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Early History of Cannabis Use in Amsterdam

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Abstract

Around 50 years ago, the Netherlands decriminalized cannabis for recreational use. This paper uses retrospective data on the ages at which individuals began and ceased cannabis use to reconstruct its prevalence in Amsterdam during the period surrounding the policy change. This approach enables a detailed analysis of the policy's effects. The main conclusion is that the introduction of this policy did not lead to an increase in the prevalence of cannabis use.

Keywords: cannabis use, cannabis policy, age of onset
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1 Introduction

For many years, the Netherlands was a pioneer in cannabis policy, notably decriminalizing cannabis for recreational use in 1976. However, in recent years, this status has shifted. Since the early 2010s, countries like Uruguay and Canada, as well as several U.S. states, have legalized cannabis. These policy changes range from market-oriented reforms to state monopolies and include both the decriminalization of cannabis use and the legalization of cannabis supply. The impacts of these recent policy changes on cannabis consumption remain unclear. Some studies suggest that legalization has increased cannabis use, while others report no effect or even a decline, particularly among younger people (see Auriol et al. (2023) for a recent overview).

The current paper takes a step back to consider what happened in the past. It examines historical cannabis use in Amsterdam, focusing on the effects of the Netherlands' 1976 decriminalization, which permitted the possession and sale of up to 30 grams of cannabis.[1] A major challenge in analyzing the effects of this decriminalization is the absence of comprehensive and accurate survey data both before and after the policy change (MacCoun (2011)).[2] Amsterdam is of particular interest, not only because it has been, and remains, the cannabis capital of the Netherlands, but also because reliable data on cannabis use have been collected in the past.

The empirical analysis is based on four representative drug surveys conducted between 1990 and 2001 among the Amsterdam population. These surveys include retrospective questions on cannabis use. Respondents were asked whether they had ever used cannabis, at what age they started, and, if applicable, at what age they stopped. By combining this information with their current age (at the time of the survey) and birth year, it is possible for all individuals to reconstruct whether they used cannabis in any given calendar year.

The main conclusion of the analysis is that the change in cannabis policy did not have a large effect on the prevalence of cannabis use in Amsterdam. This is not a novel conclusion. Earlier studies concluded that the effects of decriminalization were likely to be small. These conclusions were based on scatter-plots (MacCoun (2011)) and comparisons of differences in means between cities and countries (MacCoun and Reuter (1997)). MacCoun and Reuter (2001) suggest that cannabis use among adolescents declined in the year prior to the policy change and that the change had no effects in the first seven years thereafter.

[1] De Quadros Rigoni (2019) provides a more detailed discussion of Dutch cannabis policy in the 1970s, concluding that, despite the country's reputation as a 'drug paradise,' the policy combined leniency towards recreational cannabis use with strict law enforcement on hard drugs.

[2] MacCoun and Reuter (1997) also notes that during the decriminalization period, available data were 'piecemeal across time, geography, and question wording.'

While this study does not generate new insights into the overall effects of decriminalization on cannabis use, it makes three important contributions to the literature. First, it demonstrates that retrospective data from cross-sectional surveys can be used to construct panel data on the historical development of cannabis use long before the survey data were collected. Second, it highlights the necessity of distinguishing between the effects of age and calendar time. Without this distinction, it is impossible to draw meaningful conclusions about changes in cannabis policy. Third, the study shows that it is possible to quantify the impact of policy changes on the prevalence of cannabis use.

2 Cannabis Policy in the Netherlands

Cannabis use in the Netherlands was virtually nonexistent before the Second World War, even though it was not illegal. After the war, cannabis use increased slightly but remained uncommon. In 1953, cannabis use was made illegal, with severe penalties for possessing small quantities, including prison sentences lasting several months (De Kort (1994b)). However, cannabis use rose in the 1960s and 1970s. Rather than enforcing prohibition, the Netherlands decriminalized cannabis use in 1976. The new drug policy differentiated between 'soft' drugs, like cannabis, considered relatively harmless, and 'hard' drugs, such as heroin, which were treated as a medical issue. Small-scale cannabis dealing was tolerated, and in the late 1970s, 'house dealers' were introduced in youth centers. By the 1980s, the first coffeeshops—retail outlets for cannabis—began to emerge (De Kort (1994a)). These shops were named 'coffeeshops' because they were not allowed to advertise their cannabis products. Initially, possession of up to 30 grams of cannabis was treated as a misdemeanor and not prosecuted.[3]

In 1995, the Dutch government tightened regulations on cannabis shops. From 1996 onward, the limit for personal possession was reduced from 30 grams to 5 grams. Additionally, enforcement against cannabis production and trade was increased, and local governments were given the authority to decide whether to allow cannabis shops in their municipalities.[4] Based on descriptive evidence, Korf (2002) suggests that changes in cannabis policy were not directly responsible for trends in cannabis use. MacCoun (2011) concludes that the Dutch cannabis policy evolved in two phases: an initial phase of decriminalization, which had no noticeable effect on cannabis use, followed by a second phase of commercialization. During this second phase, coffeeshops, which were initially located in less attractive areas, gradually became more appealing to potential customers

[3]Cannabis shops are regulated by law. The original rules stipulated no sale of hard drugs, no advertising, no sales to individuals under 18, no nuisance to the neighborhood, and no more than 500 grams of cannabis on the premises. Shops that violated these rules could be shut down.

