

## Self-managed change from problematic cannabis use

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### Abstract

Cannabis is the world's most widely used illicit drug. In Australia, one in three have tried it, and almost one in ten have used it in the past year.<sup>1,2</sup> While the majority of cannabis use is intermittent and self-limiting, a significant minority will use it more often, for a longer period of time, and develop cannabis dependence. This qualitative study examined the processes involved in self-managed change from problematic cannabis use through an online survey of Australians who had ceased or significantly reduced their use of cannabis for at least six months, without utilising formal treatments. Common themes arose from their responses, pertaining to pathways into and from cannabis use; effects of use; influences on the individual's decision to stop or reduce use; the experience of withdrawal; techniques used to initiate and maintain behaviour change; changes associated with changes in cannabis use; and reflections of knowledge gained in the process. This study suggests a number of issues that might be considered to aid those desiring cessation or reduction of cannabis use. The incorporation of these findings and strategies into clinical practice and into web- and print-based information may assist and encourage those preparing to manage their own cessation or reduction of cannabis use.

### Introduction

Cannabis is the world's most widely used illicit drug.<sup>1</sup> In Australia, approximately 33.5 per cent of Australians aged at least 14 years have tried cannabis, and about 9 per cent have used it in the past year.<sup>2</sup> While the majority of cannabis use is intermittent and self-limiting, a significant minority will use it more often, for a longer period of time, and develop cannabis dependence. It has been estimated that approximately one in ten people who use cannabis will become dependent, with the risk of dependence increasing with increased regularity of use.<sup>3</sup> Dependent cannabis users report a range of problems associated with their cannabis use, including cognitive, motivational, interpersonal, relationship, memory, and financial difficulties.<sup>4</sup> Studies examining the associations between cannabis use and mental health disorders, such as anxiety and depression, have yielded inconclusive results.<sup>5-12</sup>

Self-managed change, a term developed by Copeland,<sup>13</sup> has been defined as the process of recovery that occurs after problematic use and/or dependence or misuse of substances, in the absence of some type of treatment.<sup>14</sup> Treatment includes all psychological, medical or psychiatric resources, including self-help groups aimed at achieving abstinence or reduction from problematic use.<sup>15</sup> While it is known that the phenomenon of self-managed change occurs, little is known about how it works.<sup>16</sup> However, given the growth in the number of studies on this topic over the last two decades showing several converging lines of evidence, it is clear that attempts at self-managed change are quite common.<sup>15-21</sup>



Evidence for the efficacy of self-managed change lies in the fact that population surveys show that a large majority of people with alcohol and other drug problems can and do resolve them without formal treatment or self-help groups.<sup>22</sup> There is a wealth of evidence for the effectiveness of self-managed change from problematic alcohol use.<sup>23-26</sup> Research on problematic cannabis use, however, has remained a relatively neglected area compared to other substance use problems.<sup>15,17,27</sup>

Various models of self-managed change exist, and tend to imply that individuals rationalise the difference in benefits and risks associated with their drug use. Benefits of substance use are complexly determined and maintained. Examples of models include the Health Belief Model,<sup>20,28,29</sup> Biernacki's model of Natural Recovery<sup>31</sup> and Prochaska and DiClemente's (1982) Transtheoretical Model of Change,<sup>32</sup> commonly known as the 'Stages of Change Model'.

According to Walters, the process of self-managed change is often precipitated by a combination of 'avoidance-oriented' and 'approach-oriented' factors present in a person's life.<sup>33</sup> 'Avoidance-oriented' recovery occurs when individuals experience negative consequences as a result of their substance misuse that consequently leads them to cease their use. Examples include financial and relationship problems and negative personal events.<sup>17</sup> 'Approach-oriented' factors are commonly referred to as 'cognitive appraisal/assessment/evaluation' of the pros and cons of continuing to use versus cessation.<sup>22</sup> Examples include concerns for children, getting tired of the withdrawal symptoms associated with drug use and so much time being spent in prison. However, Sobell et al. caution us to be careful not to reify a phenomenon such as 'cognitive evaluation' until more is known about how it operates and indeed whether it is instrumental in change.<sup>16</sup>

Events such as marriage and employment;<sup>34-37</sup> and internal and external reasons such as health concerns, legal problems, financial difficulties and social probation<sup>37-40</sup> have been found to be associated with cessation of use. Sobell et al., found that resolutions often appeared to have involved a process of change rather than a reaction to a specific event, with remarkable similarities across countries and substances, suggesting themes for antecedents to the self-managed change process.<sup>16</sup>

Klingemann posits that most remitters are conscious strategists who are motivated to change and rely on everyday behavioural concepts, ideas about effects of drugs as adequate substitutes for drugs, and techniques of distancing.<sup>41</sup> Various personal ideas about substitutes for drugs exist, and in the most extreme case, this may imply substituting to another harmful substance.

Individualised coping strategies, such as use of print and web-based information, can be complemented by attempts to create a drug-free environment and to strengthen the personal commitment to change by symbolic acts, such as moving to a different part of town, or removing stocks from the home. However, there exists a group of remitters who do not knowingly use any coping strategies. They appear to have no conscious motivation to change (they 'mature out'), or a sudden overpowering experience that makes extra 'tricks' and aids unnecessary.<sup>41</sup> Another suggested mechanism of remission for this group is that they are provided with a diversion that involves no deliberate self-managed change, such as the birth of a child or a new job.

Ellingstad and colleagues identified three common factors reported by almost three-quarters of respondents as helping them maintain change, which included: development of a return to interests or activities not related to cannabis; avoidance of triggers to use; and lifestyle changes, such as diet and exercise.<sup>40</sup> Other strategies that have been identified for maintaining change include work, support, religion/faith/beliefs and 12-step program attendance.

One possibly unavoidable limitation of many studies to date is that they have been retrospective in nature, often asking respondents to recall information over very long time periods. Many of the studies that have probed into the self-managed change process in depth have used convenience samples recruited largely by ads and by snowball sampling within certain sub-

populations; as such their results may not be able to be generalised to the majority of those who recover on their own.<sup>17</sup> A final shortcoming of self-managed studies is that those who recover naturally may have fewer cannabis-related problems than those who seek treatment, and Saunders and Kershaw noted some time ago that self-managed change appeared to occur more readily in less severe cases.<sup>42</sup>

This study aimed to explore self-managed change from problematic cannabis use through qualitative analysis of the results of a web-based survey. The participants had ceased or significantly reduced their problematic use of cannabis for at least six months, without utilising formal treatments.

## Method

One hundred and ninety six participants were recruited through a variety of online advertisements, including alcohol and other drug websites, employment websites, a search engine result and through email bulletins from medical associations. Snowball sampling was also employed.

Respondents were asked to follow links in the advertisements to the online survey, where they were presented with a Participant Information Statement and Consent Form. Respondents gave their consent to participating by clicking on a link that took them to the survey questions. After successfully answering four questions to determine eligibility and provide consent, participants were taken to the survey which covered such areas as patterns of use, pathways into and from cannabis use, effects of use, influences on the individual's decision to stop/reduce use, experience of withdrawal, techniques utilised to initiate and maintain behaviour change, changes associated with changes in cannabis use, and finally some reflections on the knowledge gained through the process.

Of the 196 surveys attempted, 127 were deemed to contain enough information to be included in the analyses.

## Results

### Demographics and cannabis use

The median age of the participants at the time of the survey was 34 years (range 15–59 years). The majority of the sample was male (n=81, 63%), residing in a major city of Australia (n=86, 70%). At the time of the survey, the participants had been using cannabis for a mean period of 12.9 years (standard deviation 9.4) with a range of one to 43 years. The mean Severity of Dependence Scale score for the sample was 5.1 (standard deviation 4.7, range 0-15).<sup>43</sup> The cut-off point for a score in the dependent range on this scale for cannabis is three for adults and four for adolescents; 60 per cent (n=75) of participants scored above this criterion.<sup>44,45</sup> The second criterion was unnecessary in this study, as all of the adolescents achieved either extremely high or low scores.

The age of initiation of cannabis use for our sample was a mean of 15.9 years, with a standard deviation of 3.0 (Figure 1). Factors influencing the initiation of, and continued use of cannabis are shown in Figures 2-3.

