



Driving Under the Influence of Cannabis Before and After Partial Legalization



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Press date
12th October, 2026

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Design
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Photo references
Title: istockphoto | 400tmax
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1. Introduction

With the Cannabis Act (CanG) and the accompanying amendments to the Driving License Regulation (FeV) taking effect on April 1, 2024, and the amendments to the Road Traffic Act (StVG) taking effect on August 22, 2024, the legal framework for cannabis-using road users has changed fundamentally. A statutory THC limit of 3.5 ng/ml of blood serum was introduced for driving a motor vehicle. A ban on driving under the influence of cannabis applies to novice drivers still in their probationary period and to persons under the age of 21. In addition, the rules on simultaneous use of cannabis and alcohol, as well as driver's-license regulations, were changed.

On behalf of German Insurers Accident Research (UDV), cannabis-using drivers were surveyed about their attitudes and behavior in road traffic immediately before the Cannabis Act took effect in spring 2024. This survey was repeated nearly two years later, in order to determine whether changes in consumption and driving behavior could be observed following partial legalization and the introduction of the statutory THC limit.

2. Project Objective and Methodology

The aim of the present study was to analyze the driving behavior of cannabis users, their risk assessments, and their evaluation of the new legal situation. In addition, it was examined which individual factors are associated with driving after cannabis use, and whether changes could be identified compared with the survey conducted before the CanG took effect.

The follow-up survey was conducted as a quantitative online survey between February 2 and March 21, 2026. Persons aged 18 and older who had used cannabis within the past twelve months and who currently held, or had previously held, a driver's license were eligible to participate. After data cleaning, $N = 3,144$ respondents were included in the analysis. The analyses were predominantly descriptive. In addition, logistic regression analyses were conducted to identify predictors of driving after cannabis use, along with cluster analyses and subgroup analyses. The methodological approach and the results are published in detail in Research Report No. 106 at www.udv.de [1].

The sample is not representative of the German population. Recruitment took place mainly via social media and via stakeholders from the fields of drug policy and cannabis activism. A comparatively large number of people who use cannabis regularly/ frequently were reached. This limits generalizability to the population as a whole but allows for an in-depth look at a group that is particularly relevant to road safety.

The sample was characterized by a high affinity to consume cannabis. Of the respondents ($N = 3,144$), 40.6 percent had used cannabis (almost) daily in the past 30 days, 26.5 percent several times a week, 15.5 percent about once a week, 10.1 percent less than once a week, and 7.3 percent not at all. Thus, almost 83 percent of respondents used cannabis at least once a week, about half of them (almost) daily. The sample was strongly male-dominated (91.9% male, 7.1% female, 1.0% non-binary). The average age (mean) of the overall sample was 40.4 years (median = 40.0, $SD = 10.09$).

When comparing the results with those of the 2024 survey, it should be noted that these are two similar but independent samples. The current survey sample, for example, included more men, and the average age was higher. Changes between the two surveys should therefore be interpreted only as descriptive indications. Causal conclusions about the effects of partial legalization or the statutory THC limit cannot be drawn.