[4]For more recent developments in cannabis policy beyond the scope of this paper, see Korf (2019).

(Jansen (1991)). This is in line with Palali and van Ours (2015) who show that proximity to a cannabis shop influenced the age of onset of cannabis use, with individuals growing up within 20 km of a shop starting cannabis use at a younger age.

3 Cannabis Use in Amsterdam

Information about cannabis use was collected in surveys among inhabitants of Amsterdam aged 12 years and older in 1990, 1994, 1997 and 2001 (see Appendix A for details). Measures of the prevalence of cannabis use derived from these surveys are presented in Table 1. As shown lifetime prevalence (whether individuals ever used cannabis) increased from 25.2% in 1990 to 38.1% in 2001. Last year prevalence went up from 10.2% in 1990 to 13.1% in 2001. The difference between lifetime prevalence and last year prevalence indicates that although many individuals ever used cannabis a large part of them stopped using. Some were experimenting with cannabis use, decided that it was not for them and they stopped using. Last month prevalence increased from 6.1% in 1990 to 7.8% in 2001. The difference between last year prevalence and last month prevalence indicates that some individuals stopped using in the year before the survey or they were infrequent cannabis users. The increase in cannabis use is more substantial among the infrequent uses as lifetime prevalence increased with about 50% while last year and last month prevalence increased with a little less than 30%.

Table 1: **Cannabis use in Amsterdam: Lifetime prevalence, annual prevalence, monthly prevalence and mean age of first use**

	1990	1994	1997	2001
Lifetime prevalence	25.2	29.8	36.7	38.1
Last year prevalence	10.2	11.2	13.2	13.1
Last month prevalence	6.1	7.2	8.1	7.8
Age of onset	20.3	20.2	20.3	19.9

Note: Population of 12 years and older; Source: Abraham et al. (2003)

The bottom row of Table 1 shows that if individuals had started using cannabis, their age of onset, i.e., their age of first use was about 20. Cannabis use was relatively high in Amsterdam as compared to the rest of the Netherlands.[5] For example, whereas in 2001 lifetime prevalence of cannabis use was 38.1% in Amsterdam it was 17.0% averaged for the Netherlands; last month prevalence of cannabis use was 7.8% in Amsterdam while it was 3.0% averaged across the Netherlands.

[5]See Jansen (1991) for an historical overview of cannabis use in Amsterdam.

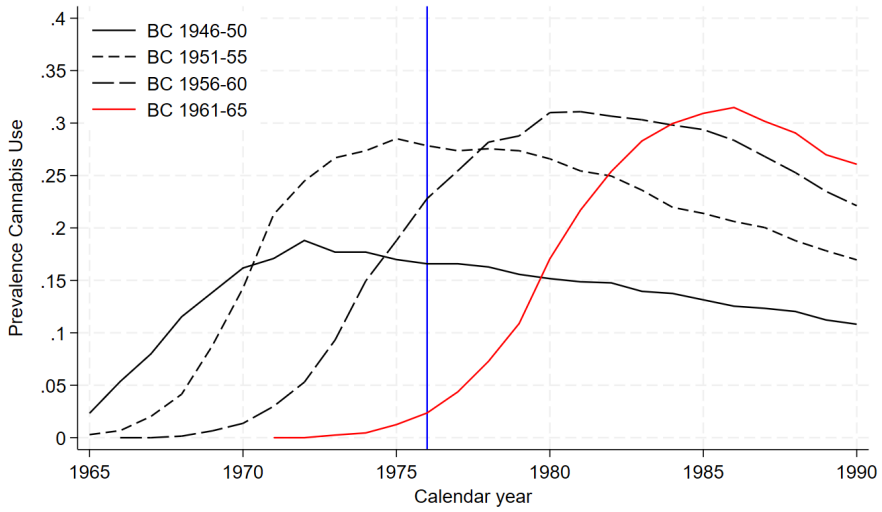
The dynamics in cannabis use are age-specific (Van Ours (2006)). If individuals start using cannabis they do that usually between ages 15 and 25. If they have not started using by age 25 they are very unlikely to do so later on in life. Individuals who started using cannabis may do that for only a short period of time. They are experimenters who try cannabis and decide quickly to quit using. Other individuals take more time to quit using cannabis or they keep on using cannabis.