Figure 1

Age of initiation of cannabis use (in years)

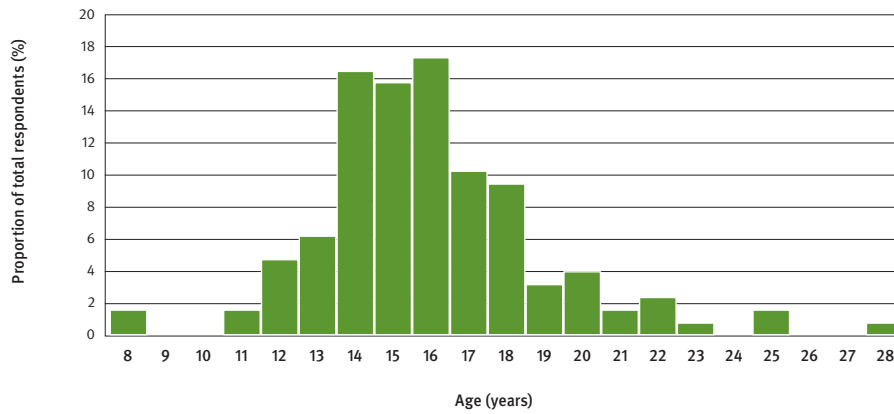
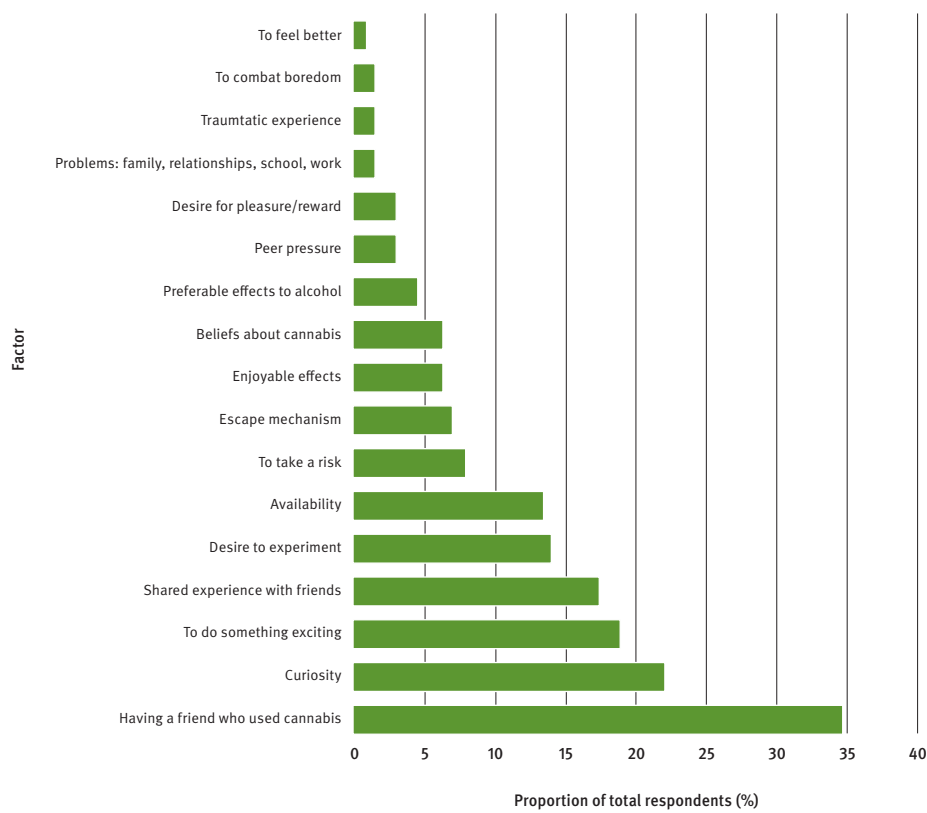


Figure 2

Factors influencing initiation of cannabis use

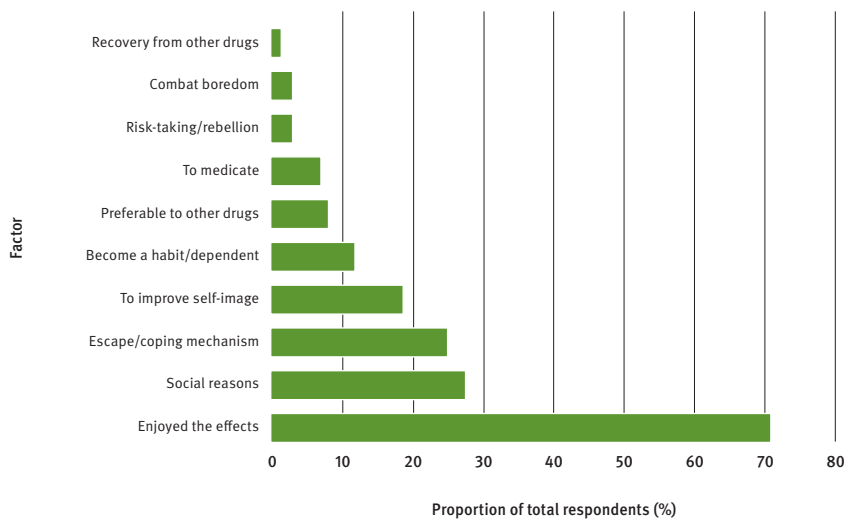


Note:

'Beliefs about cannabis' include thinking it was not 'addictive' or unsafe

Figure 3

Factors influencing continued use of cannabis



**Note:**

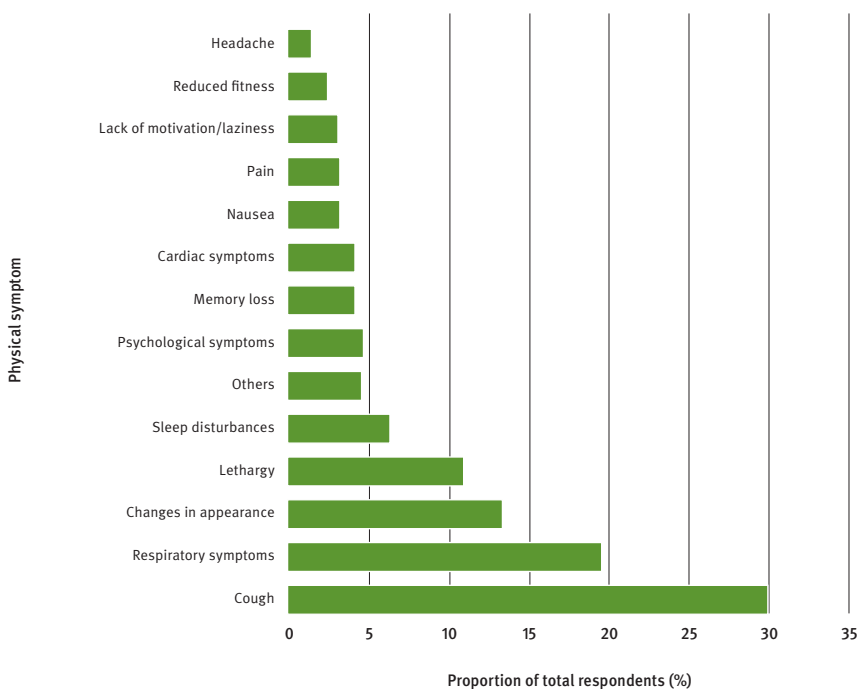
- 'Enjoyed the effects' includes effects such as relaxation, intoxication and enhanced perception
- 'Social reasons' include enjoying the shared activity and to improve social status
- 'Escape/coping mechanism' includes escape from anxiety and stress
- 'Preferable to other drugs' includes cost and effects
- 'To medicate' includes using cannabis to aid sleep or as pain relief

During the time they were using cannabis, 68 per cent of respondents (n=85) were also using other drugs – the main ones being amphetamine-type stimulants, alcohol and hallucinogens.

Whilst using cannabis, 42 per cent of respondents had concerns about their physical health. The different physical symptoms experienced whilst using cannabis are summarised in Figure 4.

**Figure 4**

**Physical symptoms experienced whilst using cannabis**



**Note:**

'Respiratory symptoms' exclude cough. Includes dyspnoea, throat problems, bronchitis, asthma, sinus problems, difficulty breathing, chest/throat/sinus infections

'Changes in appearance' include change in weight, dark circles under eyes, and muscle wastage

'Sleep disturbances' include insomnia, lucid dreams, sleep apnoea, no dreams, inability to have a normal length of sleep and nightmares

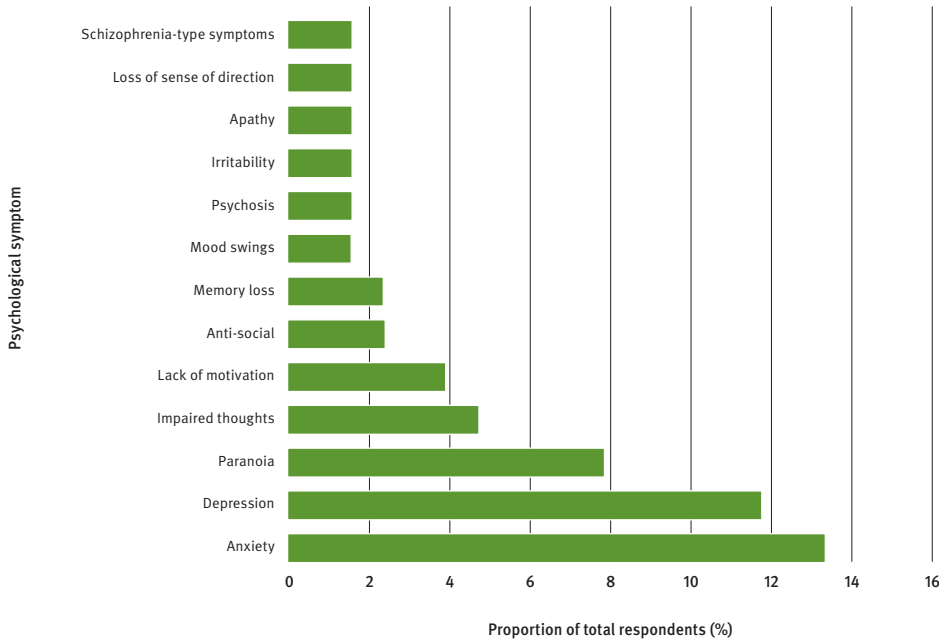
'Others' include postural hypotension, hypertension, boredom, highly sensitive hearing, and withdrawal

'Psychological symptoms' include anxiety, depression, paranoia, psychosis, and hallucinations

'Cardiac symptoms' include palpitations and tachycardia

Whilst using cannabis, 52 per cent of respondents had concerns about their mental health. The different psychological symptoms experienced whilst using cannabis are summarised in Figure 5.

