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How Cannabis Users Obtain and Purchase Cannabis: A Comparison of Cannabis Users from European Countries with Different Cannabis Policies

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ABSTRACT

Objective: This study examines the role of cannabis policy in how cannabis users obtain and purchase cannabis. **Methods:** A survey was conducted in the Dutch coffeeshops among current cannabis users ($n=1255$) aged 18–40 from seven European countries with different cannabis policies. This study investigated whether acquisition methods and supply sources were associated with national cannabis policy, controlling for gender, age, and frequency of use. **Results:** Cross-national differences notwithstanding, cannabis was easily available to current cannabis users in Europe. Within and across countries, users acquired cannabis in various ways and buyers purchased it from various sources, representing a mixture of open, closed, and semi-open retail markets. Buying cannabis was the most common method of acquisition. Among participants who reported buying their cannabis ($n=929$), buying from friends was the most common source of supply, followed by street dealers, home dealers, and delivery services. The vast majority of Dutch participants reported buying cannabis from coffeeshops. Contrariwise, French buyers were more likely to buy cannabis from street dealers and delivery services, and Greek buyers to buy it from home dealers and friends. Overall, the Internet played a marginal role in purchasing cannabis. **Conclusion:** Our findings confirm the significant role of social supply across Europe. Although cross-national differences were rather common in cannabis acquisition and supply, yet they were not unidirectionally linked with the punitiveness of national cannabis policy. Findings suggest a differentiated normalization of the cannabis retail market, with users often preferring to buy cannabis in a regulated or legal market.

KEYWORDS

Cannabis; cannabis policy; cannabis markets; dealing; social supply; cannabis accessibility

Introduction

Drug markets vary in relation to time, place, culture, and by the types of drugs being distributed (Potter, 2009); they also differ between countries and evolve in response to cultural, social, and policy changes (Potter, 2018). This plethora of differences has led to the emergence of a variety of supply methods. This study focuses on retail-level cannabis dealing and aims to investigate how users from European countries with different cannabis policies acquire cannabis, which is the most easily available and most commonly used illicit drug in Europe (EMCDDA, 2019a; 2019b; ESPAD Group, 2016; Eurobarometer, 2014).

A widely agreed classification of illicit retail drug market types distinguishes between open, semi-open, and closed markets (Pearson, 2007). Open markets or street-based markets are open to any buyer, with no requirement for prior introduction to the seller and few barriers to access (Edmunds et al., 1996; May & Hough, 2004). In closed markets, contrary to the anonymity of open markets, social relationships are essential, as sellers and buyers only do business together if they know and trust each other (Potter,

2009). Semi-open markets operate in locations like clubs and cafes (May & Hough, 2004; Pearson, 2007) and the distribution of drugs does not require previous social relationships or any prior introduction (Tzanetakis, 2018). The steep growth of cell phone use has transformed retail drug markets. Buyers contact the seller and drug transactions take place either by making an appointment to meet or by delivering to the buyer's specified locations (May & Hough, 2004). In more recent years, the role of the internet in drug transactions and online drug markets (cryptomarkets) has developed (Tzanetakis et al., 2016).

Some retail-level drug transactions, especially in closed markets, have been characterized as social supply (May and Hough, 2004; Nicholas, 2008; Taylor & Potter, 2013), a concept that has been explored in studies focusing on cannabis (Caulkins & Pacula, 2006; Hathaway et al., 2018; Coomber et al., 2016; Natarajan & Hough, 2000; Potter, 2009; Scott et al., 2017). Core characteristics of social supply are (i) that it takes place among non-strangers and (ii) that it is non-commercial (Coomber & Turnbull, 2007; Harrison et al., 2007; Hough et al., 2003; Werse, 2008) or “not-for-profit” (Potter, 2009). Social suppliers may make some minimal profit, but

unlike dealers, their main motivation is to “help out a friend” (Hough et al., 2003; Scott et al., 2017). Yet, studies show that transactions often feature the sale of drugs with a modest markup to compensate the seller’s effort and/or finance the seller’s own use (Hathaway et al., 2018). Conversely, it is not uncommon that users get drugs for free from friends through sharing and/or gift-giving (Werse, 2008; Werse et al., 2019). Moreover, a specific feature of the cannabis market all over the world is that some users cultivate their own cannabis either for personal use only, to share with friends, or to sell part of the crop (Decorte et al., 2011).

