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Where, When and With Whom: Cannabis Use, Settings and Self-Regulation Rules

Kostas Skliamis[1], Annemieke Benschop[2], Nienke Liebregts[1], and Dirk J. Korf[1]

Abstract

This article examines to what extent and how cannabis users in different countries, with different cannabis legislation and policies practice normalization and self-regulation of cannabis use in everyday life. Data were collected in a survey among a convenience sample of 1,225 last-year cannabis users aged 18–40 from seven European countries, with cannabis policies ranging from relatively liberal to more punitive. Participants were recruited in or in the vicinity of Dutch coffeeshops. We assessed whether cannabis users experience and interpret formal control and informal social norms differently across countries with different cannabis policies. The findings suggest that many cannabis users set boundaries to control their use. Irrespective of national cannabis policy, using cannabis in private settings and setting risk avoidance rules were equally predominant in all countries. This illustrates that many cannabis users are concerned with responsible use, demonstrating the importance that they attach to discretion. Overall, self-regulation was highest in the most liberal country (the Netherlands). This indicates that liberalization does not automatically lead to chaotic or otherwise problematic use as critics of the policy have predicted, as the diminishing of formal control (law enforcement) is accompanied by increased importance of informal norms and stronger self-regulation. In understanding risk-management, societal tolerance of cannabis use seems more important than cross-national differences in cannabis policy. The setting of cannabis use and self-regulation rules were strongly associated with frequency of use. Daily users were less selective in choosing settings of use and less strict in self-regulation rules. Further differences in age, gender, and household status underline the relevance of a differentiated, more nuanced understanding of cannabis normalization.

Keywords

cannabis, cannabis policy, self-regulation, normalization, Europe

[1] Bonger Institute of Criminology, Law Faculty, University of Amsterdam, the Netherlands
[2] Centre of Expertise Urban Vitality, Faculty of Health, Amsterdam University of Applied Science, the Netherlands

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Corresponding Author:
Kostas Skliamis, Bonger Institute of Criminology, Law Faculty, University of Amsterdam, P.O. Box 15557, 1001 NB Amsterdam, the Netherlands.
Email: k.skliamis@uva.nl

Introduction

Toward the end of the 20th century, British sociologists and criminologists launched the normalization thesis, a groundbreaking theoretical framework to analyze and explain developments and patterns in contemporary drug use (Measham et al., 1994). From evidence they found in longitudinal research among adolescents that the use of some drugs was losing its subcultural connotations, they concluded that changing attitudes toward so-called "soft" drugs had become more and more prevalent in wider society, and anticipated that the number of users would continue to rise (Parker et al., 1995, 1998). Soon, scholars claimed that cannabis had undergone a normalizing process in other countries as well, and cannabis was considered the most normalized illicit drug (Hathaway, 2004; Korf, 2006; Lee & Kirkpatrick, 2005; Osborne & Fogel, 2007; Warner et al., 1999). It has been argued that for many users, cannabis use was characterized by a broader social and cultural acceptance, and had become an ordinary, taken-for-granted part of life (Hathaway et al., 2011; Liebregts, 2015; Reinarman & Cohen, 2007; Sandberg, 2012).

Worldwide, between 1998 and 2017 the number of last-year cannabis users increased by about 30% (UNODC, 2019). In Europe, in the past decade the number of people aged 15–64 who had used cannabis at least once in their life grew from 74 million to 91 million (or by 22.5%–27.4%), and last year prevalence among young adults (aged 15–34) from 12.5% to 14.4% (EMCDDA, 2009, 2019a). Although these ascending trends are in accordance with the normalization thesis, the figures also demonstrate that the population that had never used cannabis outnumbers lifetime and recent users—an observation that early critics already highlighted to argue that the normalization thesis was empirically incorrect (Ramsay & Partridge, 1999). However, normalization is not the same as statistical "normality" or "normalcy," i.e. the normalization thesis does not presume that cannabis users constitute more than half of the population (Parker, 2005).