3. Results

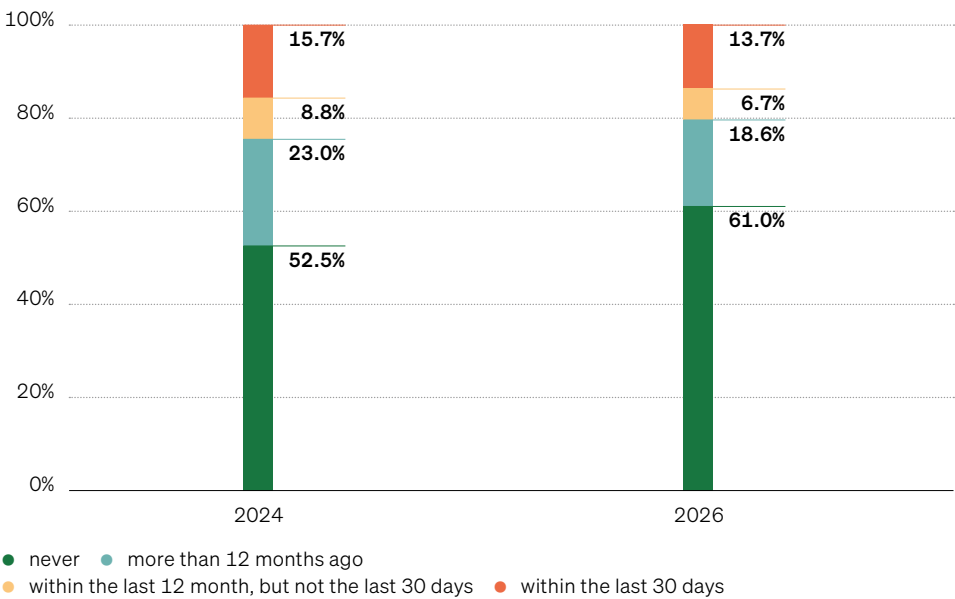
3.1 Driving After Cannabis Use Remains Unchanged

As a key indicator of driving behavior, respondents were asked whether and when they had driven a motor vehicle within two hours of using cannabis. The two-hour threshold does not represent a legal limit. It was chosen because a clear subjective cannabis effect is typically still present during this period.

In 2026, 20.4 percent of respondents reported having driven a vehicle shortly after cannabis use at least once in the past twelve months; 13.7 percent reported having done so within the last 30 days (Figure 1).

Last Trip Within Two Hours of Cannabis Use

Figure 1 · Responses to the question “Have you ever driven a motor vehicle (e.g., car, motorcycle) within two hours of using cannabis?”, in 2024 and 2026



Compared with 2024, both the twelve-month and the 30-day prevalence were somewhat lower. Because the two samples differ in composition, no reliable decline can be inferred from this. The results provide no indication that driving shortly after cannabis use has increased or decreased following partial legalization.

Nearly one-third of all respondents who had ever driven within two hours of use (n = 1,227) reported doing so at least once a week (Table 1).

Frequency of Driving Within Two Hours of Use Among Respondents With Corresponding Driving Experience

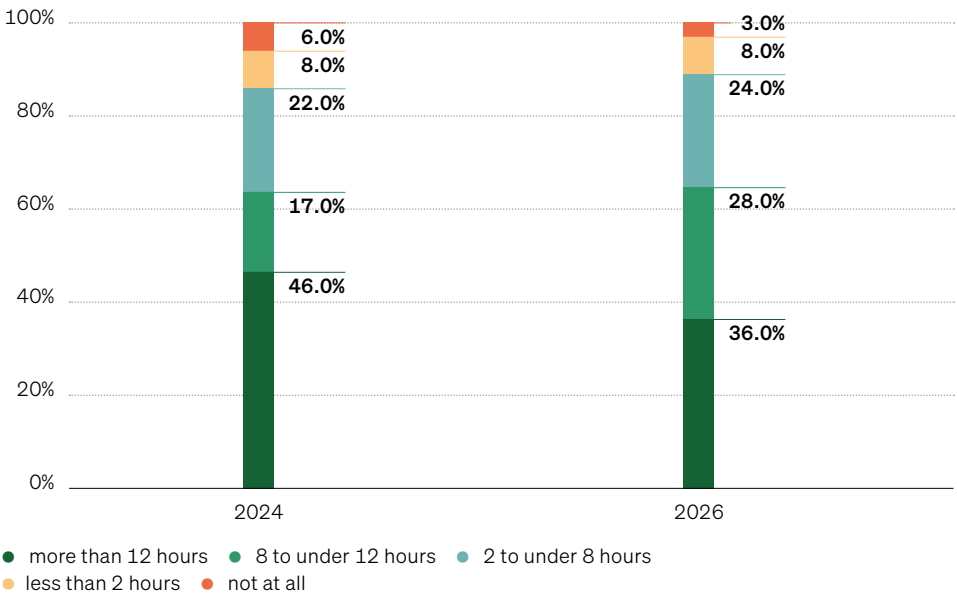
Table 1 · Responses to the question “How often do you drive a motor vehicle within two hours of using cannabis?”