The main purpose of this study is to gain insight into how and where cannabis users acquire cannabis and to investigate whether and how this is related to differences in national cannabis policies. First, it assesses the accessibility of cannabis as perceived by current cannabis users from seven European countries with different cannabis policies. Next, it investigates how they obtain cannabis, either by purchasing it themselves or through alternative methods. Last, it considers the sources of the users’ cannabis purchases and explores cross-national differences.

Despite an acceleration in legislative and regulatory reform across the globe, so far cannabis legalization has only been implemented in Uruguay, Canada, and a growing number of US states (Decorte et al., 2020). In the European Union, although there is little harmonization among the EU Member States regarding cannabis legislation (EMCDDA, 2018) and there are remarkable differences in enforcement practices regarding cannabis supply (EMCDDA, 2017), no European country has legalized cannabis. Together, the seven countries selected for our study represent a maximum variation in national cannabis policy within Europe. In terms of national cannabis policy (i.e., “law in the books” as well as “law in action”), variation refers to the scheduling of cannabis (whether or not in a legal category separate from the so-called “hard drugs,” such as heroin and cocaine); the legal status of cannabis use (legal/illegal) and possession for personal use (legal/illegal); and sentencing practices for dealing cannabis. On a continuum from liberal to punitive, cannabis policy in the Netherlands can be characterized as the most liberal at the consumer level within the EU. Although cannabis is officially an illicit drug, there are hundreds of so-called coffeeshops, i.e., café-like settings where adults (aged 18 years or older) can buy and use cannabis under strict conditions (Van Ooyen-Houben & Kleemans, 2016). The latter is not the case in Portugal. Portugal, that introduced a policy of decriminalization in 2000, is probably the country with the next most liberal cannabis policy. On the other side of the continuum, Greece has the most punitive cannabis policy in our study. Germany and Italy appear to take an intermediate position, while cannabis policy in France and the UK can be characterized as closer to the punitive end of the continuum (Table 1).

Methods

Participants and procedures

Between February and October 2019, a convenience sample of 1225 last year cannabis users aged 18–40 years and

residing in one of the seven European countries in this study were recruited and surveyed inside or in the vicinity (i.e., close to the entrance) of coffeeshops in the Netherlands, mostly in Amsterdam (41/46 coffeeshops were located in Amsterdam). Except for the Dutch respondents, participants were tourists or had only recently moved to the Netherlands (within the 2 weeks prior to the interview). Coffeeshops not only attract domestic customers, they also attract foreign tourists that buy and use cannabis during their stay in the Netherlands, but in many cases also use and buy cannabis in their home country (Van Hout & Bingham, 2014). Therefore, coffeeshops traditionally offer a unique opportunity to recruit current cannabis users from many different countries (Korf et al., 2016). This has remained despite official national guidelines that restrict coffeeshop access to residents of the Netherlands, as it is in the discretion of the local authorities to decide whether this applies to the coffeeshops in their community (Korf, 2020). To ascertain variation in the different countries’ samples, we took into account representation of country of residence in previous coffeeshop surveys (Korf et al., 2016), country population size, and distance from the Netherlands. The target numbers per country were set at around 200 respondents from France, Italy, Germany, the UK, and the Netherlands, and half as many for Greece and Portugal.

To ascertain variation in age, and taking into account that many coffeeshop visitors are younger than 30 years of age (Nabben et al., 2016; Van Hout & Bingham, 2014), 40% respondents were targeted to be in the age group 30–40 years. To assure gender diversity, female respondents were purposely oversampled to make up about a third of the sample. Participants signed a consent form that explained the purpose of the study and ensured the respondents’ anonymity. Participants could choose between a printed questionnaire or an online version that could only be accessed by typing the link or scanning the QR code from the informed consent form. Consent forms and questionnaires were available in all the applicable languages (Dutch, German, Greek, English, French, Italian, and Portuguese).

Measures

To assess the availability of cannabis as perceived by users, a standard question from the European Young People and Drugs survey (Eurobarometer, 2014) was used: *In your country, how difficult or easy would it be for you personally to obtain cannabis within 24h?* Respondents were requested to choose one from the original six options (very easy; fairly easy; fairly difficult; very difficult; impossible; and I don’t know). In analysis, these options were merged into three new categories (very easy, fairly easy, else).

