary Prevention 29*, 465-477.
- **Sigfúsdóttir, I.D., Thorlindsson, T., Kristjánsson, A.L., Roe, K.M., & Allegrante, J.P.** (2008). Substance use prevention for adolescents: the Icelandic Model. *Health Promotion International* 24, 16-25.
- **Simons-Morton, B.G.** (2004). The protective effect of parental expectations against early adolescent smoking initiation. *Health Education Research* 19, 561-569.
- **Stanton B., Cole M., Galbraith J., Li X., Pendleton S., Cottrel L., Marshall S., Wu, Y., & Kaljee L.** (2004). Randomized trial of a parent intervention: Parents can make a difference in long-term adolescent risk behaviors, perceptions, and knowledge. *Archives of Pediatrics and Adolescent Medicine 158*, 947-955.
- **Steinberg. L., Fletcher, A. & Darling, N.** (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics 93*, 1060-1064.
- **Steinberg, L., Lamborn, S., Darling, N., Mounts, N., & Dornbusch, S.** (1994). Over-time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development 65*, 754-770.
- **Stephenson, M.T. & Helme, D.W.** (2006). Authoritative parenting and sensation seeking as predictors of adolescent cigarette and marijuana use. *Journal of Drug Education 36*, 247-270.
- **Stern, S.** (2005). Messages from teens on the big screens: smoking, drinking and drug use in teen-centred films. *Journal of Health Communication* 10, 331-46.
- **Stern, S. & Morr, M.** (2013). Portrayals of teen smoking, drinking, and drug use in recent popular movies. *Journal of Health Communication: International Perspectives 18*, 179-191.
- **Storr, C.L., Wagner, F. A.. Chen, C. & Anthony, J.C.** (2011). Childhood predictors of first chance to use and use of cannabis by young adulthood. *Drug and Alcohol Dependence 117, 7-*15.
- **Tilton-Weaver, L.C., Burk, W.J., Kerr, M., & Stattin, H.** (2013). Can parental monitoring and peer management reduce the selection or influence of delinquent peers? Testing the question using a dynamic social network approach. *Developmental Psychology 49*, 2057-2070.
- **Tornay, L., Michaud, P.A., Gmel, G., Wilson, M.L., Berchtold, A., & Suris, J.C.** (2013). Parental monitoring: a way to decrease substance use among Swiss adolescents? *European Journal of Pediatrics* 172, 1229-1234.
- van Ours, J.C. & Williams, J. (2009). Why parents worry: Initiation into cannabis use by youth and their educational attainment. *Journal of Health Economics 28*, 132–142.
- Van Ryzin, M.J., Fosco, G.M. & Dishion, T.J. (2012). Family and peer predictors of substance use from early adolescence to early adulthood: An 11-year prospective analysis. *Addictive Behaviors 37*, 1314-1324.
- **Velleman, R. & Templeton, L.** (2007). Substance misuse by children and young people: the role of the family and implications for intervention and prevention. *Paediatrics and Child Health 17*, 25–30.
- **Wang, M., Dishion, T.J., Stormshak, E.A., & Willett, J.B.** (2011). Trajectories of family management practices and early adolescent behavioral outcomes. *Developmental Psychology 47*, 1324–1341.
- **White, V. & Bariola, E.** (2011). Australian secondary school students' use of tobacco, alcohol, and over-the counter and illicit substances in 2011. Cancer Council Victoria.
- **Wills, T.A., & Yaeger, A.M.** (2003). Family factors and adolescent substance use: Models and mechanisms. *Current Directions in Psychological Science 12*, 222–226.
- **Wood, M.D., Read, J.P., Mitchell, R.E., & Brand, N.H.** (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors 18*, 19–30.