

The impact of COVID-19 and related measures on the use of cannabis in the Netherlands

Key points

- This factsheet presents the results of a survey on the influence of COVID-19 and the coronavirus measures on cannabis use in the Netherlands.
- Data was collected through an online questionnaire that was shared 4 weeks after the introduction of the coronavirus measures (mid-March). Participants were recruited through social media and by re-approaching cannabis users from a previous study of the Trimbos Institute. A total of 1563 participants were included in this study.
- The sample is not a good representation of the average Dutch cannabis user; this is partly due to the targeted recruitment methodology. Results should therefore be interpreted with caution.
- Respondents were 32.6 years old on average and mostly men (66.3%). Two thirds of the sample (67.9%) used cannabis (almost) daily before the introduction of the coronavirus measures.
- After the introduction of the coronavirus measures, 49.1% of the respondents indicated that they used cannabis as often as before, while 41.3% indicated that they used cannabis more often. Moreover, people smoked 0.6 joints more per day on average than before the start of the coronavirus measures (from an average of 3.0 to 3.6 joints a day). A smaller percentage of respondents indicated that they used cannabis less often (6.6%) or had stopped (temporarily) (2.8%).
- The main reasons for using cannabis more often were boredom (78.4%), followed by stress (36.3%), mental health (30.1%) and loneliness (29.6%). Reasons for using cannabis less often included seeing friends less often (37.9%) and because of their mental health (29.1%). Respondents who stopped (temporarily) did so mainly because of their mental and physical health.
- Before the introduction of the coronavirus measures, 91.4% of respondents usually smoked cannabis in a joint with tobacco. The mode of use remained largely unaffected by the introduction of the coronavirus measures.
- Of those who answered the question on whether they took additional corona precautions, 84.5% indicated that they did so to some extent. Common precautionary measures included not sharing a joint, maintaining social distance, and smoking alone.
- The majority of the respondents felt that weed and hash were as readily available as before the introduction of the coronavirus measures and that prices remained the same. However, 12.6% of weed users and 17.2% of hash users indicated that the price had increased.
- These results provide a snapshot of cannabis use in the Netherlands during the beginning of the COVID-19 pandemic. The spread of the coronavirus slowed down around mid-May and the lockdown was gradually lifted. It is not clear how cannabis use patterns changed since.

Why this research?

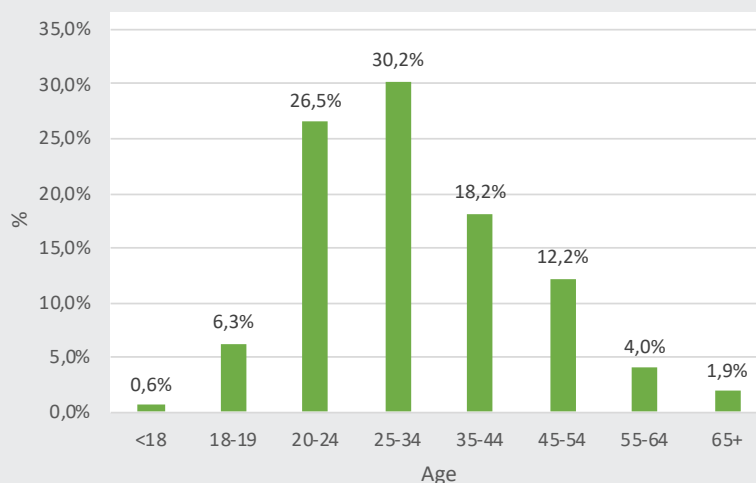
The Trimbos Institute monitors drug use in the Netherlands. Polls on social media suggested that certain groups of people in the Netherlands were using cannabis more and/or more frequently since the introduction of the coronavirus measures mid-March. Increased cannabis use increases the risk of dependence and other long-term problems (Olthof et al., 2020). Moreover, there are indications that tobacco smokers are more susceptible to viruses that affect the respiratory system. This presumably also applies to the novel coronavirus COVID-19. Preliminary research shows that the course of the disease among people with COVID-19 infection is more serious among smokers than non-smokers (Berlin et al., 2020; Vardavas, Nikitara, 2020). This may also be the case for people who smoke cannabis, especially because cannabis users in the Netherlands mostly smoke cannabis together with tobacco in a joint (Van Laar et al., 2019).