By combining information on the age of onset of cannabis use and the age individuals used cannabis for the last time it is possible to reconstruct whether an individual used cannabis in a particular calendar year.[6] By definition, year of first cannabis use = year of birth + age of first cannabis use. Similarly, year of last cannabis use = year of birth + age of last cannabis use. So:

$$Y_{it} = \begin{cases} 1, & \text{if } t : BY_i + AO_{it} \leq t \leq BY_i + AQ_{it} \\ 0, & \text{otherwise} \end{cases}$$

where Y_{it} indicates whether or not individual i used cannabis in year t, BY is birth year, AO is age of onset and AQ is the age at which an individual used cannabis for the last time.

Figure 1: **Prevalence of cannabis use by birth cohort and calendar year; 1965-1990**



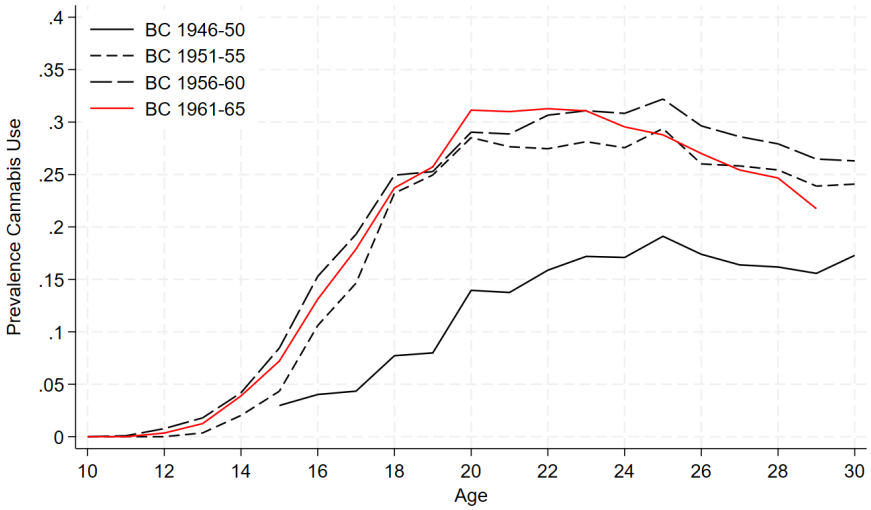
Note: vertical blue line = year of policy change;
separate birth cohorts are presented in Appendix Figure B1.

Figure 1 shows the reconstructed prevalence of cannabis use by age and calendar

[6]See Cicero et al. (2014) for a similar approach to reconstruct 50 years of first heroin use in the United States and Young and Havens (2012) who determined the chronological year of first use of various illicit drugs among rural Appalachian drug users.

year for 5-year birth cohorts from 1946 to 1965. These are the birth cohorts that may have been affected by the cannabis policy change. For every birth cohort cannabis use increased initially to level off and decline later on. For the first birth cohorts from 1946-1950, the decline started long before 1976. For the later birth cohorts, cannabis use was about constant and for the remaining birth cohorts cannabis use was still increasing in 1976 so it is difficult to indicate what the effects of the policy change could have been. Beyond 1980, for all birth cohorts cannabis use was declining.

Figure 2: **Prevalence of cannabis use by birth cohort and age**



Note separate birth cohorts are presented in Appendix Figure B2.

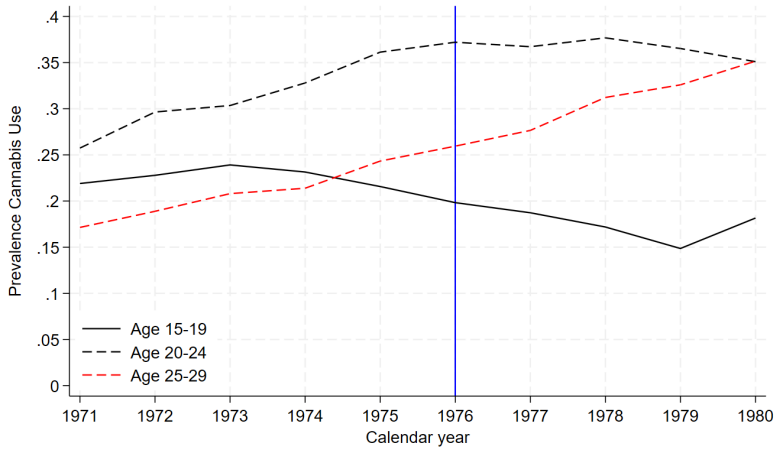
Figure 2 shows the relationship between the prevalence of cannabis use and age. Cannabis use increased up to age 20, then stayed approximately constant to decline at later ages. For the earliest birth cohort 1946-50 the leveling off started later on when people in this cohort were in their mid-twenties. The peak in the prevalence of cannabis use in this birth cohort did not go beyond 20%. For later cohorts the age gradients of cannabis use are remarkably similar. Cannabis use levels off at age 20 to reach a maximum of about 30%. All in all, Figures 1 and 2 shows that both age and calendar time may have had an effect on cannabis use but in order to determine whether the cannabis policy change influenced cannabis use the effects of age and calendar time need to be disentangled.