To investigate cannabis acquisition, first, participants were asked how they usually got cannabis in the past 12 months in their country. This question was derived from a European survey among users of new psychoactive substances, including most of the answering options (Werse et al., 2019). Participants could choose one or more of the following answers: bought it myself; grew my own cannabis; got it for free; in exchange for something else; friend bought it

for me using my money; group buy (together with others). Next, only respondents who replied that they bought cannabis were asked where they usually bought cannabis in their country. This item was also derived from the same European survey among users of new psychoactive substances (Werse et al., 2019). Participants could choose one or more of the following answers: street dealer; home dealer; friends; delivery/mobile phone dealer; Internet; directly from a grower; and coffeeshops (the latter option was available only to Dutch participants).

Background characteristics used in analyses were country, age, gender, employment status, household type, and daily cannabis use. Gender was self-defined and respondents could choose between female, male, or the open option “other.” The latter category was omitted from statistical analysis due to small numbers. In accordance with the European standard, daily cannabis use was defined as the use of cannabis on 20+ days in the 30 last days (EMCDDA, 2019a). For Dutch respondents this was the last 30 days before the interview, for non-Dutch respondents this was the last 30 days in their home country (before their arrival in the Netherlands).

Analyses

All data were processed with SPSS 24.0. Continuous variables were analyzed using ANOVA, and categorical and nominal variables were analyzed with Chi-square (χ^2) tests. Statistical significance was set at $p \leq .05$. To determine which variables were independently associated with acquiring cannabis and buying cannabis, models of binary logistic regression analysis were conducted. Dependent variables of acquisition methods and supply sources were binary (e.g., buy my own cannabis: no/yes; from street dealer: no/yes, etc.). In regression models, “country” was recoded into dummy variables, and the first category (The Netherlands) served as the reference group. Regarding the independent variables gender, employment status, household type, and

frequency of use, “female,” “student,” “alone,” and “non-daily use” served as a reference group.

Results

Table 2 depicts the demographic and cannabis use characteristics for the total sample and by country. In accordance with the selection criteria, close to one-third of the total sample were female participants. The age of participants ranged from 18 to 40 years (mean age = 27.0), with 40.2% aged 30–40 years (not shown in table). Close to one-third of respondents were daily users.

Table 2 also shows that the vast majority of participants find the access to cannabis in their country easy. However, perceived availability varied across countries. While more than nine in ten Dutch participants reported very easy access, this dropped to less than four in ten Greeks.

When asked how they mostly obtained their cannabis in the past 12 months in their country, in general they reported 1 or 2 methods (1.49 on average). “Buying it themselves” was by far the most common mode of acquisition, followed by “obtaining cannabis from friends who bought it for them.” It was less common that the respondents said that they got their cannabis for free, and that they acquired their cannabis with others in a group buy. Growing your own cannabis or getting cannabis “in exchange for something” was the least popular option. In bivariate analysis (Table 3), almost all modes of acquisition showed cross-national differences. Buying your own cannabis was the most prevalent among Dutch participants, obtaining cannabis from friends who bought it for them as well as group buys were most often reported by Greeks, and getting cannabis for free ranked highest among Portuguese.

Table 3 also depicts where or from whom the participants who reported buying their own cannabis ($n=929$) mostly do so. In general, the respondents reported 1 or 2 sources (1.40 on average). “Friends” was the most prevalent source, reported by almost half of the buyers. Next, one-third of

Table 1. Overview of cannabis policy in the seven countries of this study.

Country	Cannabis schedule	Possession for personal use	Legal status-recreational use	Sentencing practice on cannabis supply 1 kg/10 kg
The Netherlands (NL)	Yes	Illegal, tolerated	Not an offense	Lowest / Lowest (#26 of 26) / (#25 of 25)
France (FR)	No	Illegal	Illegal	Low / Low (#25 of 26) / (#23 of 25)
Germany (GER)	No	Illegal	Not an offense	Medium / Medium (#12 of 26) / (#15 of 25)
Greece (GR)	Yes	Illegal	Illegal	Highest / second Highest (#1 of 26) / (#2 of 25)
Italy (IT)	Yes	Illegal	Not an offense	Medium-High / Medium-High (#7 of 26) / (#7 of 25)
Portugal (PT)	No	Administrative offense	Administrative offense	Medium-Low / Low (#17 of 26) / (#22 of 25)
United Kingdom (UK)	Yes	Illegal	Not an offense	Not available

Cannabis is included in a different schedule from heroin.

Based on the rank number (#) of countries in order of sentences from low to high (EMCDDA, 2017, p. 16).

Possession of small amount of cannabis for personal use considered a misdemeanor punishable by administrative sanctions (but not a fine).