Answer	Share
Not really	49.7%
At least once a year, but not monthly	10.4%
At least once a month, but not weekly	9.2%
About once a week	9.2%
Several times a week	10.8%
(Almost) daily	10.7%
Total	100.0%

In 2026, the median minimum waiting time reported between use and driving was eight hours. The most frequently reported waiting times fell into the ranges of more than twelve hours (36%), eight to under twelve hours (28%), and two to under eight hours (24%). At the same time, however, 11 percent of respondents reported waiting less than two hours (Figure 2).

Waiting Time Between Use and Driving

Figure 2 · Responses to the question “How long do you wait, at minimum, between using cannabis and driving a motor vehicle?”, in 2024 and 2026



Compared with 2024, reported waiting times have partly shifted from very long to medium-length periods. The share reporting a waiting time of more than twelve hours fell from 46 to 36 percent, while the share reporting eight to twelve hours rose from 17 to 28 percent. At the same time, the share reporting no waiting time fell from 6 to 3 percent. Owing to the differences between the two samples, this cannot be causally attributed to the changes in the law. However, various information campaigns on the recommended waiting time of 12 hours between use and driving were carried out as part of partial legalization, which at least makes the results plausible.

For the majority of respondents, the introduction of the statutory limit has, by their own account, led to no change in driving behavior. 76.7 percent of respondents (N = 3,144) stated that they had not changed their habits regarding cannabis in road traffic since the statutory THC limit was introduced. 15.7 percent reported driving less after use since then, 4.5 percent reported driving again despite use after not doing so before, and 3.1 percent reported driving more often after use than before.

A similar pattern emerges for the time interval between use and driving. Here, 74 percent of respondents (N = 3,144) stated that they had made no changes. 21.2 percent reported allowing more time to pass, while 4.8 percent reported that they now allow less time to pass between use and driving.

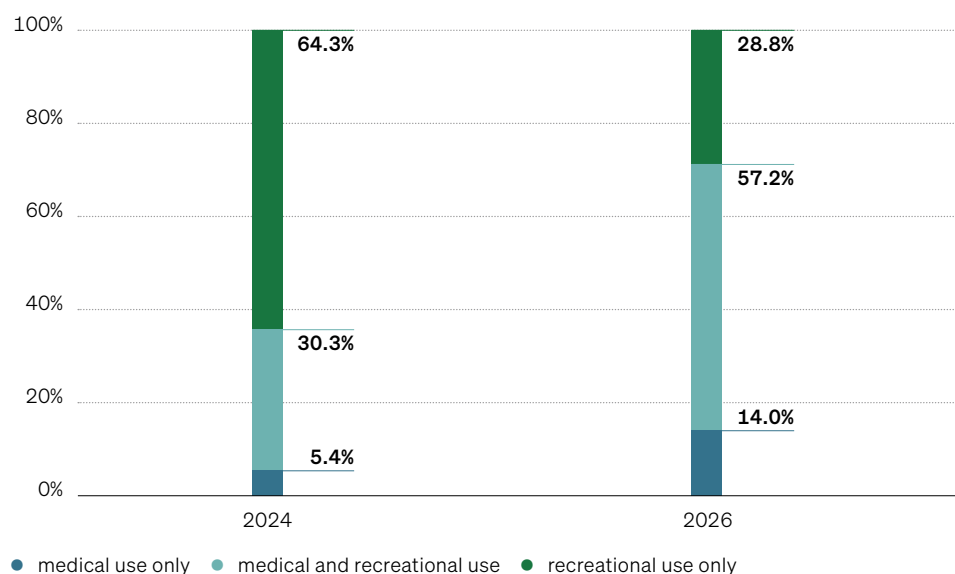
Overall, it can be said that the introduction of the CanG and the related changes to the FeV and the StVG have so far had only limited effects on (reported) driving behavior. The share of respondents who, by their own account, drove a motor vehicle within two hours of using cannabis in the past twelve months has barely changed. Likewise, with regard to waiting time, the large majority of respondents reported no change. A slight tendency toward somewhat longer waiting times can be observed. However, owing to the differences between the two samples, this cannot be causally attributed to the changes in the law.