Because of the initial signals that people started smoking more cannabis during lockdown, the Trimbos Institute designed a brief survey on cannabis and COVID-19 to investigate this in greater detail. The aim of the survey was to identify whether people who use cannabis in the Netherlands changed their consumption patterns after the introduction of the coronavirus measures mid-March 2020 and why they did so. In addition, the survey inquired about the availability and prices of hash and weed, as well as measures taken by users to prevent infection with the new coronavirus. The study sample is not representative of cannabis users in the Netherlands. Participants were recruited in a targeted manner (see section below: "How did we conduct this study"). Therefore, the results cannot be generalized to all cannabis users in the Netherlands and should be interpreted with caution.

About the respondents

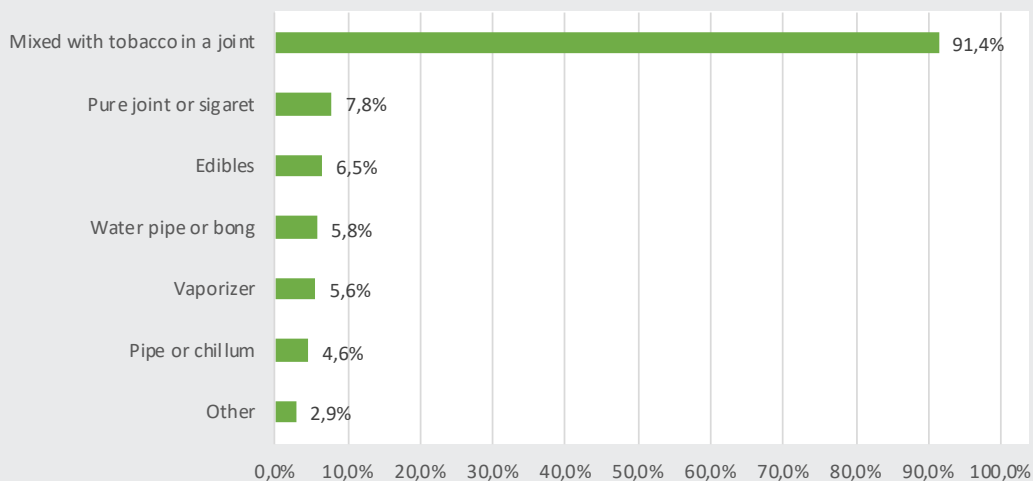
- Most respondents were between 20-24 (26.5%) and 25-35 (30.2%) years old, with an average age of 32.6 years (range 16-74 years) (Figure 1). Two thirds (66.3%) were men, 33.1% were women, and 0.6% identified as 'Other'.
- The majority of respondents (71.9%) mostly used weed before the introduction of the coronavirus measures, 14.9% mostly used hash, and 13.2% used hash and weed equally much.
- Concerning the mode of use, the vast majority (91.7%) indicated that they usually used weed or hash in a joint together with tobacco. Only 7.8% (usually) smoked weed or hash pure in a joint and 6.6% consumed cannabis processed in food or drinks, also known as edibles (Figure 2). Other modes of use mentioned in the category "other" included cannabis oil, dabs (strong cannabis concentrates), and "in a joint with tobacco substitute".