**Figure 5**  
**Psychological symptoms experienced whilst using cannabis**



**Note:**  
'Impaired thoughts' include feeling spaced out, cognitively impaired, exaggerated imaging, wandering thoughts, distorted thinking and inability to recognise own thoughts

**Previous attempts to stop or reduce cannabis use**

Respondents were asked how many attempts they had made to stop or reduce their cannabis use before their successful attempt, with 14 per cent reporting more than 10 attempts, but 30 per cent having made no previous attempt to cease or reduce use. Why those attempts were unsuccessful is displayed in Figure 6.

**Figure 6**  
**Why do you think these attempts were unsuccessful?**

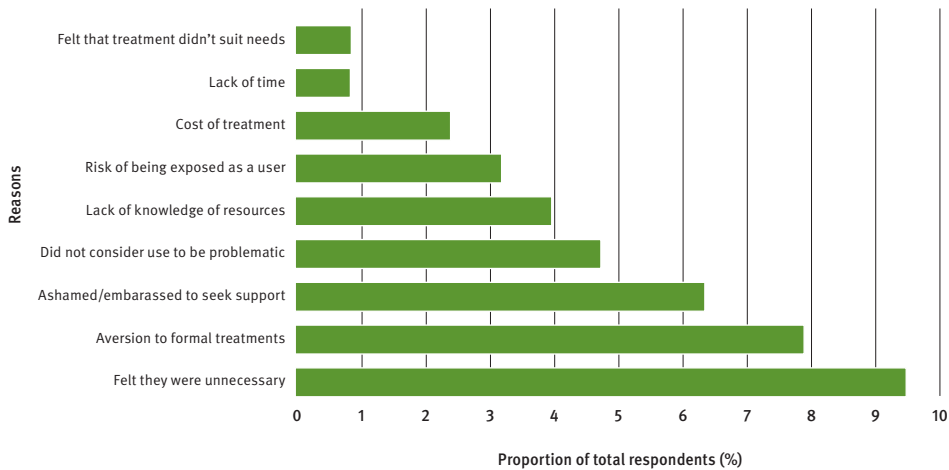


**Note:**  
'Stuck in situation' includes friends and partners were still using cannabis

When asked why they decided against formal treatments, the responses included: felt it was unnecessary, aversion to formal treatments, ashamed/embarrassed, did not consider use to be problematic, did not know where to seek assistance, and cost. See Figure 7.

**Figure 7**

**Why did you decide against seeking formal treatment to assist you in changing your cannabis use?**



**Note:**

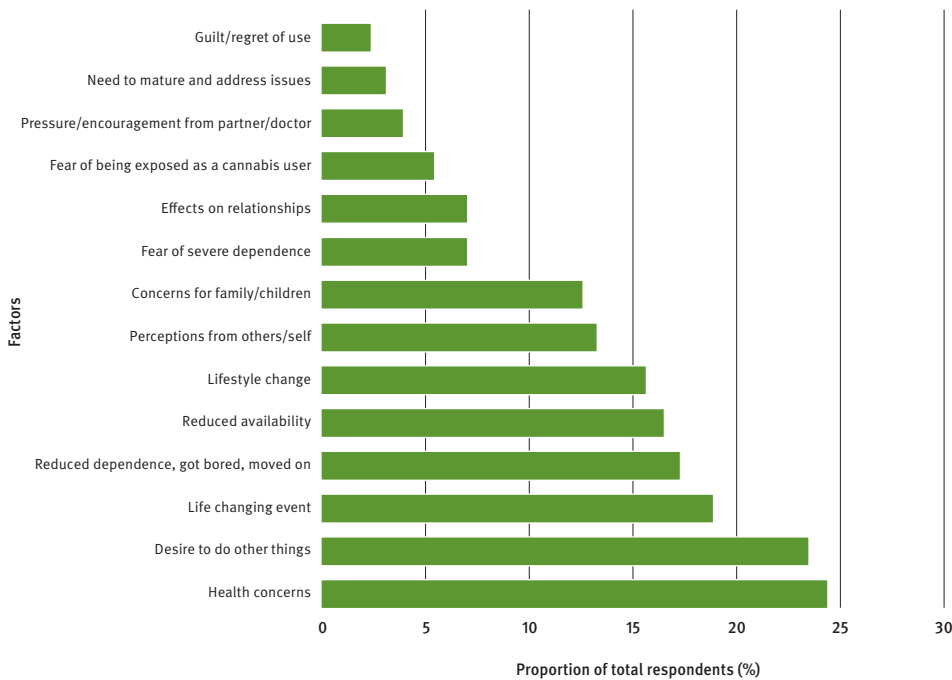
'Aversion to formal treatments' includes feeling they were misinformed, judgemental or lacked understanding

**Deciding to stop or reduce cannabis use**

The factors influencing respondents' latest decision to stop or reduce their cannabis use are summarised in Figure 8.

**Figure 8**

**Factors influencing the decision to stop or reduce cannabis use**

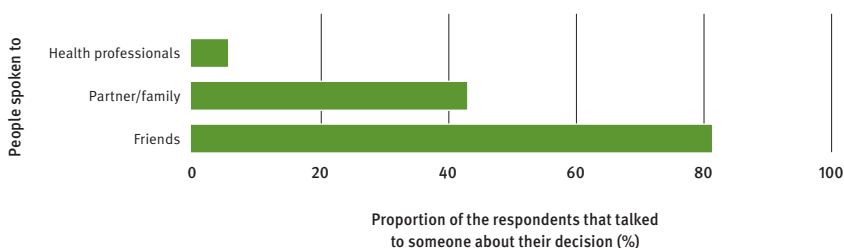




Respondents were asked whether they discussed their decision with other people and if so, who these people were (Figure 9).

Figure 9

Who did you talk to about your decision?



Respondents were asked about what concerned them the most about changing their cannabis use, and how these concerns were addressed (Table 1).

Table 1

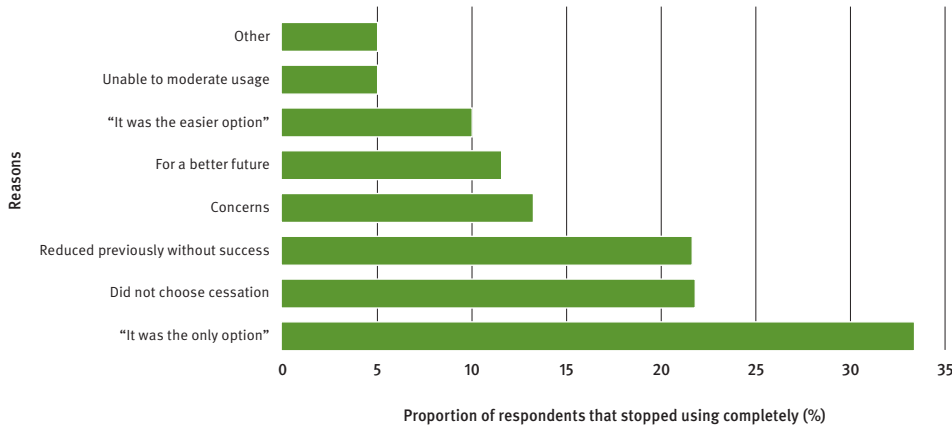
Respondents’ greatest concerns about changing their cannabis use and how these concerns were addressed

Concerns about changing cannabis use (n)	How concerns were addressed (n)
Relationships: includes with cannabis users, and loss of social status, being around users but not smoking with them (26).	Maintaining friendships with cannabis users and seeing them when they weren’t smoking or spending less time with them (8); Ending relationships with cannabis users or avoiding seeing them (6); Drinking alcohol to aid socialising (2); Making new friends who don’t use cannabis (2); Tai Chi (1).
Missing out on the enjoyable aspects of using cannabis (26).	Trying not to think about using cannabis/change in focus (e.g. job, social life, children) (9); Found other enjoyable activities (8); Reduced dose gradually/continued relapse in controlled doses (3); Medication for anxiety (1).
Side effects: includes reduced sleep, increased anxiety, mood swings, cravings, withdrawal/increased use of other drugs (20).	Medications increased, or new ones added (4); Aiding sleep through methods other than cannabis, e.g. drinking alcohol, exercising to exhaust the body, meditation (3); Change in focus, e.g. cessation of all alcohol and other drugs (2); Counselling skills (1); Support from partner (1); Self-education about withdrawal (1); Weaning off cannabis to aid sleep (1); Limiting alcohol consumption (1).
Ability to change cannabis use and what methods could be used (13).	Using skills from a 12-step program (2); Enlisting support (2); Just gave it a try (2); Maintaining occasional smoking (1); Avoiding tempting situations (1); Maintained focus (1).
Change in identity (and lifestyle); loss of cannabis as a companion (13).	Enlisting support (3); Keeping busy (3); Using skills from a 12-step program (2); Adapting a more positive lifestyle/attitude (2); Staying away from friends who smoke cannabis (1).
Dealing with/addressing emotions/problems/pain without cannabis (12).	Cessation of cannabis use, realising it was the cause of the original problems (2); Change in focus (2); Self-education (1); Taking time (1).
Replacement activities: includes ‘filling the void’, getting bored (8).	Change in focus, spending time on other activities (5); Taking time (1); Self-education (1).