3.2 Medical Use Has Increased Markedly

One of the most striking changes between the two surveys concerns reported medical, or partly medical, use of cannabis (Figure 3).

Type of Cannabis Use

Figure 3 · Responses to the question “Have you used cannabis for medical purposes (to treat an illness or relieve symptoms) in the past 12 months?”, in 2024 and 2026



In 2026, 71.2 percent of respondents reported using cannabis at least partly for medical purposes. In 2024, the figure was 35.7 percent. The survey data cannot determine to what extent this difference reflects an actual increase in medical use

or is related to the easier prescribing and greater availability of medical cannabis. Among respondents with partly medical use and those with medical use only, 71.7 percent reported a private prescription, 4.1 percent a statutory health-insurance prescription, and 24.2 percent no medical prescription at all.

3.3 Personal Risk Perception Is Decisive

The statistical analyses show that **individual risk perception** is closely associated with driving after cannabis use. It proved to be the strongest predictor examined in the regression model. The lower the perceived risk, the more often respondents reported driving within two hours of use. This becomes especially clear when comparing groups: only 9.8 percent of those who rated driving after cannabis use as very risky reported having done so. Among those who saw no risk in it, by contrast, the figure was 72.6 percent.

Furthermore, **frequency of use** proved to be an important factor influencing driving within two hours of cannabis use. While 20.2 percent of occasional users reported ever having driven a motor vehicle within two hours of use, this share among (almost) daily users was 46.5 percent. Descriptively, as frequency of use increased, so did the number of reported instances of driving within two hours of cannabis use.

The **type of cannabis use** showed a significant association with driving behavior. Respondents with combined medical and recreational use more often reported driving within two hours of cannabis use than those using cannabis solely for recreational purposes. Group comparisons also revealed clear differences. While 27.9 percent of exclusively recreational users reported ever having driven a motor vehicle within two hours of use; among those using cannabis exclusively for medical purposes, this share was 42.4 percent, and among those with combined use, 43.8 percent.

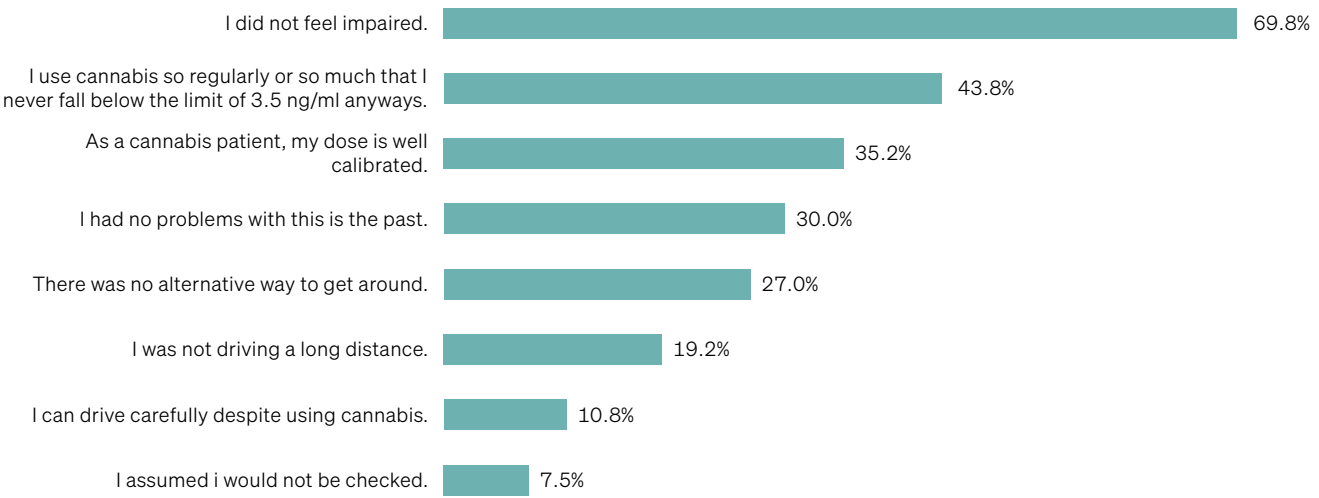
By contrast, age and gender played no significant role. The findings suggest that driving within two hours of cannabis use is less related to sociodemographic characteristics than to individual risk perception and patterns of use.