Figure 1. Age of the participant sample



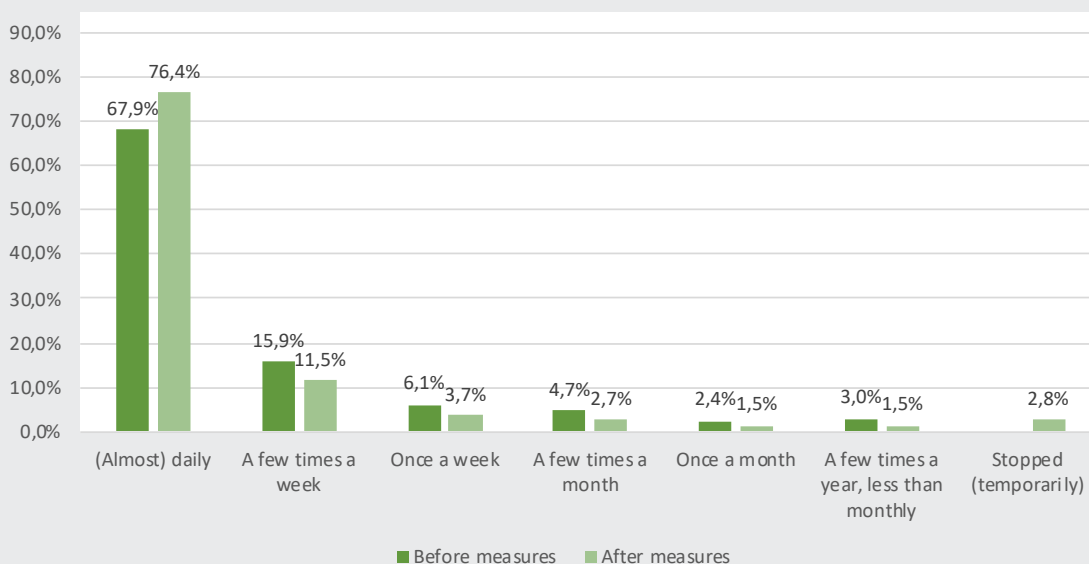
- When asked how often respondents used cannabis before the introduction of the coronavirus measures, almost seven in ten respondents (67.9%) reported using cannabis (almost) daily. Almost one in six (15.9%) used a few times a week. The other respondents used weed and/or hash on a weekly basis or less frequently (Figure 3). The respondents included in this study are therefore predominantly a group of frequent users. For comparison: of the last-month cannabis users from a representative sample of the Dutch population in 2018, 35.0% were (almost) daily users (Van Laar et al., 2019).
- On average, respondents used 3.0 joints on a day on which they used cannabis ('day of use') before the implementation of the measures. For users who used (almost) daily, the average was 3.7 joints. For users who used less than (almost) daily, the average was 1.5 joints.

Figure 2. Mode of cannabis use before introduction of the coronavirus measures



As multiple answers were possible, the percentages do not add up to 100%.

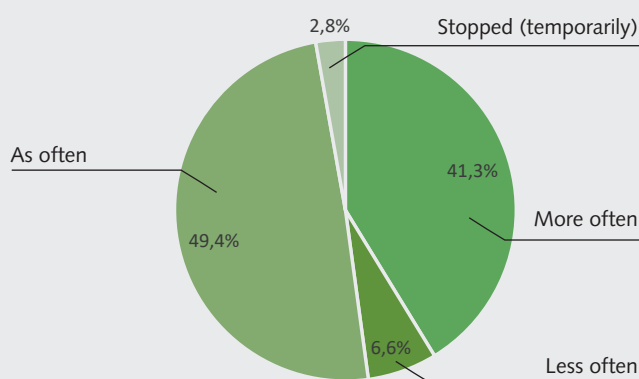
Figure 3. Frequency of cannabis use before and after the introduction of the coronavirus measures



Two in five cannabis users use cannabis more frequently after the introduction of the coronavirus measures

- After the introduction of the coronavirus measures, almost half of the respondents (49.4%) indicated that they use cannabis as often as before the introduction of the measures, while 41.3% used cannabis more often. A much smaller proportion indicated that they used less often (6.6%) or (temporarily) stopped using cannabis (2.8%) (Figure 4).
- The percentage of respondents who used cannabis (almost) daily after the introduction of the measures rose from 67.9% to 76.4% (Figure 3).
- This means that among those who used weed or hash less than (almost) daily (32.4% of the total sample) before the introduction of the measures, 35.6% is using (almost) daily after the introduction of the measures. Table 1 shows that it is mainly respondents who used cannabis a few

Figure 4. Frequency of cannabis use after introduction of the coronavirus measures¹



¹ The answer category "(temporarily) stopped" was later added to the questionnaire. For the first 171 respondents this answer option was not available. It was checked whether these respondents indicated in the open fields to have (temporarily) stopped using.