In changing their cannabis use, 37.8 per cent of respondents reduced their use and 47.2 per cent stopped completely. The reasons given for these methods of change are summarised in Figures 10-11.

Figure 10

Reasons for cessation of cannabis use

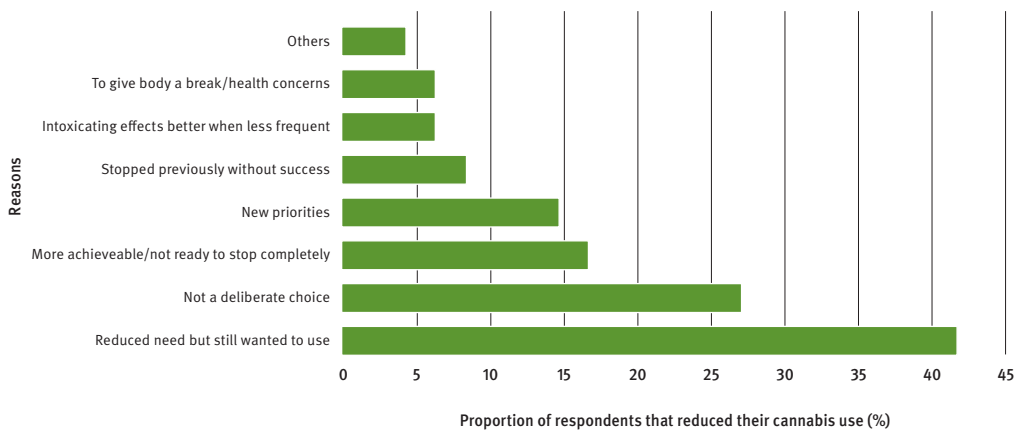


Note:

- 'Other' includes to prove cannabis is not addictive, it was a waste of time
- 'For a better future' includes that cannabis use would not be compatible with their new lifestyle choices
- 'Concerns' include those concerning physical health, mental health, memory, quality of dealer and quality of cannabis bought
- 'Did not choose cessation' includes lack of access to cannabis supplies and being forced to

Figure 11

Reasons for reduction of cannabis use



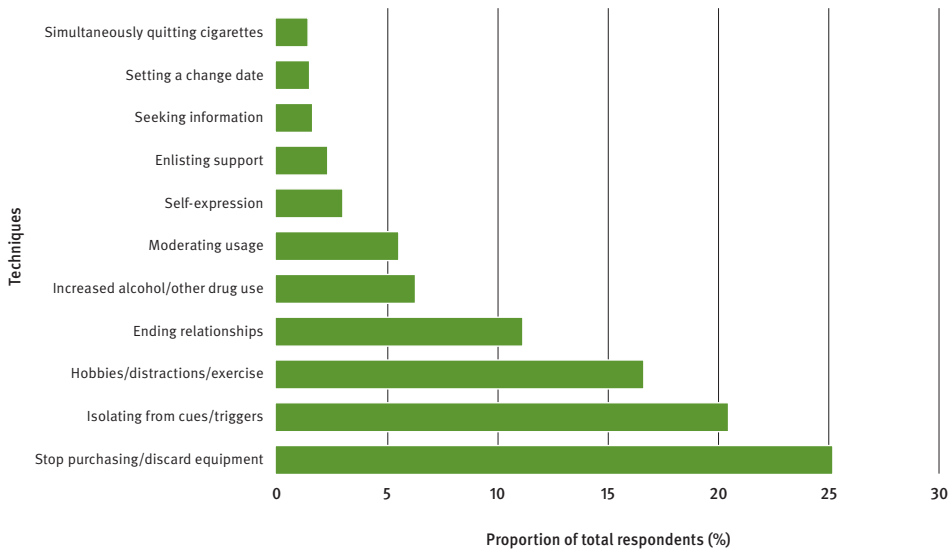
Note:

- 'Others' include a belief that cannabis should be enjoyed in moderation/the respondent felt that there was poor evidence against not using it
- 'New priorities' include career, children and friends
- 'Not a deliberate choice' includes lack of access to cannabis supply and being forced to

Respondents were then asked about what techniques they used to initiate their change in cannabis use (Figure 12).

**Figure 12**

**Techniques used to initiate change in cannabis use**



**Note:**

'Isolating from cues/triggers' includes change in location through a holiday or relocation

## Withdrawal

During the period of reduction/cessation, 47.2 per cent of respondents experienced symptoms of withdrawal from cannabis use. The duration of these symptoms ranged from less than a week (16%), through to one to four weeks (44%) and more than one month (40%). These symptoms, and their methods of management, are summarised in Table 2.

**Table 2**

### Withdrawal symptoms experienced and their methods of management

Withdrawal symptom (n)	Method of management (n)
Sleep disturbances: includes insomnia, sleep apnoea (33).	Consuming alcohol (7); Alternative therapies: includes relaxation techniques, breathing techniques, exercise (6); Medical treatment: includes medications (4); Keeping busy/distractions (2); Skills from psychological treatment: includes seeing a counsellor (1); Avoiding caffeine (1); Going to bed earlier (1); Support from a friend (1); Participating in an online forum (1).
Anxiety (23).	Alternative treatment: includes self-talk, relaxation CDs, herbal supplements, Tai Chi, breathing exercises (7); Keeping busy/distractions (3); Psychological treatment (CBT) (1); Increasing alcohol consumption (1).
Mood changes: includes rage, anger, emotional instability, frustration, yelling at everyone (14).	Alternative therapies: includes self talk and meditation, exercise (4); Social isolation (3); Yelling at people (2); Keeping busy/distractions (2); Support from friends (2); Learning how to deal with mood changes (1).
Reduced appetite (12).	Forced eating (4); Eating small servings of fresh fruit/juice (2); Alternative therapies: includes herbal supplements (1).
Irritability: includes restlessness (11).	Keeping occupied (3); Alternative treatment: includes meditation (1); Avoiding social situations (1); Drinking more alcohol (1).
Perspiration: includes night sweats, hot flushes (11).	Avoiding last cone before sleeping (1); Throwing off covers (1); Showers (1); Changing sheets (1); Exercise (1).
Nausea/vomiting/diarrhoea/constipation (10).	Improved diet (3); Cessation of cannabis use (1); Taking time off work (1).
Others (10): includes one each for asthma, sadness, obsession, sudden highs, memory loss, panic, stress, flu-like symptoms, increased alcohol consumption.	
Depression (9).	Alternative treatment: includes St John's Wort, writing, exercise, natural methods, meditation (4); Medical treatment: includes medications (3).
Cravings (9).	Getting rid of bong/cannabis supplies (3); Distractions (3); Reduced dose over time (1); Self-talk (1); Increased alcohol consumption (1); Increased use of other drugs (1); Exercise (1).
Nightmares/crazy dreams (6).	Exercise (1); Attempting to change dreams (1); Avoiding sleep (1).
Headaches (3).	Education of expected symptoms (1).
Confusion: includes 'mental problems' (3)	Skills from seeing a counsellor (1); Reading (1).
Lethargy (3).	Medications (1); Self-talk (1).
Muscle aches (3).	

During this period, 47.2 per cent of respondents changed their use of alcohol or other drugs. Respondents were asked to list these substances, whether they increased or decreased their use, whether they were still using these drugs, and if so, how often they were using them and whether they believed they had a problem with them (Table 3).