3.4 Most Common Reason for Driving: No Subjectively Perceived Impairment

Respondents who had reported driving within two hours of use (n = 1,227) were asked about their reasons for doing so. Multiple answers were possible here (Figure 4).

Reasons for Driving Shortly After Cannabis Use

Figure 4 · Responses to the question “Why did you drive a motor vehicle after using cannabis?”, multiple answers allowed



By a clear margin, the most common answer was that respondents did not feel impaired. Among regular users, the assumption that they permanently exceed the limit anyway also plays a role. More than one-third pointed to medical use and to a dose they consider well calibrated.

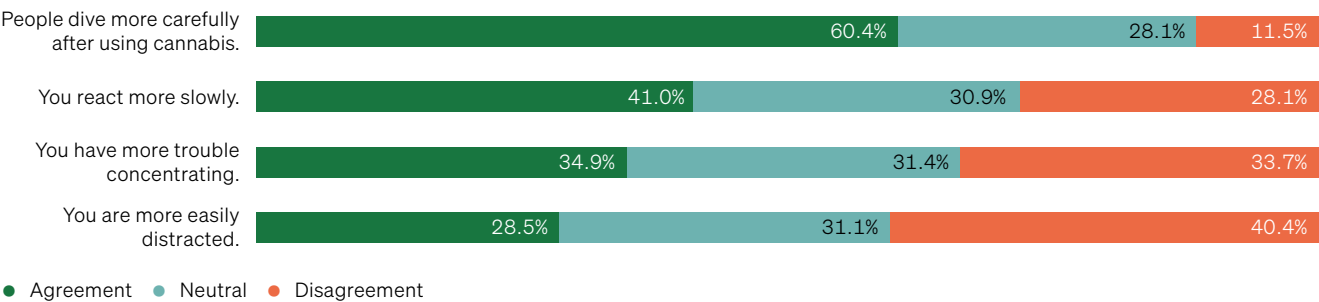
The findings make clear that, for a substantial share of respondents, the decision to drive is guided by their own perception of fitness to drive. However, cannabis can impair both perception and fitness to drive.

3.5 Impairments to Fitness to Drive Are Partly Underestimated

Based on several statements, respondents were asked about their individual assessment of specific effects of cannabis on driving behavior, (Figure 5).

Assessment of Possible Effects of Cannabis While Driving

Figure 5 · Responses to the question “Which of the following statements do you agree or disagree with?”



The most widespread assumption is that people drive more carefully after using cannabis. Scientifically documented impairments to concentration and reaction time, as well as increased distractibility, are acknowledged by only a portion of respondents.

Further analyses showed that the more strongly respondents believed they drove more carefully after cannabis use, the lower they rated the risks of driving under the influence of cannabis – and vice versa. This association was also evident in self-reported driving behavior. Among respondents who stated that they had driven under the influence of cannabis at least once in the past 30 days, 72.6 percent agreed with the statement that people drive more carefully after use. Among the remaining respondents, the figure was 58.4 percent.

3.6 Subjective Fitness to Drive After Using Medical Cannabis

The subjective assessment of fitness to drive after using prescribed cannabis was also examined (n = 1,695). Half of respondents believed that they were able to drive a vehicle safely after using their medical cannabis, provided they kept to the therapeutic dose. However, more than one-fifth of respondents considered themselves fit to drive regardless of the dose used. About one-third of respondents did not consider themselves able to drive a vehicle safely after use (Table 2).

Self-Assessment of Fitness to Drive After Using Medical Cannabis

Table 2 · Responses to the question “Do you believe that you are able to drive a vehicle safely after using your medical cannabis?”