The UK is not included in that EMCDDA report. However, the Sentencing Council (2012) of the UK has published guidelines on sentencing for the judiciary and criminal justice professionals. These guidelines refer -among others- to sentences concerning supply of 100g and 6kg of cannabis. Despite this useful document, comparisons cannot be made due to (i) the non-proportionality of comparable sizes (1 kg and 100 gr / and 10 kg with 6 kg, respectively) and (ii) differentiation in measures as EMCDDA report refers to expected sentences while the UK Sentencing Council refers to guidelines.

Table 2. Demographic characteristics, daily cannabis use, and accessibility.

Country (n)	Total (1225)	NL (218)	FR (230)	GER (191)	GR (86)	IT (217)	PT (93)	UK (190)	Chi ² /F (df)	p
Gender (%)									11.911(6)	.064
Male	67.5	71.6	70.9	60.7	70.9	71.0	63.4	62.1		
Female	31.8	28.0	27.8	38.7	27.9	29.0	36.6	36.8		
Other	0.7	0.5	1.3	0.5	1.2	0.0	0.0	1.1		
Mean age (years) (SD)	27.0 (6.3)	27.5 (7.0)	27.5 (6.0)	24.6 (5.8)	27.2 (4.7)	27.7 (6.1)	27.0 (6.2)	27.0 (6.5)	5.654 (6)	.001
Household (%)									35.043 (12)	.001
Alone	23.8	26.6	31.3	19.9	34.9	21.2	21.5	14.2		
Parents	32.6	29.8	23.5	39.8	30.2	35.0	31.2	38.4		
Partner/Housemates	43.7	43.6	45.2	40.3	34.9	43.8	47.3	47.4		
Employment (%)									54.624 (12)	.001
Student	36.0	37.6	29.6	49.7	39.5	35.5	40.9	24.7		
Employed	59.7	54.6	63.9	45.5	54.7	63.1	58.1	73.7		
Unemployed	4.3	7.8	6.5	4.7	5.8	1.4	1.1	1.6		
Cannabis Use (%)										
Daily use	32.7	36.7	41.3	17.8	22.1	35.0	21.5	40.0	43.442 (6)	.001
Accessibility (%)										
Very easy	64.5	94.5	60.4	53.4	37.2	58.1	58.1	68.9		
Fairly easy	27.8	4.1	29.6	35.6	46.5	31.3	37.6	27.4	142.024(12)	.001
Else	7.8	1.4	10.0	11.0	16.3	10.6	4.3	3.7		

Table 3. Methods of cannabis acquisition and sources of supply, in %.

Acquisition (n)	NL (218)	FR (230)	GER (191)	GR (86)	IT (217)	PT (93)	UK (190)	Total (1225)	Chi ² (df)	p
Bought myself	92.2	77.4	72.8	69.8	59.9	76.3	78.9	75.8	65.993(6)	<.001
Grow my own	7.3	5.7	5.8	1.2	4.6	6.5	4.2	5.3	5.772(6)	.449
Got it for free	26.1	14.8	23.0	12.8	23.5	38.7	14.2	21.2	36.171(6)	<.001
In exchange for sth	2.3	6.1	6.3	9.3	2.3	9.7	1.6	4.6	21.513(6)	<.001
Friend bought it	12.4	23.5	25.7	40.7	29.5	32.3	23.7	24.8	35.408(6)	<.001
Group buy	17.4	11.3	22.5	32.6	20.7	17.2	6.3	17.0	41.746(6)	<.001
Supply (n)	NL (201)	FR (178)	GER (139)	GR (60)	IT (130)	PT (71)	UK (150)	Total (929)	Chi ² (df)	p
Street Dealer	10.4	53.9	25.2	25.0	33.1	39.4	43.3	32.6	96.181(6)	<.001
Home Dealer	8.0	19.1	39.6	55.0	48.5	36.6	35.3	30.1	104.804(6)	<.001
Friends	19.4	48.9	56.8	70.0	60.0	64.8	38.0	46.1	102.504(6)	<.001
Delivery Service	1.0	36.0	25.9	15.0	20.8	22.5	26.0	20.8	78.756(6)	<.001
Internet	0.5	0.6	7.9	0.0	0.2	0.2	0.8	2.6	21.883(6)	<.001
From Grower	3.5	5.1	14.4	8.3	1.0	0.4	1.7	7.5	18.283(6)	.006
Coffeeshops	90.0	–	–	–	–	–	–	–	–	–

buyers reported “street dealers,” closely followed by “home dealers” (i.e., suppliers who sell at their home address). One in every five buyers reported buying from delivery/order by mobile phone services. Only a small minority bought cannabis from growers or on the Internet. Finally, the vast majority of Dutch buyers reported coffeeshops as a supply source (as this option only exists in the Netherlands, it was available only to Dutch participants). Apart from coffeeshops, in the bivariate analyses the clearest cross-national differences per type of cannabis supplier were the relatively high prevalence of buying from street dealers in France, home dealers in Greece, friends in both Greece and Portugal, and growers in Germany.