Figure 3 shows the changes in cannabis use over the 1970s separately for females and males and for three age groups: 15-19, 20-24, 25-29. Panel a shows the changes for females. Cannabis use among the youngest females does not change a lot. Cannabis use among the other age groups is increasing but except for 1971 cannabis use among 20-24 year old females is higher than among 25-29 year old females. This shows that in the

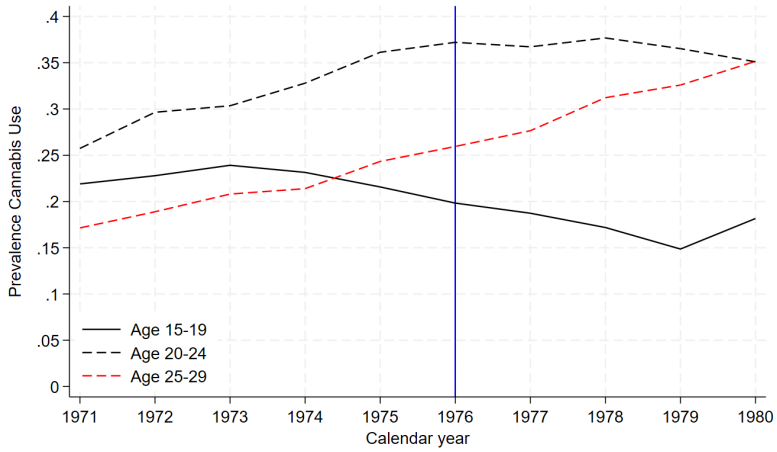
second half of their twenties some females stop using cannabis. The policy change in 1976 does not seem to have caused a big change in these developments. Panel b of Figure 3 shows similar patterns for males. The level of cannabis use is higher among males than among females and the increase among the oldest age group is stronger. Also for males the policy change does not seem to have had a big impact.

Figure 3: **Prevalence of cannabis use by calendar year and age**

a. Females



b. Males



4 Empirical Analysis

It is difficult to establish the effect of a policy change since the uptake of cannabis use is age-specific. Over a relatively short age range, individuals decide to start using cannabis or they don't start (Van Ours (2006)). Few individuals will have started using cannabis by age 15. If they start using, most people do that between age 15 and 20. If they have not started using by age 25 they are very unlikely to do so at a later age. This analysis

focuses on prevalence of cannabis use. Because of lack of information about quantities or intensities of use, it does not analyze how much or how often cannabis is used.

If a policy change occurred before age 15, there is no change in use that can be observed. If it happened after age 25 what could have happened is that people postpone quitting to later on in their life and if so one would expect that the age gradient of the decline in cannabis use is less steep. If the policy change happened in between age 15 and 25, it could have caused people to start consuming earlier or perhaps some people who would have decided to abstain now decide to start using cannabis. This would imply that the upward age gradient in cannabis use would be more steep after the policy change and the maximum prevalence would be somewhat higher.

One of the main issues in analyzing the effects of a policy change on cannabis use – or other drug use – is that the initiation and quitting are strongly determined by age. There are roughly three age intervals: up to age 20, from age 20 to 25 and beyond age 25. In the first age interval people mainly decide whether or not to start using. In the second interval cannabis use is stable and in the third interval people decide whether or not to continue using. Decriminalization may affect the decision to start using when young or stop using when older. The first decision may lead to a higher prevalence of use in the population because more people start. The second decision may lead to higher prevalence in the population because people quit later. The age gradient of the uptake of cannabis use is steep, the age gradient of stopping is shallow.

To study the effects of the policy change the following model is used:

$$Y_{it} = \sum_{\tau=1}^{N} \beta_\tau a_{i\tau} + \sum_{k=1}^{M} \gamma_k b_{ik} + \delta C_t + \epsilon_{it} \tag{1}$$

where Y_{it} indicates whether or not individual i used cannabis in year t, $a_{i\tau}$ represents a series of N age fixed effects, b_{ik} indicates a series of M birth cohort fixed effects, C_t is an indicator of the change in cannabis policy, i.e., a dummy variable with a value of 1 from 1976 onward and a value of 0 otherwise and ϵ_{it} is the error term. The parameter δ is the parameter of main interest indicating the effect of the change in cannabis policy on the prevalence of cannabis use.