Answer	Share
Yes, if I keep to the therapeutic dose.	49.2%
Yes, regardless of how high the dose was.	21.9%
No.	28.9%
Total	100.0%

This self-assessment is closely associated with reported driving behavior. Among respondents who considered themselves fit to drive after using their medical cannabis, 58.4 percent reported driving within two hours of use. Among those who did not consider themselves fit to drive, the figure was 19.4 percent. Controlling for other factors, the likelihood of such driving was about 5.8 times higher among those who considered themselves fit to drive.

3.7 The Limit Offers Only Limited Practical Guidance

Asked about their compliance with the current legal provisions on the THC limit in road traffic, only one-third of respondents (N = 3,144) said they always comply with the current rules. A quarter reported that they mostly comply. By contrast, about 30 percent of respondents said they rarely or never comply with the current rules, or that they do not care about the current legal situation (Table 3).

Compliance With Current Legal Provisions

Table 3 · Responses to the question “Which of the following statements applies best to you?”

Answer	Share
I always comply.	33.2%
I mostly comply.	25.1%
I do not care about the legal situation.	19.1%
As a well-calibrated cannabis patient, it is irrelevant to me.	10.6%
I rarely or never comply.	10.0%
I am not familiar with the current legal situation.	2.0%
Total	100.0%

Among those who said they did not care about the legal situation ($n = 552$), the free-text answers as to their reasons mostly concerned the perception of the limit as too low or unrealistic (30.4 percent). 25.7 percent assumed that, because of their ongoing use, they are permanently above the limit anyway. 14.1 percent pointed to the lack of options for self-testing, and 8.7 percent cited their own assessment of fitness to drive.

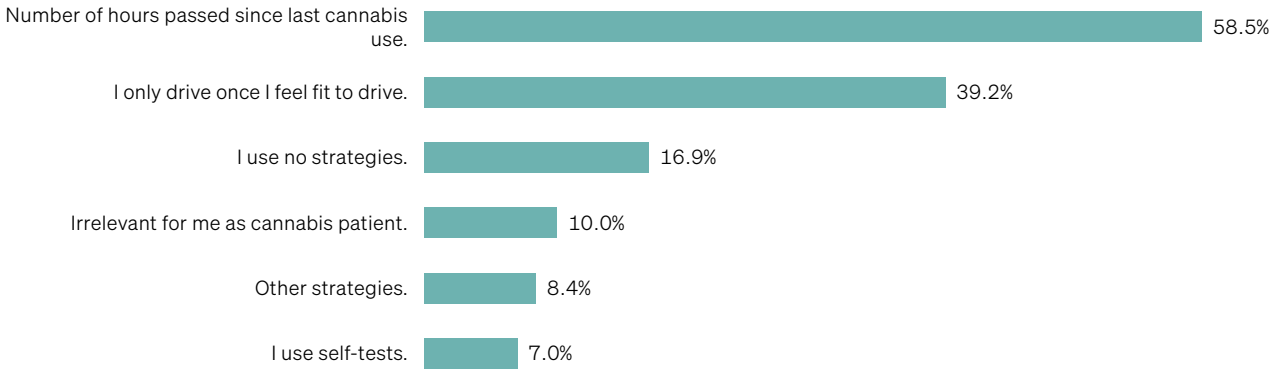
Clear differences in compliance with the current legal situation emerged across the various user groups. Respondents with combined medical and recreational use less often reported always complying with the current rules, and more often reported that they did not care about the legal situation or that they rarely or never complied with it.

Cannabis users ($N = 3,144$) were also asked what strategies they use to check compliance with the limit, with multiple answers possible (Figure 6). Six out of ten respondents based their assessment on the time elapsed since use. Four out of ten respondents based their assessment on their subjective sense of fitness to drive. Nearly 27 percent said they use no strategy at all, or that they consider this irrelevant for themselves as cannabis patients. Only 7 percent reported using self-tests.