Cannabis normalization can be understood as a multifaceted process. As noted, the normalization thesis concerns both cannabis users and society as a whole. The societal level refers to society's perceptions of attitudes toward, and responses to cannabis users and encompasses the growing social and cultural acceptance of cannabis users (Hathaway et al., 2011; Parker, 2005; Sandberg, 2012). The user dimension refers to characteristics of what has been called "cannabis culture" (Sandberg, 2012; Sandberg & Pedersen, 2011; Zimmerman & Wieder, 1977). It describes how users regulate their cannabis use in their daily lives and concerns informal mechanisms that define cannabis use norms, rules of conduct, and practices (Decorte et al., 2003; Parker, 2005; Reinarman & Cohen, 2007), or what Zinberg (1984) called "social sanctions" (whether, when, and how cannabis should be used) and "social rituals" (patterns of behavior).

Notably, the normalization thesis evolved from research with focus on recreational drug use, described as "the occasional use of certain substances in certain settings and in a controlled way" (Parker, 2005, p. 206), as distinguished from excessive and dependent use. Thereby, recreational use entails moderated use that is integrated into users' leisure time (Parker et al., 2002). At user level, normalization may be understood as a process of "reasoned choice" in assessing a range of factors to decide whether, when and how to use or not use a certain drug (Williams & Parker, 2001). Hence, cannabis use is conceptualized as a calculated risk based on cost-benefit assessments (Duff & Erickson, 2014; Parker et al., 1998). Accordingly, such controlled drug use functions as risk-management (Hathaway, 2004), as a protection mechanism that helps to prevent disruption of everyday life in which users have invested (Decorte, 2001). Cost factors include health risks, arrest, and impairment of school or work performance (Parker, 2005; Parker et al., 1998).

This study responds to the call for a more nuanced, differentiated understanding of normalization (Shildrick, 2002; Sznitman et al., 2013) and for greater consideration of social factors including local culture and contexts of cannabis use (Asbridge et al., 2016; Hathaway et al., 2016; Measham & Shiner,

2009) by examining normalization at user level, and, more specifically, the issue of how cannabis users control and self-regulate their use.

Despite cannabis increasingly being used in older age groups (Han & Palamar, 2018; Mauro et al., 2018; Moxon & Waters, 2016; Rossi, 2019), research into the drug's normalization has largely been confined to youth (Erickson & Hathaway, 2010; Green, 2016; Sznitman, 2007). Therefore, we are particularly interested in continuing the work by Canadian scholars who extended the analysis to mainstream, socially integrated adult users (mean age 30.5), and concluded that controlled use was primarily characterized by the avoidance of social disapproval through discretion in the choice of setting (time, place and company) and moderation in frequency of use (Duff et al., 2012; Duff & Erickson, 2014). Note that the research was conducted before cannabis legalization in Canada (in October 2018), yet its policy was already quite liberal compared to most other countries (Fischer et al., 2020).

To consider local culture and context, we chose to focus our research on cannabis users from different countries, representing different national cannabis policies. In a cross-national investigation of cannabis use normalization, Sznitman et al. (2015) highlighted the contextual role of the "normality" of use: in survey among high school students, experimental use was more common in countries with relative high prevalence rates, and regular use more common in relatively low prevalence countries and was also more male dominated. To take into consideration differentiation in use patterns, we defined use as at least once in past 12 months. Similarly, to allow for differentiation in socio-economic status, we did not specify employment or full-time student as eligibility criteria.

Aim

The assessment and management of risks associated with cannabis use is central to cannabis normalization (Duff & Erickson, 2014). The general purpose of this study is to shed more light on the normative context in which cannabis use occurs. Our principal aim is to examine to which extent and how cannabis users in different countries with different cannabis legislation and policies practice normalization and self-regulation of use in everyday life. We investigate how cannabis users regulate their use with regard to social and physical settings, and in terms of rules they may adopt and practice for when and where to use.