Table 1. Shift in frequency of cannabis use before and after the introduction of the coronavirus measures

		After introduction of the measures						
		(Almost) daily	A few times a week	Once a week	A few times a month	Once a month	A few times a year	Stopped
Before introduction of the measures	(Almost) daily	95,7	2,1	0,3	0,2	0,0	0,0	1,8
	A few times a week	52,0	40,3	2,4	2,0	0,0	0,0	3,2
	Once a week	23,2	33,7	28,4	7,4	3,2	0,0	4,2
	A few times a month	18,9	16,2	17,6	29,7	10,8	2,7	4,1
	Once a month	15,8	13,2	13,2	7,9	18,4	15,8	15,8
	A few times a year	17,0	17,0	8,5	6,4	10,6	34,0	6,4
		Number of respondents before measures						
		n=1061						
		n=248						
		n=95						
		n=74						
		n=38						
		n=47						

Numbers are shown as a percentage. This table shows how the frequency in cannabis use has shifted before and after the introduction of the coronavirus measures per user group. The green diagonal indicates an unchanged users frequency. Yellow boxes indicate a decrease in frequency of use after measures have been introduced. Blue boxes indicate an increase in frequency of use after measures have been introduced. (Example: Of the respondents who used cannabis a few times a week prior to the introduction of the coronavirus measures, 52.0% used cannabis (almost) daily after the introduction of the coronavirus measures).

times a week before the measures who started to use (almost) daily after the introduction of the measures (n = 129).

- In the total sample, the average number of joints on a day of use increased from 3.0 joints before the start of the coronavirus measures to 3.6 joints after the start of the measures.
- Among the respondents indicating that they used cannabis (almost) every day before and after the measures were taken, the average number of joints on a day they use has increased from 3.4 to 4.2 joints.
- Respondents who reported using cannabis less than (almost) daily both before and after introduction of the measures, continued to use almost the same number of joints on a day of use (1.5 joints before the measures versus 1.4 joints after).
- Among the respondents who used less than (almost) daily before the start of the coronavirus measures and used (almost) daily after the implementation of the measures (Table 1), the average number of joints used per day of use increased from 1.8 to 2.9 joints.

Method of consumption usually remains the same

- Of the respondents who usually smoked cannabis in a joint with tobacco before the introduction of the coronavirus measures (91.7%), 85.6% said they still did so. A smaller proportion indicated that they used less tobacco (7.1%), more edibles (2.0%), or more vaping (1.0%) after the introduction of the measures.

More use mainly due to boredom

- By far the most common reason mentioned for using cannabis more often was boredom (78.4%), followed by stress (36.3%), mental health (30.1%), loneliness (29.6%), less parties (26.5%) and seeing friends less (22.5%). Least common reasons for using cannabis more often were because of physical health (7.9%) or because other drugs were used less (4.8%) (Figure 5).
- Reasons differed between men and women. For example, women indicated that they use cannabis more often because of stress (45.2% compared to 29.6% men) and because of their mental health (37.9% compared to 24.5%).



'I have less stress now that I work at home. Because of that, I feel less the need to use cannabis'

'I am not smoking any more or less frequently than before the coronavirus measures.'