To further elaborate on cross-national differences in the most common modes of cannabis acquisition, controlling for background characteristics, Table 4 provides results from four models of binary logistic regression analysis. Growing your own cannabis or getting cannabis “in exchange for something” were excluded because of low prevalence. Compared to Dutch participants, those from all other countries were less likely to buy their own cannabis. In addition, age, gender, and household type contributed to the prediction of some models of cannabis acquisition. With increasing age, participants were less likely to take part in a group buy. Male participants were more likely to report buying

cannabis themselves than females, while female participants were more likely to get cannabis for free and to report that “a friend bought it for me with my money.” Lastly, daily users were more likely than less frequent users to buy cannabis themselves. Conversely, daily users were less likely to get cannabis for free and to report that “a friend bought it for me with my money.”

Table 5 shows results from five models of binary logistic regression analysis predicting sources of buying cannabis. Given the strong preference for acquiring cannabis in coffeeshops among Dutch buyers, it is not surprising that buyers from all the other countries were more likely than the Dutch to buy cannabis from street dealers, home dealers, friends, and delivery/mobile phone services. In the cross-national comparison, compared to the Dutch, French buyers were most likely to buy from street dealers and delivery services, and Greek buyers from home dealers and friends. Germans were more likely to buy directly from growers. Regarding other characteristics, younger buyers were more likely to buy from street dealers and older ones to buy from delivery services. Among buyers, daily users were more likely to buy from home dealers and/or growers than less frequent users. Gender, employment status, and household type did not contribute to the prediction of the supply source.

Table 4. Regression models: Methods of cannabis acquisition.

Models (R ²)	Model 1: Bought myself (.203)			Model 2: Friend bought it (.102)			Model 3: Got it for free (.106)			Model 4: Group buy (.086)						
	B	SE	Exp(B)	p	B	SE	Exp(B)	p	B	SE	Exp(B)	p	B	SE	Exp(B)	p
Country																
Netherlands (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	-1.416	.310	.243	<.001	.885	.264	2.424	.001	-.675	.249	.509	.007	-.452	.278	.636	.104
Germany	-1.278	.311	.279	<.001	.718	.271	2.050	.008	-.358	.242	.699	.139	.179	.256	1.196	.485
Greece	-1.648	.359	.192	<.001	1.618	.309	5.043	<.001	-.987	.366	.373	.007	.801	.299	2.227	.007
Italy	-2.214	.301	.109	<.001	1.093	.260	2.983	<.001	-.145	.230	.865	.528	.225	.249	1.252	.368
Portugal	-1.159	.362	.314	.001	1.091	.309	2.979	<.001	.477	.271	1.612	.079	-.036	.333	.965	.915
United Kingdom	-1.203	.322	.300	<.001	.718	.277	2.050	.010	-.831	.274	.435	.002	-1.247	.365	.287	.001
Age																
Age	-.017	.016	.983	.286	.003	.015	1.003	.863	.022	.016	1.022	.169	-.040	.019	.961	.032
Gender																
Female (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Male	.860	.151	2.364	<.001	-.584	.144	.557	<.001	-.633	.152	.531	<.001	.190	.176	1.209	.280
Employment																
Student(ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Employed	.150	.193	1.162	.437	-.156	.182	.855	.391	-.363	.198	.696	.066	-.094	.206	.910	.648
Unemployed	.060	.400	1.062	.880	-.329	.396	.720	.407	.202	.361	1.224	.575	-.005	.407	.995	.990
Household																
Alone(ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Partner/Housemates	-.287	.199	.751	.151	.456	.189	1.578	.016	.148	.196	1.159	.452	.155	.218	1.168	.477
Parents	-.577	.228	.562	.011	.329	.217	1.389	.130	.214	.229	1.238	.351	.344	.240	1.411	.151
Daily Cannabis Use																
No (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yes	1.311	.190	3.709	<.001	-.668	.164	.513	<.001	-.736	.179	.479	<.001	-.130	.178	.878	.465

Table 5. Regression models: Sources of cannabis supply.