Cannabis differs considerably from alcohol in terms of its effects and how it is metabolized. Users cannot reliably infer the current THC concentration in blood serum from the amount used and the time elapsed. An easily available method for reliably checking compliance with the statutory limit of 3.5 ng/ml does not yet exist.

Strategies for Complying With the THC Limit

Figure 6 · Responses to the question “What strategies do you use to determine whether you are staying below the current cannabis limit in road traffic?”, multiple answers allowed

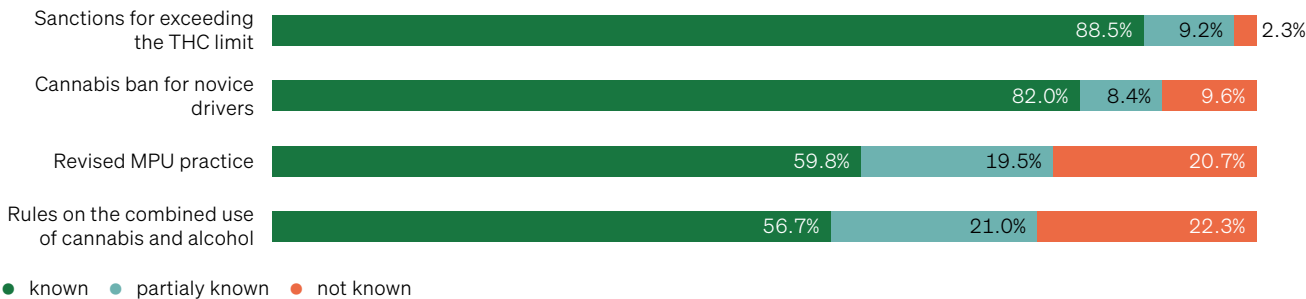


3.8 Legal Provisions Are Known to Varying Degrees

Overall, respondents (N = 3,144) showed a mixed level of knowledge regarding the key traffic-law provisions in the context of the Cannabis Act. While the sanctions for exceeding the THC limit and the cannabis ban for novice drivers are known to a large majority, there are clear knowledge gaps regarding the new MPU (medical-psychological assessment to assess driving ability) practices and combined use of cannabis and alcohol (Figure 7).

Awareness of Key Legal Provisions

Figure 7 · Responses to the question “Which of the following current legal provisions are you aware of?”



3.9 Most Respondents Were Not Checked by Police

Asked whether, in their perception, roadside checks have changed since the CanG took effect, 46.4 percent of respondents reported noticing no change. 30.5 percent had the impression that checks had become more frequent and/or stricter, and 1.5 percent had the impression that checks had become less frequent and/or less strict. 21.6 percent said they could not judge this.

Actually having been checked by police (at least once) within the past twelve months was reported by 17.6 percent of respondents. 82.4 percent of respondents, by contrast, had not been checked. Those who had been checked were also asked whether they had used psychoactive substances before the check, with multiple

answers possible here as well. 64.2 percent of respondents had not used any psychoactive substances. 34.4 percent had used cannabis, 4 percent alcohol, and 0.7 percent illegal drugs.

3.10 Findings on Novice Drivers Only Partly Interpretable

Of the 3,144 respondents, only 17 were between 18 and 20 years old. 29.4 percent of 18- to 20-year-olds reported having driven at least once within two hours of cannabis use. Regarding compliance with the current legal situation, 11.8 percent of novice drivers said they always comply. Conversely, 29.4 percent of novice drivers reported rarely or never complying with the current legal situation.

Because the subsample of surveyed 18- to 20-year-olds was very small, consisting of only 17 respondents, these findings should be interpreted with caution. However, they suggest that driving after cannabis use also occurs in this group, even though stricter legal provisions apply to novice drivers. Further research specifically focused on this target group is needed.

3.11 Driving After Combined Substance Use Remains the Exception

Driving after simultaneous use of cannabis and alcohol was also examined. Only 30 respondents reported such driving. Asked about frequency, the majority of these respondents said they essentially never do this (70%). A smaller share reported doing so rarely (16.7%) or occasionally (10.0%), while only one respondent (3.3%) reported doing so often. Overall, the result suggests that driving under the combined effects of cannabis and alcohol was reported by very few respondents and was mostly described as exceptional behavior. Given the small number of cases, these findings should be interpreted with caution.