The main parameter estimates are presented in Table 2. In panels a to c, the reported parameters are based on an OLS-estimate of equation 1. Panel a shows that the average effect of decriminalization on the prevalence of cannabis use is significantly negative, an 1.2%-points decline. There is some heterogeneity in the policy effect. For men there is an insignificant effect of -0.5%-points. For women, the effect is negative and significantly different from zero with a point estimate of -1.8%-points. The main conclusion is condi-

Table 2: **Parameter Estimates Effect Decriminalization on Prevalence of Cannabis Use**

a. Calendar years 1971-1980; birth cohorts 1951-1965

	Policy effect	(SE)	N	n
All	-0.012	(0.005)**	27,259	3,651
Female	-0.018	(0.007)***	13,964	1,865
Male	-0.005	(0.008)	13,295	1,786

b. Calendar years 1971-1980; birth cohorts 1946-1965

	Policy effect	(SE)	N	n
All	-0.010	(0.004)**	37,253	4,640
Female	-0.011	(0.006)*	19,328	2,406
Male	-0.008	(0.006)	17,925	2,234

c. Calendar years 1973-1978; birth cohorts 1951-1965

	Policy effect	(SE)	N	n
All	-0.007	(0.005)	17,630	3,651
Female	-0.012	(0.006)**	9,007	1,865
Male	-0.002	(0.007)	8,623	1,786

d. Calendar years 1971-1980; birth cohorts 1951-1965

	Policy effect	(SE)	N	n
All	-0.012	(0.005)**	27,259	3,651
Female	-0.019	(0.007)***	13,964	1,865
Male	-0.003	(0.007)	13,295	1,786

Note: N (n) = Number of observations (individuals). Age range panels a and c: 12-24; age range panel b: 12-29. Panels a-c: OLS estimates; panel d: logit model estimates – marginal effects. All estimates include age fixed effects and birth cohort fixed effects. Standard errors (SE) clustered by individual in parentheses; *** (**,*) significant at a 1% (5%, 10%) level.

tional on age and birth cohort decriminalization had no positive effects on the prevalence of cannabis use. In Appendix C1, all parameter estimates including the age fixed effects and the birth cohort fixed effects are reported.

Panel b shows the parameter estimates if earlier birth cohorts are included. This hardly affects the main findings. Panel c shows that if the calendar window is reduced to 1973-78 the average effect of the policy change is no longer significantly different from zero but for women the effect is still significantly negative.

Finally, to account for the discrete nature of the dependent variable a logit model is estimated in which the dependent variable in equation 1 is specified as $\log(Y_{it}/(1 - Y_{it}))$. Panel d shows the marginal effects of the cannabis decriminalization policy on the

prevalence of cannabis use based on this specification. The magnitude of the effects is very similar as in the OLS-estimates. For women, there is a significant negative effect on decriminalization on cannabis use while prevalence of cannabis use of men is not affected. In Appendix C2, all parameter estimates of this logit specification are reported.

Whereas the findings from the analysis are clear there are also limitations related to the analysis. There could be an issue of recall inaccuracy when individuals are asked about their age of onset of cannabis use or their age when they used cannabis for the last time. Nevertheless, as long as the inaccuracies are not related to the new cannabis policy, they may reduce the precision of the relevant parameter estimates but these will not be biased. Furthermore, since survey data around the time of the new cannabis policy are missing a retrospective approach is necessary to get some idea about the quantitative effects of the policy change.

5 Conclusions

In recent decades, cannabis policies have undergone significant changes in many countries, leading to the decriminalization of cannabis consumption and, in some cases, production. However, the impact of these more liberalized policies on cannabis use is not always clear. This paper takes a historical perspective, examining the relationship between decriminalization and cannabis use as it occurred around 50 years ago in the Netherlands.

The prevalence data comes from a series of drug surveys conducted in Amsterdam in 1990, 1994, 1997, and 2001. These surveys, conducted many years after the 1976 cannabis policy was implemented, included retrospective questions about lifetime cannabis use, the age of onset, and, for those who had stopped, the age of last use. This retrospective data enables the construction of a panel dataset to track the prevalence of cannabis use over time.

The main finding is that decriminalization did not have a positive impact on the prevalence of cannabis use. The reasons for the lack of an effect from decriminalization remain speculative. One plausible explanation is that the policy change simply formalized existing law enforcement practices. Although cannabis use was technically illegal, authorities had already been tolerating recreational use, focusing instead on combating hard drugs. It's also possible that the increase in cannabis use was one of the factors that prompted politicians to quasi-legalize cannabis, anticipating that maintaining strict prohibition could drive users toward more dangerous hard drugs. Quasi-legalization was designed to sever the potential link between soft and hard drugs by removing the middleman, who often found selling hard drugs more profitable.