Data were collected in a survey among current cannabis users from seven European countries: France, Germany, Greece, Italy, the Netherlands, Portugal, and the United Kingdom (UK). These countries' cannabis policies ranged from relatively liberal to more punitive (see below). We assess whether cannabis users experience and interpret formal control (for instance, fear of getting caught by the police for using cannabis while driving a car) and informal social norms (avoiding social disapproval and labeling) differently across countries with different cannabis policies, and whether they adjust their behavior and their patterns of use accordingly. Based on Duff et al. (2012), we hypothesize that in countries with a more liberal cannabis policy users are more strongly driven by informal norms than by formal control compared to those who live in countries with a more punitive policy.

Seven European Countries With Different Cannabis Policies

There is no harmonized European drug law, and there is little harmonization among the European Union (EU) Member States in the laws penalizing unauthorized cannabis use (EMCDDA, 2017a). In addition, there are remarkable differences in law enforcement practices. For example, regarding cannabis supply, a recent study reported strong variation across EU countries in sentencing practices. According to a survey among national experts, expected median sentences for the supply of 1 kg of cannabis resin varied within the EU from 0 to 10 years, and from 0 to 12 years in the case of 10 kg. Expected median sentences were lowest in the Netherlands and highest in Greece, while other countries took an intermediate position (EMCDDA, 2017b). Together, the seven countries selected for our

Table 1. Overview of Cannabis Policy in Seven Countries.

Country	Cannabis Schedule[a]	Possession for Personal Use	Legal Status-Recreational Use	Sentencing Practice on Cannabis Supply[b] 1 kg/10 kg
The Netherlands (NL)	Yes	Illegal, tolerated	Not an offence	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[c]	Not an offence	Medium/Medium (#12 of 26)/(#15 of 25)
Greece (GR)	Yes	Illegal	Illegal	Highest/2nd Highest (#1 of 26)/(#2 of 25)
Italy (IT)	Yes	Illegal[d]	Not an offence	Medium-High/Medium-High (#7 of 26)/(#7 of 25)
Portugal (PT)	No	Administrative offence	Administrative offence	Medium-Low/Low (#17 of 26)/(#22 of 25)
United Kingdom (UK)	Yes	Illegal	Not an offence	Not available [e]

[a]Cannabis is included in a different schedule from heroin. [b]Based on the rank number (#) of countries in order of sentences from low to high (EMCDDA, 2017b, p. 16). [c]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 6 kg 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 EMCCDA report refers to expected sentences while the UK Sentencing Council refers to guidelines. [d]Possession of small amount of cannabis for personal use considered a misdemeanor punishable by administrative sanctions (but not a fine). [e]Charges may be dropped by the state attorney, though this differs between states.

study represent a maximum variation in national cannabis policy within Europe (Table 1). In terms of national cannabis policy ("law in the books" as well as "law in action"), variation refers to scheduling of cannabis (whether or not in category separate from "hard drugs"); legal status of cannabis use and possession for personal use; and sentencing practices for dealing cannabis.

On a continuum from liberal to punitive, we placed the Netherlands on the liberal side and Greece on the punitive side. Cannabis policy in the Netherlands can be characterized as the most liberal at a consumer level in the EU. Although cannabis is officially an illicit drug, there are hundreds so-called coffeeshops, i.e. café-like settings where adults (18 years or older) can buy and use cannabis under strict conditions (Van Ooyen-Houben & Kleemans, 2016). 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, 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.

Method

Participants and Procedures

During February–October 2019, together with a team of 11 field assistants, we conducted a survey among a targeted sample of 1,225 last year cannabis users aged 18–40 and living in one of the seven

Table 2. Rules for Using and Never Using Cannabis (n = 1,225).