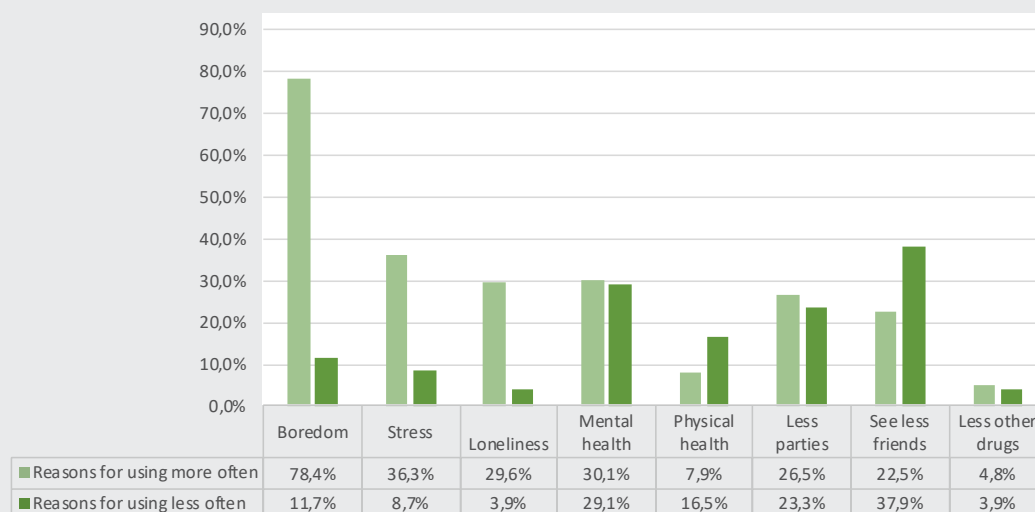
'I am unemployed now and have a lot of spare time'

'Before the introduction of the coronavirus measures I had stopped smoking cannabis, but because of the measures, I started smoking again.'

Less use mainly due to seeing friends less and for mental health

- The most common reasons mentioned for using cannabis less often were seeing friends less (37.9%) and for mental health (29.1%) (Figure 5).
- More men than women indicated that they used less because of a decrease in parties and nightlife (28.0% compared to 4.8%).
- The most common reasons mentioned for (temporarily) quitting cannabis were for mental and physical health (30.2% and 27.9%, respectively). Due to a small number of respondents who quit (temporarily) (n = 43), the percentages should be interpreted with caution.
- Respondents were asked to report other reasons for using cannabis more or less often in an open field. The most frequently cited reasons were more free time, less/no work and being at home more often.

Figure 5. Reasons for using more or less¹ cannabis after the introduction of the coronavirus measures



¹ Reasons of the respondents that (temporarily) stopped using cannabis are not presented in this graph as a result of small group size.

'What is the reason you use more/less cannabis? (multiple answers possible)'. Answer options: Because of boredom, because of stress, because of loneliness, for my mental health, for my physical health, because there are less parties/I cannot go out, because I see my friends less, because I use less other drugs, after introduction of the measures I have (temporarily) stopped using, I use as often as I did before, other (open field).

The majority of the users take additional (corona) measures

- Respondents were asked whether they took additional (corona) measures. Of the 1563 respondents, 814 (52.1%) answered this question. Respondents could write several measures in an open field. Since this question was not mandatory, it is unknown whether the other respondents took additional measures or whether they did not wish to answer this question.
- Of the respondents who answered this question, 84.5% said they took measures to some extent.
- Not sharing joints was explicitly mentioned by 45.6%. However, the percentage of users who do not share will presumably be higher, since 17.9% indicated that they no longer smoke with others. A small part indicated that they share their joints only with housemates/partner (6.6%) or share less (1.7%).
- The second most frequent measure was maintaining social distance (23.8%). However, this percentage is probably higher, as some respondents explicitly stated that they do not smoke with others (17.9%), only share with partner / roommates (6.6%) and follow government measures which includes keeping 1.5m distance to others (2.3%).

- Other measures mentioned concern buying more cannabis at once, no longer going to the coffee shop and staying indoors (and smoking at home).
- A total of 101 respondents (12.4%) did not take extra (corona) measures and 2.6% explicitly indicated that they still shared their joint with others.