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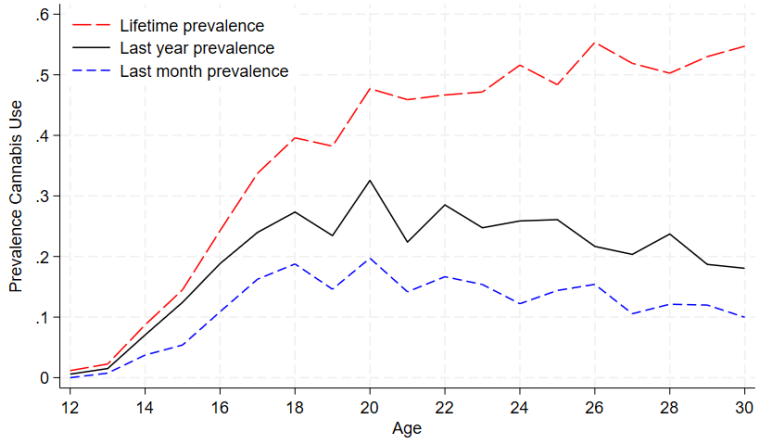
Appendix A: Data on Cannabis Use in Amsterdam

Information on cannabis use was collected among inhabitants of Amsterdam in 1990, 1994, 1997 and 2001 (see Abraham et al. (2003) for a detailed description).[7] There are some differences between the surveys in the way the data were collected. In 1990, interviewers wrote the answers down on paper in a face-to-face interview. In 1994, two interview methods were used, a paper-written and a computer assisted version (using laptop computers where the interviewer directly typed in the answers). The sample was randomly subdivided into two equal sized samples. According to Abraham et al. (2003) the interview method did not affect the answers to the questions. The 1997 survey was fully computer assisted. The 2001 survey was based on a mixture of methods. Respondents could choose between a paper questionnaire, a computer assisted face-to-face interview, an interview per telephone, via their own computer on the Internet or using a floppy disk sent to them by mail. The non-response rate gradually went up from 45% in 1991, 50% in 1994, 48% in 1997 to 61% in 2001. An analysis of the non-response did not provide evidence of a selection bias (Abraham et al. (2003)). Figure A.1 gives an overview of the prevalence of cannabis use in Amsterdam from age 10 to age 30. Lifetime prevalence of cannabis use increased initially to about 40% at age 18 and then increased further to about 55% by age 30. Clearly, people started using at an early age but many quit using also early in their life. The peak of last year prevalence was about 35% at age 20, going down to less than 20% by age 30. Similarly, last month prevalence had a peak of about 20% at age 20 to go down to about 10% at age 30.

Figure A.1: **Prevalence of cannabis use by age**

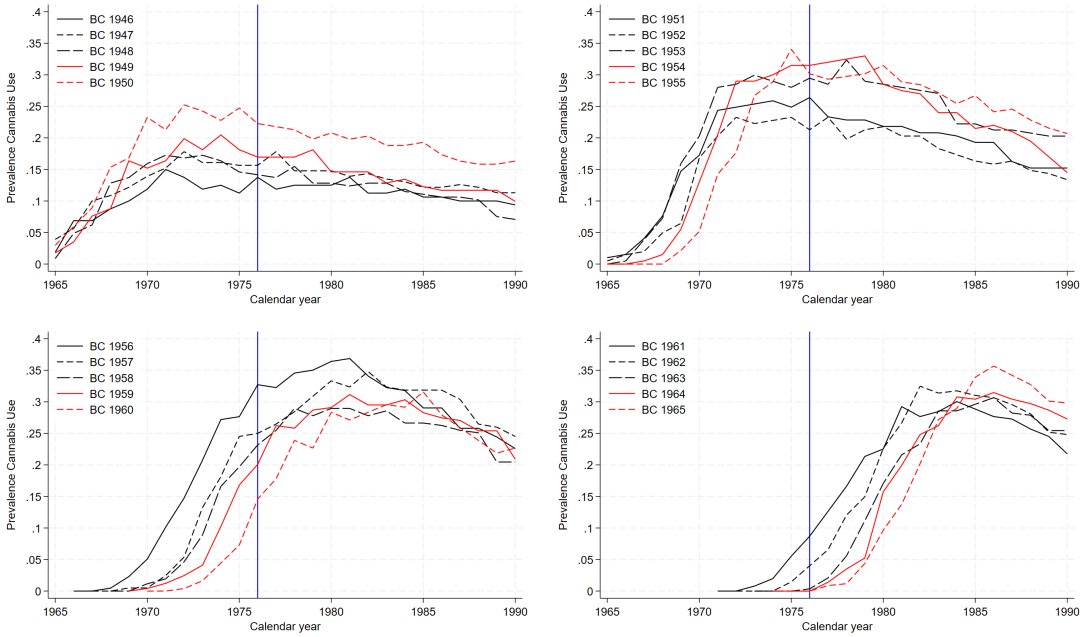


Note: Averages over surveys 1990, 1994, 1997, 2001

[7] A 1987 drug survey also exists, but it lacks information on the age of last use. Therefore, it cannot be used to reconstruct past calendar time developments in the prevalence of cannabis use.