Models (R ²)	Model 1: Friends (.162)			Model 2: Street dealer (.199)			Model 3: Home dealer (.194)			Model 4: Delivery (.194)			Model 5: Grower (.073)			
	B	SE	Exp(B)	p	B	SE	Exp(B)	p	B	SE	Exp(B)	p	B	SE	Exp(B)	p
Country																
Netherlands (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	1.412	.237	4.105	<.001	2.459	.286	11.699	<.001	.949	.004	4.028	.730	56.152	.521	1.456	.470
Germany	1.628	.252	5.094	<.001	.969	.310	2.635	.002	2.240	.325	9.394	<.001	39.796	.471	6.198	<.001
Greece	2.239	.338	9.383	<.001	1.009	.386	2.744	.009	2.783	.378	16.171	<.001	19.674	.614	3.082	.067
Italy	1.873	.256	6.505	<.001	1.497	.304	4.468	<.001	2.456	.321	11.656	<.001	28.243	.524	2.132	.149
Portugal	1.972	.309	7.187	<.001	1.793	.346	6.008	<.001	2.112	.369	8.265	<.001	31.804	.671	1.957	.304
United Kingdom	.905	.253	2.471	<.001	1.925	.297	6.856	<.001	1.866	.323	6.460	<.001	40.740	.486	3.200	.017
Age																
Age	-.024	.015	.976	.119	-.037	.017	.944	.029	-.012	.017	.988	.488	1.016	.030	1.030	.270
Gender																
Female (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Male	-.291	.161	.748	.071	-.058	.173	.944	.739	.299	.181	1.349	.098	1.059	.292	1.006	.984
Employment																
Student(ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Employed	.001	.188	1.001	.997	-.256	.198	.774	.196	.112	.205	1.118	.586	.866	.342	.952	.886
Unemployed	.111	.382	1.118	.771	-.068	.415	.934	.870	.709	.406	2.032	.081	1.168	.614	1.677	.400
Household																
Alone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Partner/Housemates	.065	.179	1.067	.716	-.340	.198	.712	.086	.045	.199	1.047	.820	.779	.425	1.530	.197
Parents	-.182	.213	.834	.393	.288	.223	1.334	.198	.037	.232	1.038	.872	.407	.411	1.009	.982
Daily Cannabis Use																
No (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yes	-.283	.151	.753	.060	.036	.159	1.037	.821	.705	.166	2.023	<.001	1.145	.271	1.961	.013

Discussion

In this study, perceived access to cannabis varied across countries, from the easiest in the country with the most liberal cannabis policy (the Netherlands) to the most difficult in the country with the most repressive cannabis policy in our study (Greece). Although in our survey overall access was perceived as easier than in a survey among young Europeans (92.2% said that it would be very or fairly easy to obtain cannabis compared to 58% in the survey of Flash Eurobarometer 401) (Eurobarometer, 2014), the rank-order in accessibility was largely similar to Eurobarometer survey, with Greece among the countries with the least easy access (Eurobarometer, 2014). Yet, across all of the countries in this study, the vast majority of participants perceived access to cannabis to be fairly or very easy. This finding may suggest an indication of normalized retail markets in these countries, as increased drug availability is one of the theoretical pillars of the normalization thesis (Coomber & Turnbull, 2007; Parker et al., 2002; Scott et al., 2017).

In line with previous research (Trautmann et al., 2013), across all of the countries included in this study, buying cannabis yourself was by far the most popular way to acquire cannabis, yet significantly more often reported by Dutch participants. The next common mode of acquisition was to have a friend buy the cannabis with the respondents' money. The popularity of this method confirms the importance of the role of a broker among cannabis users (Duffy et al., 2008; Hough et al., 2003; Lenton et al., 2015). A broker (i.e., a person, usually a friend or an acquaintance, who purchases drugs on behalf of a person or group) is important for buyers as it is a convenient and comfortable mode of cannabis transaction, creating a safe distance between users and dealers (Hathaway et al., 2018; Potter, 2009). The third most prevalent method to acquire cannabis was to get it for free. Sharing and gift-giving among peers may be seen as a "social nicety" or even an "unwritten rule" among cannabis users (Duffy et al., 2008) that reflects norms of reciprocity and sharing in cannabis use experience (Hathaway et al., 2018). The fourth strategy was "group buy," with an individual buying cannabis on behalf of friends or acquaintances and the drug being split between those who have contributed money for that buy (Coomber et al., 2016). In addition to being "a social thing," a group buy may also be economically motivated, as purchasing a larger quantity to fulfill the group's supply requirements might reduce the cost (Moyle & Coomber, 2019). Finally, only a small minority grew their own cannabis. Conversely, this study supports earlier findings that domestic cultivation is practiced by users all across Europe (Potter et al., 2011); conversely, the relatively low figure also confirms that home growing is not a very common method to acquire cannabis (Belackova et al., 2019; Trautmann et al., 2013).