'I buy a larger amount to visit the coffee shop less often'

'Keeping distance and absolutely not sharing joints'

Weed and hash is for most users just as easy to obtain as before the introduction of the coronavirus measures

- When asked how easy it was to obtain weed after the introduction of the coronavirus measures, almost nine in ten weed users (89.3%) indicated that it was as easy to obtain weed after the coronavirus measures as before. A smaller proportion found it easier (5.7%) or more difficult (4.6%) to obtain weed.
- Nearly nine out of ten hash users (87.3%) indicated that it was as easy to obtain hash after the coronavirus measures as before. A smaller proportion found it easier (4.7%) or more difficult (7.3%) to obtain hash. The remainder indicated that they were unable to answer this question.
- The vast majority of users (92.7%) bought their weed and/or hash at the same location as before the introduction of the measures. The remainder of the respondents indicated that they purchased weed and/or hash in a different place, with a shift from coffee shop to dealer in particular.

Hash is more expensive for one in six hash users

- According to four in five weed users (81.2%), the price of weed remained the same as before the introduction of the measures. One in ten users (12.6%) said that weed had become more expensive.
- According to four in five (79.9%) hash users, the prices for hash remained the same as before the measures. However, 17.2% indicates that hash has become more expensive.

Considerations

- This survey shows that 41.3% of the respondents started using cannabis more as well as more often after the introduction of the coronavirus measures. Boredom, stress, loneliness and mental health issues played a role for many individuals. Although this does not have to be concerning right away, it is important to ensure that unhealthy consumption patterns will not develop further.
- Anxiety and stress are important and frequently investigated determinants for substance use (Turner et al., 2018). Research among frequent cannabis users in the Netherlands shows that those who smoked to cope with problems or who had financial problems had an increased risk of cannabis addiction (Van der Pol et al., 2013).
- A small proportion of respondents (one in ten) smoked cannabis less during the lockdown and a few even stopped (temporarily). Mental and physical health played a role in this, as self-reported by the respondents. Whether these individuals will reduce their use permanently remains to be seen.
- Finally, the findings show that most people smoke cannabis with tobacco and that the majority continued to do so after the introduction of the coronavirus measures. Cannabis use is never without risk, but there are consumption methods that burden the lungs less, such as vaporizers and edibles (Strada et al. 2019). These may be considered as alternatives given the risk of COVID-19. Caution is paramount, because this method of use involves other risks (Strada et al., 2019).

How did we conduct this research?