**Table 3**

**Drugs that were used during cannabis reduction/cessation**

Drug	Use (increasing, decreasing or no change)	Still using?	Frequency of use	Have a problem with this drug?
Alcohol (54)	Increasing (40) Decreasing (12) No change (2)	49/54 = 91%	Daily (8) Weekly (31) Monthly (5) Less than monthly (4)	6/54 = 11%
Nicotine (15)	Increasing (12) Decreasing (3) No change (0)	8/15 = 53%	Daily (9) Weekly (0) Monthly (0) Less than monthly (0)	4/15 = 27%
Amphetamine-type stimulants (21)	Increasing (7) Decreasing (10) No change (0)	10/21 = 48%	Daily (2) Weekly (1) Monthly (6) Less than monthly (4)	1/19 = 5%
Hallucinogens (5)	Increasing (0) Decreasing (3) No change (0)	2/5 = 40%	Daily (0) Weekly (0) Monthly (0) Less than monthly (2)	0%
Opioids (5)	Increasing (3) Decreasing (1) No change (0)	2/5 = 40%	Daily (2) Weekly (1) Monthly (1) Less than monthly (0)	0%

**Note:**

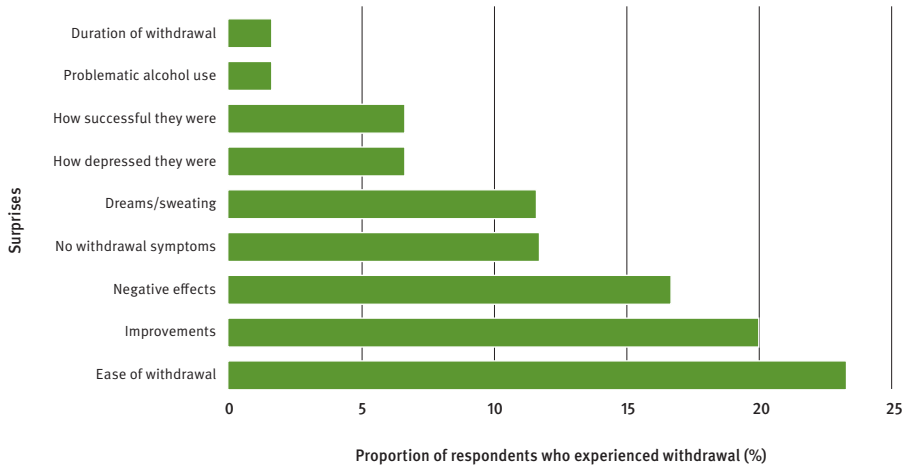
'Amphetamine-type stimulants' include ecstasy, 'speed', cocaine, 'ice' and prescribed amphetamines

'Hallucinogens' include LSD, mushrooms and 'acid'

'Opioids' include heroin and codeine

40.2 per cent of respondents were surprised about their withdrawal experience. Respondents were asked to list these surprises (Figure 13) and what would have helped them during this time (Figure 14).

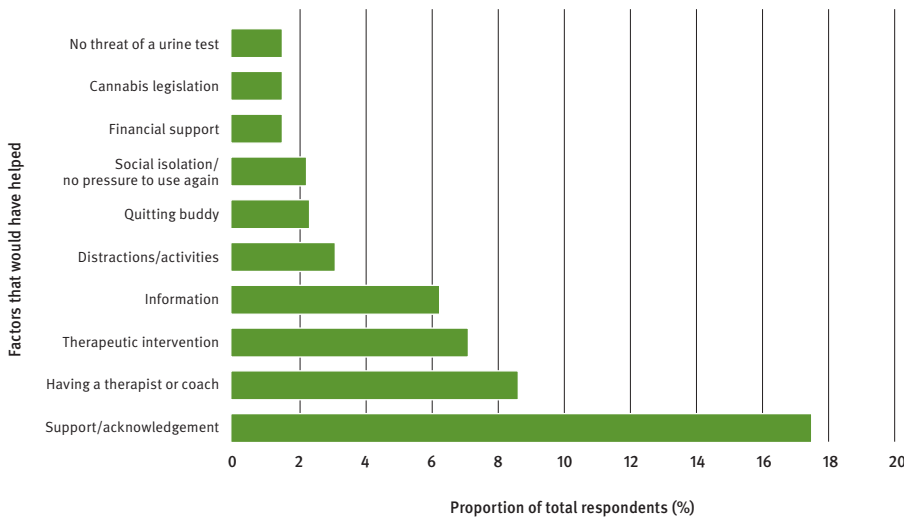
**Figure 13**  
Surprises related to the experience of withdrawal



**Note:**

'Negative effects' include emotional swings, confusion, cravings and inability to eat and sleep  
 'Improvements' include confidence, motivation, inner peace, happiness, appearance, clearer thinking, stable moods, self-esteem and more energy

**Figure 14**  
What would have helped you during your withdrawal?



**Note:**

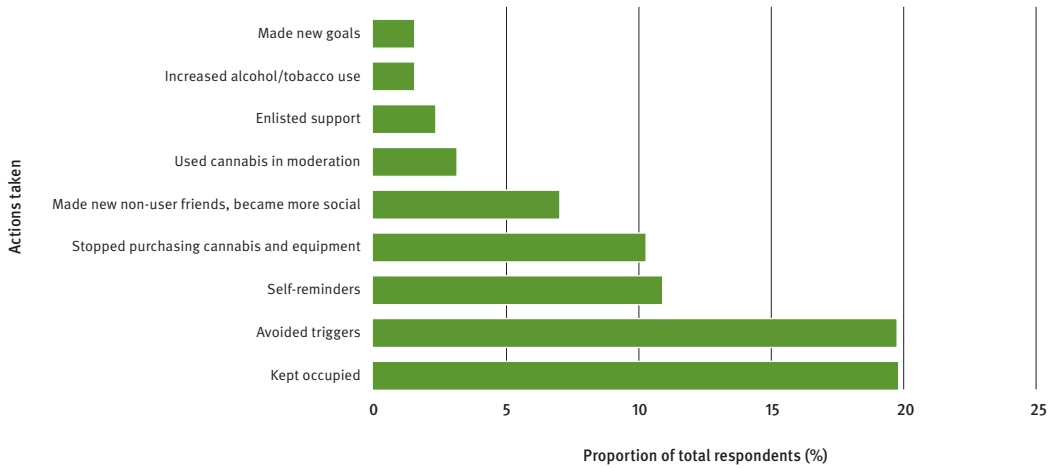
'Distractions/activities' include exercise, reading, surfing and craft  
 'Information' includes that on cannabis use, the dependence and withdrawal processes, and co-morbidities including poor mental health  
 'Therapeutic intervention' includes cannabinoid replacement therapy and symptomatic relief

**After reducing or stopping cannabis use**

Respondents were asked about what they did after they completed their withdrawal to keep them from using cannabis, or to help them use less cannabis than before (Figure 15) and what helped them to maintain their decision to stop or reduce their cannabis use (Figure 16).

**Figure 15**

**What did you do after you completed your withdrawal to keep you from using cannabis or to help you from using less cannabis than before?**

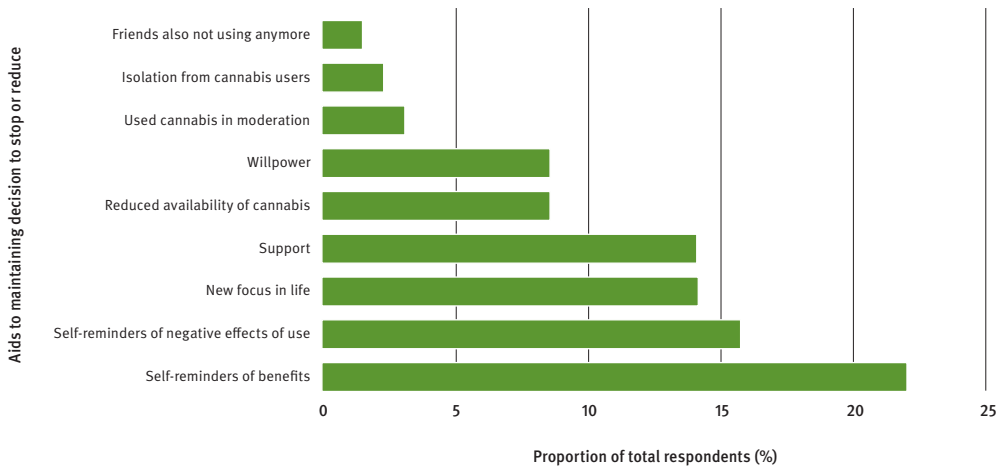


**Note:**

‘Made new goals’ includes encouraging others to change their use, and reducing cigarette use  
 ‘Avoided triggers’ includes cannabis users, routines and cannabis dealers  
 ‘Kept occupied’ includes work, study, exercise, faith, hobbies and sports

**Figure 16**

**What helped you maintain your decision to stop or reduce your cannabis use?**



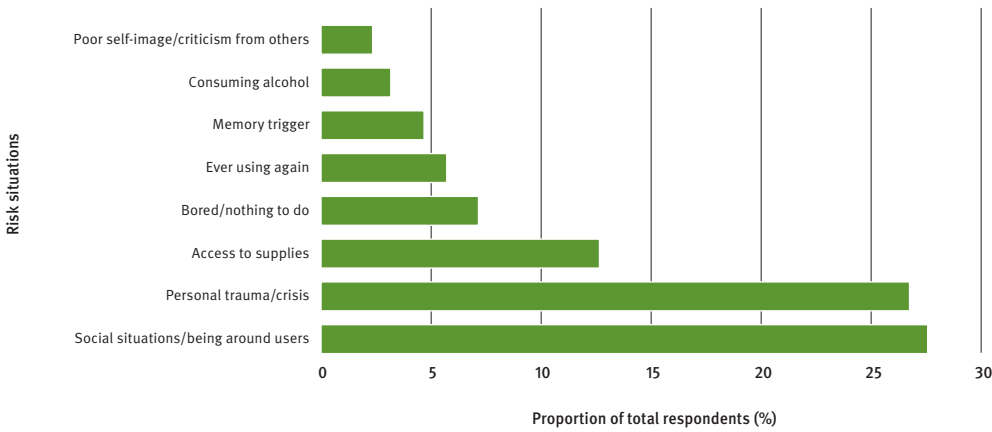
**Note:**

‘New focus in life’ includes career, pregnancy and hobbies  
 ‘Self-reminders of negative effects of use’ include physical and psychological symptoms associated with past use, and fear of being exposed as a cannabis user  
 ‘Self-reminders of benefits’ include health, relationships and finances

Respondents were asked to identify risk situations that could lead them to use cannabis again, or at a level that they were using previously (Figure 17) and how they would deal with these situations (Figure 18).