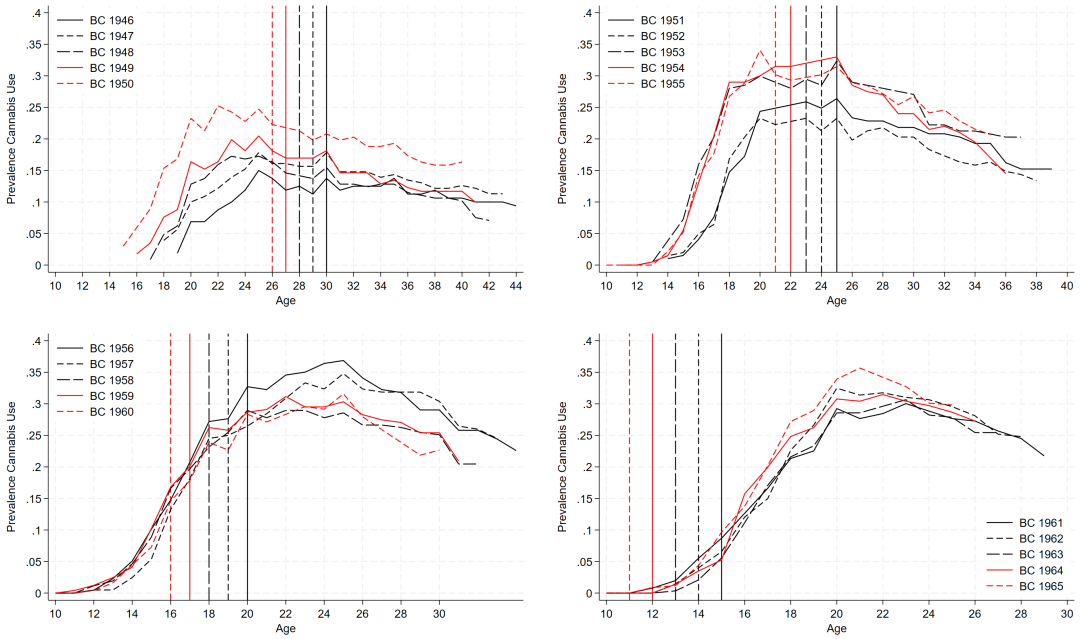
Appendix B: Additional Figures

Figure B.1: **Prevalence of cannabis use by birth cohort and calendar year**



Note: vertical blue line = year of policy change

Figure B.2: **Prevalence of cannabis use by birth cohort and age**



Note: vertical lines = year of policy change

Appendix C: Detailed Parameter Estimates

Table C.1 presents the full parameter estimates of Table 2 panel a in which the calendar period is 1971-1980 and the birth cohorts are 1951-1965. With age increasing the probability of cannabis use increases up to the early twenties and then levels off. For females, there is also a birth cohort effect with the incidence of cannabis use increasing up to birth cohorts mid-fifties. For males, there is no clear birth cohort effect.

Table C.1: **Parameter Estimates Prevalence of Cannabis Use; Equation (1) – Linear Specification**