In order of popularity, the most common sources for buying cannabis, were (1) friends, at distance followed by (2) street dealers, (3) home dealers, and (4) delivery services. In other words, closed markets (friends, home dealers) were more important than open and semi-open markets. Dutch

buyers were the exception to the rule, as coffeeshops (open market) were by far the most dominant place to buy cannabis. The principal role of friends as sellers is in line with recent cannabis retail studies (Chatwin & Potter, 2014; Grigg et al., 2015; Hathaway et al., 2018; Lenton et al., 2015; Vlaemynck, 2013). Buying from friends has been characterized as a convenient and cost-effective option for acquiring cannabis (Moyle, 2013; Rossi, 2020) and it has been suggested that cannabis users apply this method because it minimizes potential risks, such as direct contact with "real" dealers (Caulkins & Pacula, 2006; Coomber & Turnbull, 2007; Potter, 2009). This article explored the supply option of "buying cannabis from a friend," which focuses on the perspective of the buyer. Future studies can focus more on the perspective of the seller, and explore how the seller views and experiences this relationship with the buyer. Street dealers and home dealers ranked at second and third place as the top suppliers to buyers. Street markets used to be very popular but since the emergence of cell phones they have been on the decline internationally (May & Hough, 2004). They have been described as threats to personal safety as they are more susceptible to violence than closed markets (Barratt et al., 2016; Harocopos & Hough, 2005; Reuter, 2009) and as riskier because both sellers and buyers expose themselves to law enforcement in public spaces (Tzanetakis, 2018). However, this study shows that street dealers are still relevant to the retail cannabis market. This may be explained by the advantages of street selling, such as the openness of the setting to buyers, ease of locating buyers and sellers, lack of need for a prior introduction to the seller, and in having only a few barriers to access (May & Hough, 2004; Sandberg, 2008). In contrast to the open street market, knowing someone is a prerequisite for buying cannabis from a home dealer. Home dealing can be understood as a segment of the closed market as home dealers only sell cannabis to selected customers, not to strangers. Home dealing is usually considered safer than street dealing as it takes place in a private place (Rossi, 2020). The emergence of mobile phones, internet, and social media has allowed the buying and selling of drugs to move out of openly accessible physical spaces (Mounteney et al., 2016) and has strongly contributed to the growing popularity of drug delivery services (Chatwin & Potter, 2014; Demant & Bakken, 2019; Thanki & Frederick, 2016). Yet, this study suggests that more traditional methods (street dealing and home dealing) are still more prevalent than delivery services. Given the abundant literature about the expanding role of the internet into the distribution of illicit drugs (Barratt et al., 2016; Broséus et al., 2017; Masson & Bancroft, 2018; Mounteney et al., 2016; Tzanetakis, 2018), and with cannabis being described as the most trafficked drug on cryptomarket platforms (Kruithof et al., 2016; Norbutas, 2018; Soska & Christin, 2015), it may be a surprise that only a very small minority of the users in this study buy cannabis on the internet. However, our findings confirm that only a small proportion of cannabis users have transitioned to cryptomarkets (Décary-Héty et al., 2018). One explanation could be that cryptomarkets represent only a tiny fraction of the

drug trade (Aldridge & Decary-Hétu, 2016; Trautmann et al., 2013). Also, it can be argued that access to the dark web requires access to computers and technological skills that many users do not have (Décarry-Hétu et al., 2018; Demant et al., 2018).

An important limitation of this study is that it was based on a targeted, convenience sample, which cannot be expected to generate normative, statistically representative results for the entire population of current cannabis users. However, the sample was diverse in frequency of cannabis use, as well as in age and gender, and thereby allowed for comparative cross-national analysis. Yet, to some extent, cross-national differences might be also due to respondents' travel opportunities to the Netherlands (distance, costs) and preferences for visiting a coffeeshop.