	% YES
In GENERAL, I use cannabis . . .	
Before I go to sleep	60.1
With people I trust	84.7
When I'm done with work/study	74.1
When I can afford it financially	64.6
When I am in a good mood	64.7
I NEVER use cannabis . . .	
During or before work/study	72.2
In company of non-users	46.3
In presence of children	85.6
In presence of my parents/relatives	76.5
In presence of colleagues/students	48.1
More than one to two joints on a day	52.9
When I am stressed	41.7

countries in this study. Participants were recruited and interviewed inside or in the vicinity of coffeeshops (i.e. close to the entrance) in the Netherlands, mostly in Amsterdam (41/46 coffeeshops were located in Amsterdam). Coffeeshops offer a unique opportunity to access current drug users from many different countries. They not only attract domestic customers, but also tourists from abroad who, during their stay in the Netherlands, buy and use cannabis, and in many cases also use cannabis in their home country (Korf et al., 2016; Van Ooyen-Houben et al., 2014). 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 obtain variation in age, taking into account that a large proportion of coffeeshop visitors is younger than 30 years (Nabben et al., 2016; Van Ooyen-Houben et al., 2014), we aimed to recruit 40% of respondents from the 30 to 40 age group. To assure gender diversity, female coffeeshop visitors were purposely oversampled to make up about a third of the sample. Participants signed a consent form which explained the purpose of the study and assured their anonymity. Consent forms and questionnaires were available in seven languages. Participants could choose between a print version or an online version. In both cases, the questionnaire was completed in the presence and under the supervision of an interviewer.

Measures

To assess physical settings of cannabis use, participants were asked how often they use cannabis in each of eight different settings (see Table 2), derived from the Canadian study among adult cannabis users mentioned earlier (Duff et al., 2012; Duff & Erickson, 2014) and from a cross-national European survey among current users of new psychoactive substances (Korf et al., 2019). For each setting, response options were (1) never, (2) rarely, (3) sometimes, or (4) usually.

To assess the social company dimension of setting, participants were asked whether they use cannabis alone or in company of friends, partner, peers etc. Response options were: (1) Always alone, (2) Mostly alone, (3) Equally often alone and in company, (4) Mostly in company, or (5) Always in company.

Furthermore, participants were questioned about 12 rules of use that they follow with regard to cannabis use, divided into five rules in favor of use ("In general, I use cannabis . . . "), and seven rules for when not to use ("I never use cannabis . . . "), with response options yes/no for each statement (see Table 2).

Background characteristics used in the analyses were country of residence, age, gender, household type, employment status, and daily cannabis use. Categories for gender were male, female or other, but the latter was omitted from statistical analyses due to small numbers. With respect to household, three categories were used: (1) living alone, (2) living with partner (with or without children) or with housemates, and (3) living with parents. Employment was also divided into three categories: (1) student (enrolled in school, college or university, with or without side job), (2) employed (including self-employment), and (3) unemployed (neither student nor employed). In accordance with the European standard, daily or near daily (here referred as daily) cannabis use was defined as the use of cannabis on 20 days or more in the last 30 days (EMCDDA, 2019b). 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