	All			Females			Males		
Policy	-0.012	(0.005)	**	-0.018	(0.007)	**	-0.005	(0.008)	
Age									
13	0.011	(0.003)	***	0.011	(0.004)	***	0.011	(0.005)	***
14	0.037	(0.005)	***	0.037	(0.006)	***	0.037	(0.007)	***
15	0.073	(0.006)	***	0.082	(0.009)	***	0.064	(0.009)	***
16	0.138	(0.008)	***	0.142	(0.011)	***	0.133	(0.012)	***
17	0.177	(0.009)	***	0.179	(0.012)	***	0.176	(0.013)	***
18	0.245	(0.010)	***	0.228	(0.014)	***	0.262	(0.015)	***
19	0.254	(0.011)	***	0.236	(0.015)	***	0.274	(0.016)	***
20	0.291	(0.012)	***	0.271	(0.016)	***	0.313	(0.017)	***
21	0.289	(0.012)	***	0.268	(0.017)	***	0.311	(0.018)	***
22	0.297	(0.013)	***	0.270	(0.018)	***	0.326	(0.019)	***
23	0.309	(0.014)	***	0.282	(0.019)	***	0.337	(0.020)	***
24	0.303	(0.015)	***	0.275	(0.020)	***	0.332	(0.021)	***
Birth cohort									
1952	-0.020	(0.039)		0.045	(0.047)		-0.081	(0.063)	
1953	0.054	(0.041)		0.109	(0.052)	**	-0.003	(0.063)	
1954	0.076	(0.041)	*	0.099	(0.051)	*	0.038	(0.061)	
1955	0.064	(0.038)	*	0.049	(0.045)		0.067	(0.059)	
1956	0.087	(0.039)	**	0.119	(0.048)	**	0.059	(0.060)	
1957	0.050	(0.037)		0.096	(0.046)	**	-0.001	(0.058)	
1958	0.058	(0.035)		0.115	(0.044)	***	-0.001	(0.054)	
1959	0.066	(0.035)	*	0.141	(0.044)	***	-0.012	(0.054)	
1960	0.052	(0.034)		0.124	(0.041)	***	-0.024	(0.052)	
1961	0.050	(0.034)		0.119	(0.042)	***	-0.023	(0.052)	
1962	0.046	(0.033)		0.113	(0.040)	***	-0.024	(0.051)	
1963	0.045	(0.033)		0.100	(0.040)	**	-0.015	(0.052)	
1964	0.059	(0.034)	*	0.137	(0.042)	***	-0.023	(0.052)	
1965	0.069	(0.034)	**	0.136	(0.041)	***	-0.002	(0.052)	
N [n]	27,259	[3,651]		13,964	[1,865]		13,295	[1,786]	

Note: Reference groups age 12 and birth cohort 1951. N [n] = Number of observations [individuals]. Standard errors clustered by individual in parentheses; *** (**,*) significant at a 1% (5%, 10%) level.

Table C.2: **Parameter Estimates Prevalence of Cannabis Use; Equation (1) – Logit Model Specification; Marginal Effects**

	All			Females			Males		
Policy	-0.012	0.005	**	-0.019	0.007	***	-0.003	0.007	
Age									
13	0.010	(0.002)	***	0.007	(0.002)	***	0.014	(0.004)	***
14	0.034	(0.004)	***	0.027	(0.005)	***	0.042	(0.006)	***
15	0.072	(0.005)	***	0.068	(0.007)	***	0.075	(0.008)	***
16	0.138	(0.007)	***	0.123	(0.009)	***	0.152	(0.010)	***
17	0.177	(0.007)	***	0.161	(0.010)	***	0.194	(0.011)	***
18	0.240	(0.008)	***	0.205	(0.011)	***	0.278	(0.013)	***
19	0.248	(0.009)	***	0.212	(0.012)	***	0.286	(0.013)	***
20	0.285	(0.010)	***	0.249	(0.013)	***	0.323	(0.014)	***
21	0.282	(0.010)	***	0.248	(0.014)	***	0.319	(0.015)	***
22	0.293	(0.011)	***	0.255	(0.015)	***	0.333	(0.016)	***
23	0.306	(0.012)	***	0.271	(0.017)	***	0.344	(0.018)	***
24	0.300	(0.013)	***	0.265	(0.019)	***	0.338	(0.019)	***
Birth cohort									
1952	-0.012	(0.024)		0.026	(0.027)		-0.052	(0.040)	
1953	0.035	(0.026)		0.067	(0.031)	**	-0.003	(0.041)	
1954	0.050	(0.026)	**	0.061	(0.031)	**	0.025	(0.041)	
1955	0.042	(0.025)	*	0.028	(0.027)		0.047	(0.040)	
1956	0.060	(0.026)	**	0.078	(0.030)	**	0.044	(0.042)	
1957	0.033	(0.025)		0.060	(0.030)	**	-0.002	(0.041)	
1958	0.041	(0.025)	*	0.078	(0.030)	**	0.000	(0.039)	
1959	0.051	(0.027)	**	0.107	(0.033)	***	-0.011	(0.042)	
1960	0.034	(0.025)		0.090	(0.031)	***	-0.027	(0.041)	
1961	0.030	(0.028)		0.083	(0.037)	**	-0.029	(0.042)	
1962	0.020	(0.027)		0.069	(0.033)	**	-0.035	(0.042)	
1963	0.007	(0.028)		0.029	(0.032)		-0.024	(0.044)	
1964	0.031	(0.031)		0.107	(0.041)	**	-0.050	(0.046)	
1965	0.068	(0.038)	*	0.110	(0.050)	**	0.021	(0.057)	
N [n]	27,259	[3,651]		13,964	[1,865]		13,295	[1,786]	

Note: Reference groups age 12 and birth cohort 1951. N [n] = Number of observations [individuals]. Standard errors clustered by individual in parentheses; *** (**,*) significant at a 1% (5%, 10%) level.