Interestingly, while in a survey among young Europeans as compared to female participants, male respondents more often stated that it would be easy for them to obtain cannabis within 24h (Eurobarometer, 2014), in our survey among current users we found no gender differences in accessibility. However, regression analysis in the present study showed that male users were more likely to buy their own cannabis, while female users were more likely to obtain cannabis through a friend that bought it for them with their money or to get it for free. This confirms that attitudes related to cannabis purchase (direct buy vs. indirect buy and free acquisition) are gendered (Bennett & Holloway, 2019; Hathaway et al., 2018). Female users may prefer alternatives to direct buy at the illegal market because they are less associated with threats to personal safety and risks of physical violence (Barratt et al., 2016). Although it has been argued that feminine norms tend to emphasize risk aversion in cannabis use patterns (Hemsing & Greaves, 2020), female and male buyers were largely similar in where or from whom they buy cannabis. Regarding age, younger users were more likely to obtain cannabis through group buys and younger buyers had higher odds of buying cannabis from street dealers. Possibly, these age differences could be explained by adult roles and responsibilities that come with maturation and aging (Osborne & Fogel, 2008; Shiner, 2009; Williams & Askew, 2016), resulting in a shift away from peer groups and the risks deriving from street culture and open markets. Regression analysis also revealed frequency of use as a significant predictor of the mode of acquiring and buying cannabis. Compared to less frequent users, daily users were much more likely to buy cannabis themselves. Alternatively, and in line with Hathaway et al. (2018), non-daily users were more likely to obtain cannabis for free or from a friend who bought it for them with their money. Finally, among buyers, as compared to non-daily users, daily users had higher odds of buying cannabis from home dealers, which might reflect a higher level of privileged access. In other words, daily users appear to be less involved in social supply, and more oriented toward closed markets (home dealers, domestic cultivation).

In the cross-national comparison, controlling for gender, age, household, employment, and frequency of use, Dutch participants were the most likely to buy cannabis themselves and also differed in various other aspects of obtaining

cannabis and buying behavior, in particular the dominance of coffeeshops as supply source. Since respondents were recruited inside or close to such premises, this study could have overestimated their role in how and where Dutch users acquire and buy cannabis. However, a strong preference for coffeeshops has also been reported in the 2018 national household survey, where 95.5% of last year users who buy their own cannabis reported that they (also) do so in coffeeshops (NDM, 2020). In regression analysis, compared to Dutch users, Greeks had not only the least easy access to cannabis, but they were also the most likely to let friends buy cannabis for them with their money and obtain cannabis through group buys; whilst among buyers, Greeks bought from friends and home dealers most often. In other words, in the Netherlands, the country with the most liberal cannabis policy in this study, users were most strongly oriented toward an open cannabis market, while in Greece, the country with the most punitive cannabis policy, users leaned more strongly toward a closed market and social supply. However, findings from other countries do not support a unidirectional link with punitiveness. For example, respondents from France, whose cannabis policy is relatively punitive, had the highest odds of buying from street dealers (open market) and relatively low odds of buying from home dealers (closed market). It appears that other factors, e.g., differences in the broader social and cultural accommodation of cannabis markets (Chatwin, 2011; Potter, 2018), are more important than differences in cannabis policy in understanding cross-national variation in how and where users obtain and buy cannabis. Further research is warranted to investigate the specific national, cultural, and social characteristics that affect the preferences on different supply methods. In future studies about cannabis transactions, research could also focus on the growing diversification of cannabis products.

Cross-national differences notwithstanding, cannabis is easily available in the everyday lives of current cannabis users in Europe. Within and across countries, users acquire cannabis in various ways and buyers purchase it from various sources, representing a mixture of open, closed, and semi-open retail markets, as well as a combination of commercial and noncommercial supply methods. The ease of access to cannabis and the multiple supply methods and sources may be understood as signs of a normalized retail market. At the same time, the diversity in cannabis acquisition, depending on country, gender, age, household status, or frequency of cannabis use, indicates a differentiated normalization of the cannabis retail market. Nonetheless, our findings confirm the significant role of social supply (Coomber & Moyle, 2014; Taylor & Potter, 2013) across Europe. Thus, this study supports the claims that the normalization of cannabis use has extended to encompass a normalization of cannabis supply, especially recreational supply within friendship networks (Coomber et al., 2016). Yet, our findings also indicate that, in general, cannabis users prefer to buy their own cannabis. Although cross-national differences in cannabis acquisition were not unidirectionally linked with punitiveness of national cannabis policy, the

Dutch coffeeshops in this study, together with the swift change from illegal to legal supply sources after cannabis legalization in Canada (Rotermann, 2020) strongly suggests that, if they would have the choice, most cannabis users would strongly prefer to buy cannabis in an open, regulated, or legal market.

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