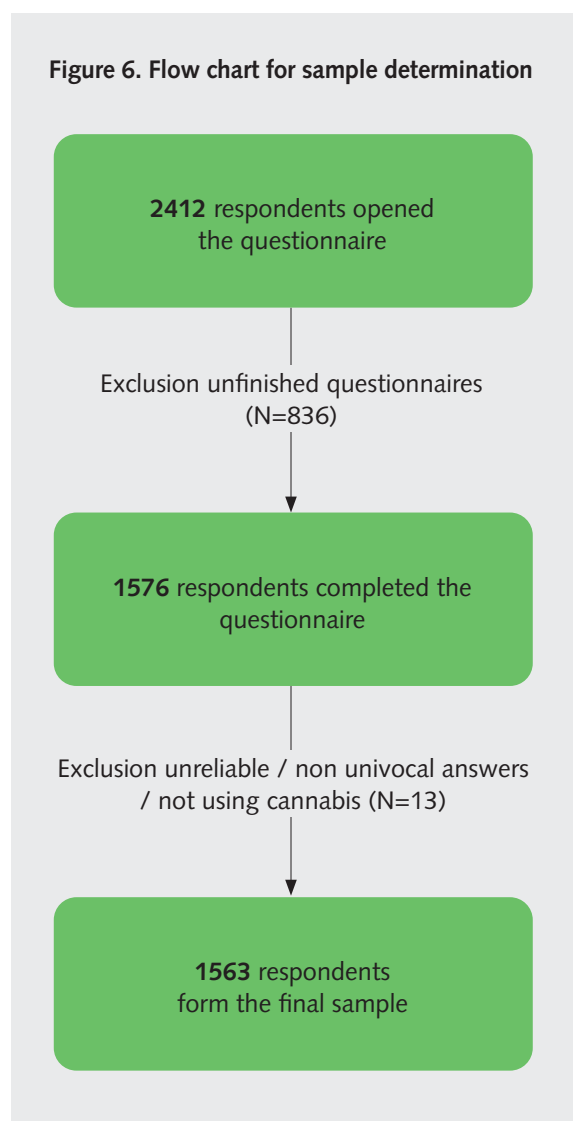
Recruitment

The questionnaire was distributed via various social media channels such as the Trimbos facebook page, drugsenuitgaan.nl and drugsinfo.nl in a targeted manner. Respondents from previous research conducted by the Trimbos Institute among cannabis users were approached as well. Cannabis users were able to participate in the study from April 14 to April 28 2020, 4 to 6 weeks after the introduction of the first coronavirus measures (mid-March). On the introduction page of the online questionnaire the purpose of the study was explained as well as how the data is handled.

Online questionnaire

The questionnaire asked for demographic data (age, gender), use of cannabis before the introduction of the coronavirus measures (method of use, frequency, quantity) and use after introduction of the measures (manner of use, frequency, reasons for the change in frequency, quantity). In addition, participants were asked whether they experienced changes in the availability and price of weed and/or hash since the measures were introduced. Until April 15, it was not possible to select the option "I have (temporarily) stopped" in the question about frequency of use since the measures were taken; this option was added on April 15. Until then, 171 respondents had completed the questionnaire up to the last mandatory question. When one of these 171 respondents indicated that they had (temporarily) stopped in the open fields, they were coded as such and included in the percentage (temporarily) stopped.

Figure 6. Flow chart for sample determination



Response

In total, 2412 respondents reached the landing page of the questionnaire. The final sample consisted of 1563 respondents. Figure 6 shows a flow chart for the determination of the sample.

Respondents were excluded based on the following characteristics:

- The respondent closed the questionnaire before answering the last mandatory question (N = 836).
- According to the researchers' opinion, the respondent provided several unreliable answers (N = 4).
- The respondent did not provide univocal answers, which means that no definite answer can be given about his/her situation (N = 8).
- The respondent indicated that he had stopped smoking cannabis long before the coronavirus measures (N = 1).

A group of respondents (n = 313) completed part of the questionnaire but did quit at some point. Of this group, 67.1% were male and 1.3% indicated having a gender other than male or female. Three quarters (72.8%) usually used weed and 12.1% used weed and hash equally. Within this group, 70.3% were (almost) daily users and 13.1% used a few times a week. The group of respondents who have quitted the questionnaire prematurely therefore deviates little from the respondents who completed the questionnaire.

Statistical analyses

The analyses were performed in SPSS version 25. The results in this factsheet are largely descriptive: for example percentages and averages. When groups have been compared, depending on the type of variable, chi-square tests or t-tests have been used. These tests were used to calculate whether the groups differ statistically significantly. A statistically significant difference means that the chance is very small that the difference found is coincidental. Open answers were scored manually.



More information about cannabis use?

- This online questionnaire also gave respondents the opportunity to ask questions about cannabis use related to COVID-19. The most frequently asked questions are [bundled into a Q&A](#).
- General information about cannabis can be found at www.drugsinfo.nl. In addition, employees of the [Drugs Information telephone Line and the chat service](#) of the Trimbos Institute answer questions about cannabis (use). The chat service was set up in collaboration with institutions for addiction care.
- Cannabis users can find additional information on various risk-centered websites. Examples of sites are www.drugsenuitgaan.nl and www.unity.nl. This information is also specifically distributed through various media channels: Twitter, Facebook, Instagram and drug forums.
- Tips for limiting risks during the corona crisis can be found at drugsenuitgaan.nl.
- Do you want to stop cannabis use? Then consult the [drug info page](#) to look for where you can best seek help.





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