4. Summary

A relatively large number of frequent cannabis users participated in the survey. More than 80 percent of the respondents used cannabis at least once a week, about half of them used it (almost) daily. The results of the follow-up survey suggest that the introduction of the Cannabis Act and the related changes to the FeV and the StVG have so far had only limited effects on (reported) driving behavior. The share of respondents who, by their own account, drove within two hours of use in the past twelve months has barely changed. The reported minimum waiting time between use and driving was, on average (median), eight hours; however, 10.8 percent waited no more than one hour. About three-quarters report neither a change in the frequency of driving after cannabis use nor in the waiting times observed (although one-fifth of respondents said they now allow more time to pass). By far the most common reason given for driving after cannabis use was not feeling impaired. The subjective assessment of one's own fitness to drive is therefore of central importance.

For actually driving two hours after use, a lower risk perception and a higher frequency of use appear to be particularly significant. Respondents who consider such driving to carry little or no risk report driving shortly after use considerably more often. At the same time, possible impairments to concentration, reaction time, and attention are underestimated by a substantial share of respondents. The assumption that people drive more carefully under the influence of cannabis is especially widespread.

At the same time, there is uncertainty about when, after use, the statutory limit is no longer exceeded, and it is safe to drive again. An easily available method by which users can reliably determine their current THC concentration in blood serum does not yet exist. Accordingly, many rely on the time elapsed since use or on their subjective sense of fitness to drive.

Changes were seen above all in the reported use of cannabis for medical purposes. The share of respondents using cannabis at least partly for medical purposes was markedly higher in the current survey than in 2024. This frequent medical use may be related, among other things, to the significantly eased prescribing practices and greater availability of medical cannabis. At the same time, a substantial share of respondents with prescribed cannabis consider themselves fit to drive after use. About one-fifth of respondents hold this view, regardless of the dose used.

The legal provisions are known to varying degrees. While sanctions for exceeding the THC limit and the cannabis ban for novice drivers are known to a large majority, knowledge gaps exist in particular regarding the rules on combined use with alcohol and the revised MPU practice. At the same time, awareness does not equate to consistent compliance. Only about one-third say they always comply with the current legal situation.

Finally, the survey points to limited personal experience of being checked. Four out of five respondents were not checked by police in road traffic within the past twelve months. For alcohol and drug offenses in particular, the actual probability of detection depends heavily on police enforcement activity.

5. UDV's Recommendations

Three key recommendations for road-safety work emerge from these findings.

- **Significantly more education about the effects of cannabis, how it is metabolized by the body, and the limits of self-assessment.**

The findings show that subjective risk perception is closely linked to driving behavior and that fitness to drive is often judged based on personal feeling. Education should therefore not focus solely on conveying legal provisions, but should specifically address the effects of cannabis on concentration, attention, and reaction time, as well as the limits of subjective self-assessment. This is especially important given the sharp rise in reported medical, or partly medical, cannabis use and the easier availability of medical cannabis.

- **Rapid tests for cannabis users and for police that can detect a THC concentration around 3.5 ng/ml.**

The statutory limit can only fulfill its guiding function if users can reliably determine whether they have already exceeded this value. The survey shows that many rely on the time elapsed or on their subjective sense of fitness to drive. Suitable rapid tests could provide better objective guidance, both for individual decision-making and for police enforcement.

- **More roadside checks, backed by adequate technical and staffing resources for the police.**

Alcohol and drug offenses in road traffic are, to a large extent, detection-dependent offenses. The fact that 82.4 percent of respondents experienced no police check within a year points to limited personal experience of being checked. A higher density of checks, along with suitable technical methods for reliably determining THC levels in blood serum, are therefore important components of road-safety work.

A final assessment of the effects of partial legalization on accident occurrence is not possible on the basis of survey data. This would require robust and detailed official accident data, as well as further research into unreported cases. Novice drivers and those with experience of combined use in particular should be specifically included in future studies.

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