**Figure 17**

**What are some risk situations that could lead you to use cannabis again or at the level you were using before?**

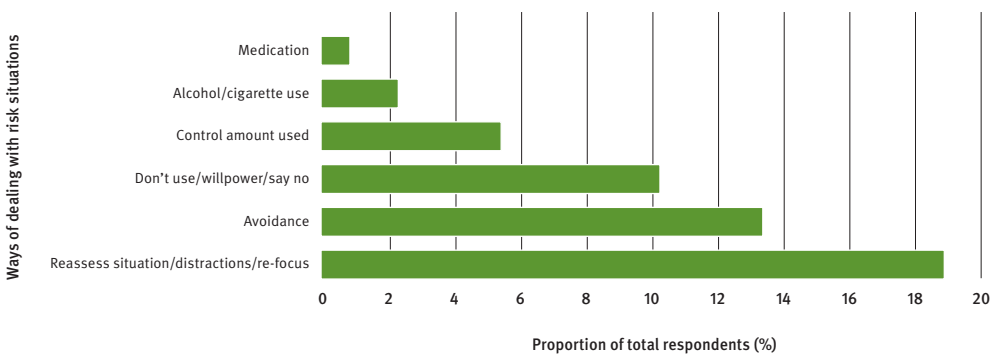


**Note:**

'Access to supplies' includes geographic and financial access

**Figure 18**

**How will you deal with or how have you dealt with these?**

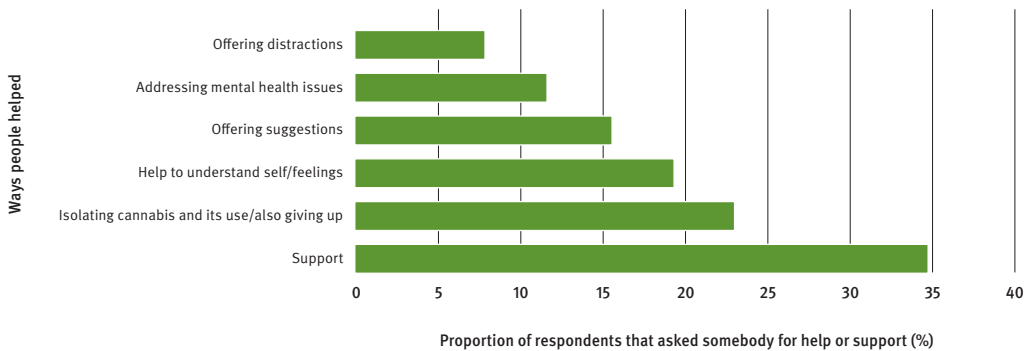


Respondents were asked if they asked someone for help or support whilst managing their cannabis cessation/reduction (21% said Yes), with family and friends being the main supporters. How they helped is displayed in Figure 19.



Figure 19

How did this person/these people help you?



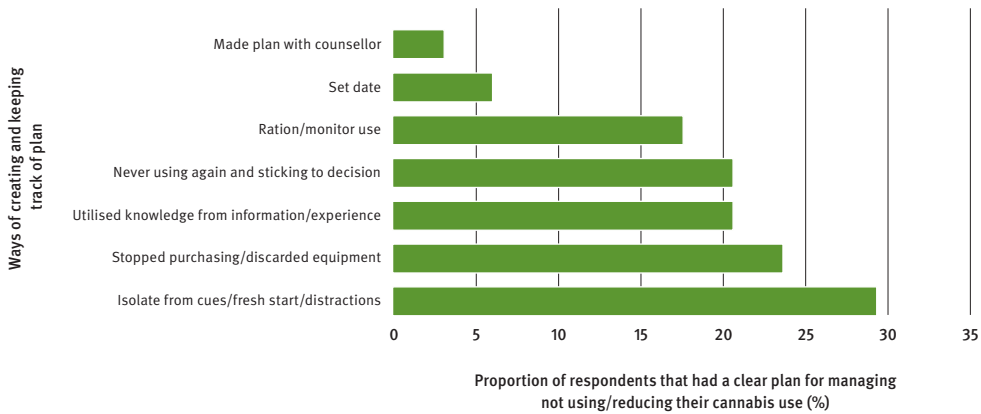
Note:

- 'Offering distractions' includes taking them shopping or on a holiday
- 'Addressing mental health issues' includes suggesting coping strategies and prescribing medication
- 'Offering suggestions' includes keeping a diary and providing referrals
- 'Support' includes motivating, providing positive feedback and not passing judgement

Of the 35 per cent of respondents who had a clear plan for managing not using or reducing their cannabis use, their methods for creating and keeping track of these plans are summarised in Figure 20.

Figure 20

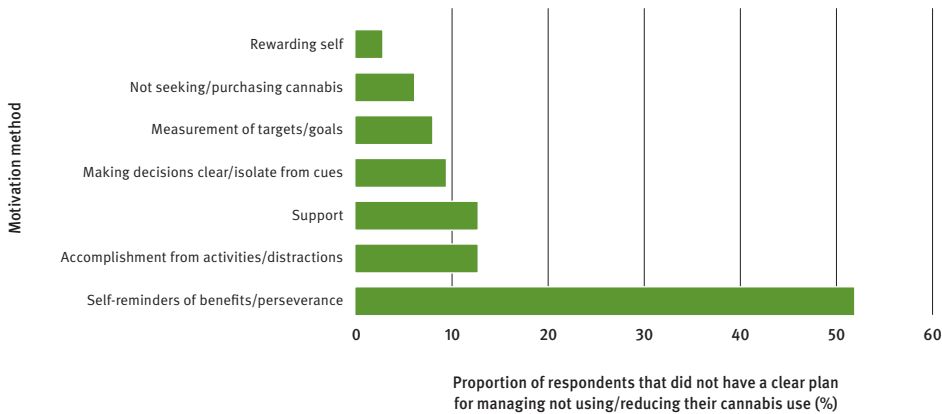
If yes, how did you create and keep track of this plan?



The majority of respondents (65%, n=64) did not have a clear plan for managing not using/reducing their cannabis use, and their methods used to self-motivate and monitor progress are summarised in Figure 21.

**Figure 21**

**If no, how did you motivate yourself and keep track of your progress?**



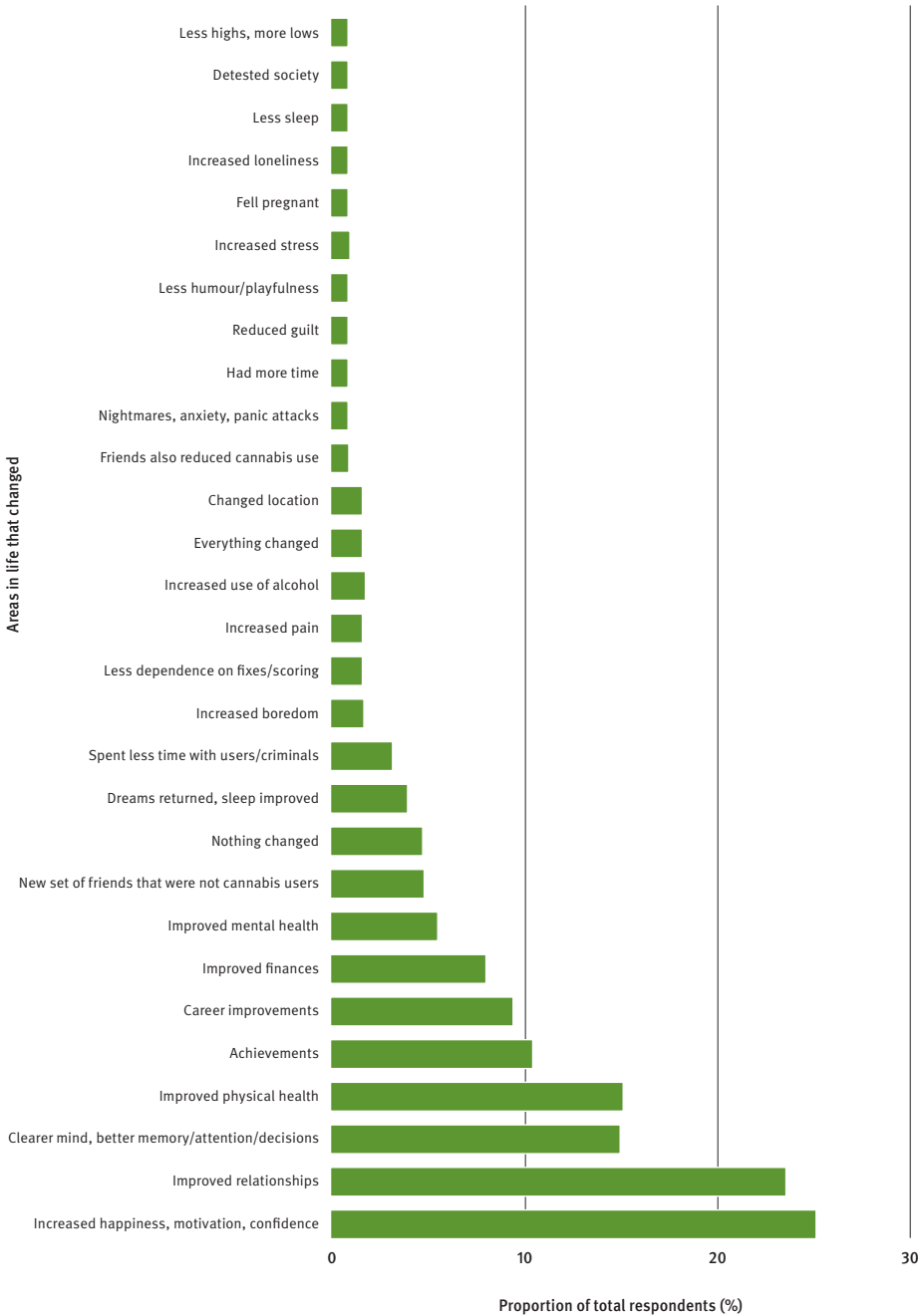
**Note:**  
 'Making decisions clear/isolate from cues' includes informing friends of their decision