First, associations between home country and other background characteristics were assessed using Chi^2 tests for nominal and categorical variables and ANOVA for age. Then, for the purpose of dimension reduction (from a large number of variables into a small number of factors), exploratory factor analyses (oblique rotation) were performed for physical settings and rules of use. The pattern matrix from the factor analysis for physical settings (KMO and Bartlett's test = .801, which is considered meritorious and suggests that there is a substantial correlation in the data) showed three components (68.6% of total variance explained) with strongly interrelated items and sufficient factor loadings that describe the extent to which each question belongs to that factor: (1) "car, as a driver" (.916), "car, as a passenger" (.788), and "school/university/work" (.656); (2) "my home" (.862), "friend's/partner's home" (.744); and (3) "street/park/square" (−.824), "nature" (−.734), and "festivals/clubs/discos" (−.745). For each component, items loading together were transformed into a mean score that showed sufficient internal consistency (Cronbach's α), together representing three dimensions, namely: (1) *risk-taking setting* (car as a driver; car as a passenger[1]; university/school/work, mean 1.59, SD = .78, Cronbach's α = .779); (2) *private setting* (my home; friend's/partner's home, mean 3.15, SD = .80, Cronbach's α = .548); and (3) *public setting* (street/park/square; nature; festivals/clubs/discos, mean 2.51, SD = .86, Cronbach's α = .723). Initial factor analysis for the rules of use resulted in four factors, but one factor consisted of only two items with very low internal inconsistency (Cronbach's α = .112). Excluding these two items, the next factor analysis (KMO and Bartlett's test: .694, which is considered sufficient) resulted in three components (52.4% of total variance explained): (1) "never more than two joints" (.750), "never stressed" (.734), "never non-users" (.566) and "never colleagues" (.598); (2) "when I can financially afford it" (.793), "when I am done with work/study" (.722), and "when I am in a good mood" (.638); and (3) "never with children" (.837), "never with parents" (.697), and "never during work/study" (.565). For each component, items loading together were transformed into a mean score: (1) *risk avoidance* (mean 0.47, SD = .34, Cronbach's α = .626); (2) *comfort* (mean 0.68, SD = .34, Cronbach's α = .544); and (3) *setting avoidance* (mean 0.78, SD = .30, Cronbach's α = .563).

In order to estimate the impact of home country and other independent variables (age, gender, employment status, household status, frequency of use) on each component, regression analysis models were performed. Linear regression models were calculated for each dimension of *physical settings* (risk-taking, private, and public); an ordinal regression analysis was performed for *social setting* (social company), and linear regression models for each dimension of *rules of use* (risk avoidance, comfort, setting avoidance). In the linear regression analyses, country was entered as an independent variable, and models were adjusted for age, gender, household type and employment status. Country, gender, household and employment were recoded into dummy variables, with the Netherlands, female, living alone, and student as reference group. In the ordinal regression analyses,

Table 3. Sociodemographic and Cannabis Use Characteristics, By Country.

Country (n)	Total (1,225)	NL (218)	FR (230)	GER (191)	GR (86)	IT (217)	PT (93)	UK (190)	χ^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										
Last month users(%)	71.4	87.6	70.0	69.1	68.6	68.2	73.1	67.4	31.922 (6)	.001
Daily users(%)	32.7	36.7	41.3	17.8	22.1	35.0	21.5	40.0	43.442 (6)	.001
Days/Last Month[a] (SD)	11.6 (11.9)	13.0 (11.3)	13.4 (13.1)	7.8 (9.4)	9.3 (10.6)	12.2 (12.7)	9.4 (10.0)	13.1 (13.0)	6.354 (6)	.001
Days/Last Month[b] (SD)	16.0 (11.2)	14.8 (10.9)	19.1 (11.7)	11.3 (9.4)	13.5 (10.3)	17.9 (11.6)	12.9 (9.6)	19.4 (11.2)	10.977 (6)	.001

[a]In total sample. [b]Last month users only.

Table 4. Physical and Social Setting of Cannabis Use, in % (n = 1,225).

Physical Setting	Never	Rarely	Sometimes	Usually
My home	13.6	13.8	21.7	50.9
Friend's/Partner's Home	4.5	12.0	41.0	42.5
Street/Park/Square	25.6	24.9	31.0	18.4
Nature (beach, mountains)	22.0	24.1	33.0	20.9
Car (as a driver)	74.3	11.6	9.1	5.1
Car (as a passenger)	55.3	20.8	15.4	8.5
School/University/Work	67.0	16.4	9.7	6.9
Festivals/Clubs/Discos	22.4	21.8	31.2	24.7

Social Setting	Always alone	Mostly alone	Alone and company	Mostly company	Always company
Social company	1.9	13.9	36.2	24.7	23.3

country, gender, employment, household, and daily use were set as factors, and age as covariate. All data were analyzed with SPSS V.24.