Changes

Respondents were then asked to describe changes that occurred in their life after they stopped or reduced their cannabis use (Figure 22).

Figure 22

What changed in your life after you stopped/reduced your cannabis use?



Note:

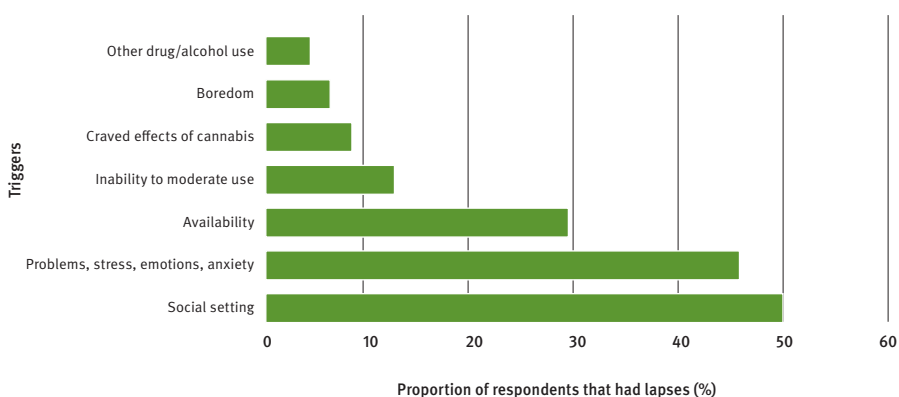
'Achievements' include travelling, returning to study, and addressing mental health issues  
 'Career improvements' include getting a new job and increased productivity at work  
 'Dreams returned, sleep improved' relates to those that reported that they did not recall dreams whilst using cannabis

### Lapses

Respondents were asked if they had any lapses (37.8% had experienced a lapse), with 61 per cent reporting that they lapsed five or less times, 17 per cent 6-10 times, and 22 per cent reported more than 10 lapses. Social settings, stress and anxiety and availability of cannabis were the major triggers (Figure 23). About half of the lapses lasted less than a week, but 40 per cent lasted for a month or more.

Figure 23

What triggered this lapse/these lapses?



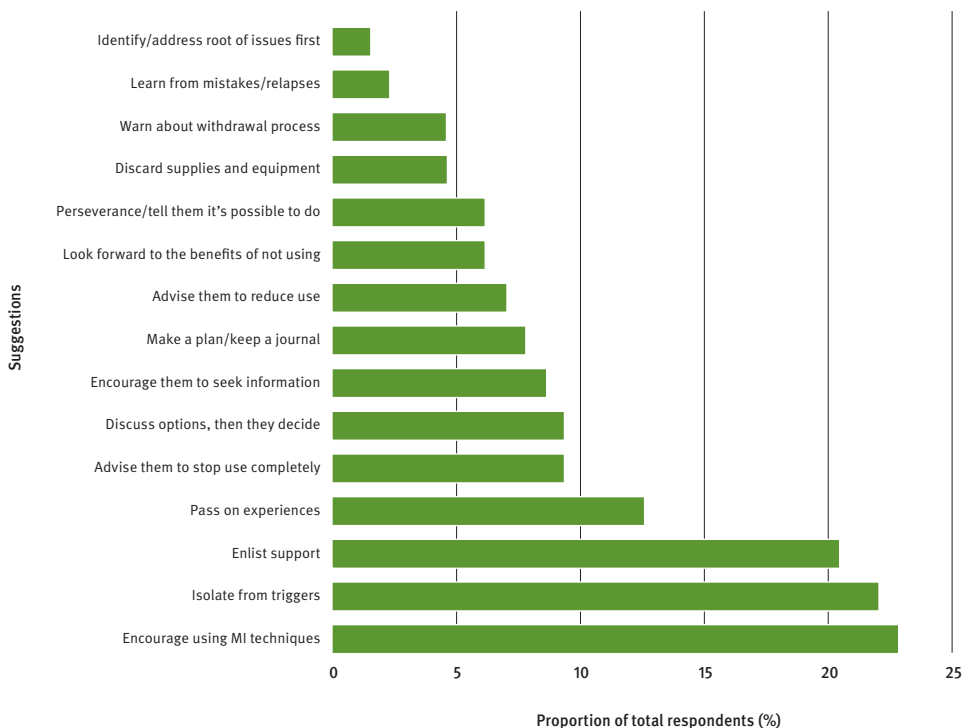
### Mental health

Respondents were asked whether they had any concerns about their mental health since they changed their cannabis use, and 32 per cent reported some concerns such as depression and anxiety, and to a lesser extent irritability and memory loss.

Respondents were asked about what they would say to someone who came to them and said they wanted to stop or reduce their cannabis use but didn't know how to do it (Figure 24).

Figure 24

What would you say to someone who came to you and said they wanted to stop or reduce their cannabis use but didn't know how to do it?



## Discussion

The aim of this study was to explore the various processes involved in self-managed change from problematic cannabis use in Australia. From the data provided by the 127 participants, key themes emerged that highlighted common patterns of use, pathways into and from cannabis use, techniques used to initiate and maintain behaviour change, and lifestyle changes associated with changes in cannabis use. The sample mostly comprised males of a mean age of 34 years, residing in major metropolitan areas of Australia.

### Pathways into and context of cannabis use

In this study, half of the participants initiated their use of cannabis at an age between 14 and 16 years (inclusive). These data concur with those of Raveis and Kandel, in that the major period of risk for initiation of cannabis use is mostly over by age 20.<sup>46</sup> In the current study, only seven per cent of participants initiated their cannabis use after 20 years of age. However, the mean age of initiation of cannabis use (15.9 years) was lower than the 18.8 years obtained from the 2007 National Drug Strategy Household Survey, indicating that the participants in this study represent early onset cannabis users.<sup>2</sup> The major factors influencing first use of cannabis were: having a friend who used cannabis, curiosity, to do something exciting and to share an experience with friends.

The context of poly-substance use also needs to be taken into account. It was found that 67 per cent of respondents were also using other drugs, predominantly amphetamine-type stimulants, alcohol and hallucinogens. The data for alcohol suggests support for Wu et al.'s finding that cannabis is reported to be used in the same context as alcohol, whilst the low prevalence of current use of amphetamine-type stimulants and hallucinogens may suggest more experimental and sporadic use of these drugs for this sample.<sup>47</sup>

Whilst using cannabis, 41 per cent of respondents had concerns about their physical health. The predominant physical symptoms experienced whilst using cannabis were cough and other respiratory symptoms, which were mostly managed by medications. Also, 51 per cent of respondents had concerns about their mental health, with the most frequently reported psychological symptoms being anxiety, depression and paranoia. However, it is difficult to ascertain whether these symptoms were pre-existing to cannabis use, developed through use or were due to a combination of both factors. Common methods of management for these psychological symptoms were social isolation, expression, increasing or decreasing cannabis use, medication and counselling.

### The decision to stop or reduce cannabis use: A process of self-managed change

Walters'<sup>33</sup> description of the precipitants to the process of self-managed change largely fitted respondents' descriptions of the factors that influenced their decision to stop or reduce their cannabis use. 'Avoidance-oriented' factors accounted for 76 per cent of responses, and included: health concerns, life-changing events, perceptions from others/self, effects on relationships, fear of being exposed as a cannabis user, pressure/encouragement from partner/doctor and guilt/regret of use. 'Approach-oriented' factors accounted for 72 per cent of responses, and included: desire to do other things, reduced dependence/got bored/moved on, concerns for family/children, and the need to mature and address issues. Two factors that were not mentioned by Walters, however, were the reduced availability of cannabis and fear of severe cannabis dependence.<sup>33</sup>

Half of the respondents had talked to someone about their decision, with the majority talking to their friends. However, the context and purpose of the discussions remains unclear. For example, they could have been in the 'contemplation' stage discussing their consideration of change, or in the 'action' stage, asking their friends to avoid offering them cannabis or using cannabis around them.<sup>32</sup>

Respondents were asked about what concerned them the most about changing their cannabis use and how they addressed these concerns in order to extract possible barriers to change and how these barriers may be minimised to promote change. Concerns regarding relationships with cannabis users and missing out on the enjoyable aspects of cannabis use were most common, and mostly managed by compromising with friends and focussing on other things.

### Cannabis withdrawal

More than half of the respondents experienced withdrawal and symptoms varied in length, but mostly lasted more than one week. The most common symptoms of withdrawal were sleep disturbances, which were managed mostly by consuming alcohol and alternative therapies. What was unanticipated, however, were the frequencies of symptoms reported that are classically coupled with opioid withdrawal. It is difficult to establish whether these symptoms were related to concurrent withdrawal from other substances, or if they are in fact independent symptoms of cannabis withdrawal.

As can be seen in the results, increased levels of alcohol and nicotine were used by some during withdrawal from cannabis. In particular, 74.1 per cent of those who used alcohol and 80 per cent of those who used nicotine increased their use during their withdrawal from cannabis. Copersino et al. suggests that the use of these other drugs to relieve symptoms of withdrawal will adversely affect quit attempts.<sup>38</sup>

Despite the severity and form of some of the withdrawal symptoms experienced, there were slightly fewer respondents who were surprised by their experience of withdrawal. Of these, most were surprised by how easy the process was and how many improvements they noticed in their life.

In terms of what would have helped respondents through their withdrawal, three of the top four mentioned (support, having a therapist/coach and providing information) are well-supported psychosocial interventions, based on the wider substance-dependence literature.<sup>48</sup> However, there is no direct evidence for therapeutic intervention for symptomatic relief of withdrawal symptoms.<sup>48</sup>

### Techniques used to maintain behaviour change

Consistent with Elingstad's identification of the three common factors that helped maintain change, most respondents reported that they kept themselves occupied through lifestyle changes, returned to activities not related to cannabis and avoided triggers.<sup>40</sup>

While maintaining their behaviour change, most respondents relied on self-reminders of the benefits that they attained and how their past use was coupled with such negative effects. When faced with commonly reported risk situations such as being around users and personal crises, the majority of respondents reported that they would deal with the situation by reassessing the situation, focusing on their goals and seeking distractions.

During the establishment of their change, only a small group of respondents asked someone for help or support. Family, friends and health professionals were approached, and mostly helped through providing support. The majority of respondents did not have a clear plan prepared, and relied on self-reminders of the benefits achieved to keep motivated.

### Changes

To maintain their changes, most of the respondents did not need to change their strategies for managing their cannabis use. Of those that did, their strategies were no longer needed, or they relaxed their strategies. When asked about changes that occurred in their life after they changed their cannabis use, positive improvements far outweighed negative changes.

There were almost equal numbers of respondents that reported having any lapses than not having any lapses. Of those who did, the majority had less than five occurrences, most commonly triggered by social setting or problems, stress, emotions or anxiety. A variety of lengths of lapses were reported, with the most frequent 'longest lapse' being one month or longer. The methods reported by respondents to overcome their lapses were quite similar, with the most common including keeping aware/self-reminders, setting new goals and initiating them and changing the situation.

A significant minority of respondents had concerns about their mental health since they changed their cannabis use, with the most common psychological symptoms reported being depression and anxiety. These symptoms were mostly managed by seeing a therapist, but a variety of self-managed techniques were also reported, including meditation, exercise and relaxation/breathing/self-talk techniques.

### Reflections

Most respondents had to attempt more than once to successfully stop or reduce their cannabis use. On reflection, respondents indicated that the main reasons why they believed their attempts were unsuccessful were because they were not ready/motivated/committed to change or they were stuck in a situation where the environment around them was filled with cannabis users.

Respondents were asked about why they decided against seeking formal treatments to assist them in changing their cannabis use, so as to identify potential barriers to treatment. Some of the common themes were: that they felt that 'treatment' was unnecessary and they did not consider their use to be problematic; that they had an aversion to formal treatment or felt that it did not suit their needs; that they were too embarrassed, ashamed, or feared being exposed

as a cannabis user seeking treatment; that they lacked knowledge of available resources; or considered it to be too costly or time-consuming.

When asked about what they would say to someone who came to them and said they wanted to stop or reduce their cannabis use, most said that they would use motivational enhancement techniques, encourage the person to isolate from triggers, and to enlist support.

### Recommendations for intervention and treatment

The results from this survey provide useful information to inform interventions to assist cannabis users reduce or quit their use of cannabis.

While not dissimilar to current practice, health professionals, such as general practitioners, alcohol and other drug (AOD) clinicians and counsellors could possibly reinforce their efforts in assisting change by reflecting on the findings from the current study.

The results from this survey suggest that some individuals may be more vulnerable than others to internal and external events that are beyond their perceived level of control. As mentioned previously, the most likely triggers of relapse were social settings and distressing personal issues. Assistance in preparing for such situations by developing and enhancing adequate coping skills and strategies may improve outcomes. Methods of preparation might include strategies for the management of general stress in a person's life and teaching skills about how to manage certain situations if they are unable to avoid them. Preparing for the likelihood of some stressful withdrawal symptoms and lapses, and for the possible need for numerous attempts may help clients put their goals into perspective and provide ongoing motivation. Support and reassurance remain essential to this.

As reflected in numerous sections of the survey results, respondents feel that there is a need for accessible and appropriate context-related information for cannabis users seeking change. Topics of particular importance include a description of the treatment options that are available, where they are located, and how to access them; information on the link between cannabis use and mental health; cannabis withdrawal and how to best manage it; coping with life after change; and suggestions for cannabis users who wish to self-manage their change.

When exploring 'drugs used whilst using cannabis', there is a possibility that respondents under-reported their use of nicotine due to a lack of perceiving nicotine as a drug. This may have implications for the symptoms experienced during cannabis withdrawal as it is difficult to ascertain whether symptoms were due to withdrawal from cannabis alone, due to the lack of nicotine usually present when smoking cannabis mixed with tobacco, or both.

An analysis of the responses from the survey indicated that some respondents had attended one or two sessions with a health worker (psychologist, counsellor, medical practitioner) or a 12-step or other group. As none had indicated that they had completed an entire program, they were eligible to be included in the study. However, regardless of whether they completed a program or not, it is difficult to elucidate the level of effect that the participation in any prior therapy or self-help group had on the respondents' own development of self-managed change.

The characteristics of the sample may affect the ability of the findings to be generalised to different settings. For example, the majority of respondents resided in metropolitan areas of Australia, with very few from regional or rural areas. Although many aspects of self-managed change could realistically be applied in any setting, particularly where access to health services is difficult, there still remains the possibility of bias towards what works for a metropolitan population.

The sampling technique used also could have yielded some bias. An attempt was made to increase sample size by posting on online self-help forums in the hope of drawing in participants who had already self-managed their change and were assisting others. There is a possibility that



this may have drawn in adherents of pro-cannabis groups whose answers were of a deliberate intention to show that cannabis is not harmful. For example, this could explain why there were some respondents who had a Severity of Dependence Scale score of zero, or perhaps the small proportion of responses that reflected on negative changes that occurred in their life after they had reduced or ceased their cannabis use.

As mentioned in the introduction, retrospective studies, particularly those on self-managed change have a range of limitations (their retrospective nature, recruitment method, and severity of problems) and as such it would be difficult to confidently generalise the findings and conclusions drawn from this research on self-managed change to larger, more diverse populations of former cannabis users. Additionally, while some results were consistent with previous research literature, the possibly unique nature of participants may have influenced any comparisons made with other studies.

### Directions for future research

Further studies could explore if people with certain severities of dependence achieve better outcomes with reduction or cessation; and whether there are any associations between age, gender, and length of use with successful strategies for initiating and maintaining use. If so, this information could yield a set of strategies with a better fit.

Further research could also explore the complex relationship between cannabis and mental health. From this study, it was not clear whether cannabis had a protective effect of ‘dampening down’ pre-existing psychological symptoms, causing them to re-emerge when use was stopped or reduced; if the symptoms emerged independently as withdrawal symptoms; or if they were a result of the changes that occurred in the respondents’ life at that time.

While cessation of, and reduction of cannabis use may have similar meanings for different people, it may be interesting to explore how engagement in other health compromising behaviours is construed, once cannabis use is reduced or ceased. Other points of further research could include studying the role of others in initiating and maintaining use, and the factors involved in a person’s vulnerability to relapse.

## Conclusions

This study has provided some understandings of the process of self-managed change from problematic cannabis use, and suggests a number of issues that might be considered to aid those desiring cessation or reduction of cannabis use. The incorporation of the findings and strategies into clinical practice and into web- and print-based information for cannabis users may assist and encourage those preparing to manage their own cessation or reduction of cannabis use.

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