Findings

Table 3 depicts the sociodemographic and cannabis use characteristics of the total sample and by home country. In accordance with the selection criteria, close to one third of the total sample were female, two thirds were male, and a small percentage defined themselves as "other." The age of participants ranged from 18 to 40 (mean age: 27.0), with 40.2% aged 30–40 (not shown in Table 2). Concerning household type, more than 4 in 10 were living with a partner or housemate(s); 1 in 3 were living with their parents; and close to 1 in 4 were living alone. Regarding employment status, 6 out of 10 participants were employed; more than one third were students; and those unemployed represented less than 5% of the total sample. Almost one third of respondents were daily cannabis users.

In cross-national comparison, French respondents were least often living with their parents, and most often were daily cannabis users; Greeks were most often living alone, and least often living with a partner or housemates; Germans were somewhat younger, most likely to live with their parents, be a student, and a non-daily cannabis user; and UK participants were most often employed. No significant cross-national differences were found for gender.

Physical and Social Setting of Use

Table 4 depicts the physical setting of cannabis use for the total sample. A large majority reported that they usually or sometimes use cannabis at home or at a friend's/partner's home. A large majority also stated that they rarely or never use cannabis in a car (as a driver or passenger), nor at university/school or work. Use at festivals/clubs/discos, in nature, and in a street/park/square took an intermediate position. Table 4 also shows the extent to which cannabis is used alone or in the social company of friends, a partner, peers, et cetera. Close to half of the total sample reported that they use cannabis mostly or always in social company, more than one third used equally often in company or alone, and about one in six participants used cannabis mostly or always alone.

Table 5 presents the results from three models of linear regression for physical setting. Significant regression equations were found for all three models [Model 1, risk-taking $F(13, 1203) = 12.150$, $p < .001$; Model 2, private setting $F(13, 1203) = 23.877$, $p < .001$; Model 3, public setting $F(13, 1203) = 19.339$, $p < .001$]. In Model 1, compared to the Netherlands, participants from all other

Table 5. Regression Models for Physical Setting (Linear) and Social Setting (Ordinal).

	Physical Setting															Social Setting				
	Model 1: Risk Taking (.116)					Model 2: Private Setting (.205)					Model 3: Public Setting (.173)					Model 4: Social Company				
Models (R^2)	Beta	t	*p*	Lower	Upper	Beta	t	*p*	Lower	Upper	Beta	t	*p*	Lower	Upper	B	SE	*p*	Lower	Upper
Country																				
Netherlands (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	.244	3.513	<.001	.108	.380	.123	1.798	.072	−.011	.257	.112	1.507	.132	−.034	.259	−.127	.175	.469	−.469	.216
Germany	.016	.217	.828	−.129	.161	−.049	−.670	.503	−.191	.094	.111	1.396	.163	−.045	.266	.369	.186	.048	.004	.734
Greece	.355	3.788	<.001	.171	.538	.101	1.093	.274	−.080	.281	.377	3.750	<.001	.180	.574	−.524	.236	.026	−.987	−.062
Italy	.174	2.471	.014	.036	.312	−.030	−.440	.660	−.166	.105	−.002	−.022	.983	−.150	.147	−.173	.177	.329	−.520	.174
Portugal	.446	4.905	<.001	.267	.624	.083	.924	.356	−.093	.258	.495	5.070	<.001	.303	.686	−.586	.229	.010	−1.035	−.138
United Kingdom	.214	2.890	.004	.069	.359	−.056	−.766	.444	−.198	.087	−.130	−1.636	.102	−.286	.026	−.003	.186	.986	−.368	.361
Age																				
Age	−.009	−1.919	.055	−.018	.000	−.015	−3.454	.001	−.024	−.007	−.016	−3.280	.001	−.026	−.006	−.024	.011	.036	−.046	−.002
Gender																				
Female (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Male	.094	2.050	.041	.004	.183	.004	.092	.927	−.084	.092	.082	1.669	.095	−.014	.178	−.390	.115	.001	−.616	−.164
Household																				
Alone (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parents	.126	1.989	.047	.002	.250	−.430	−6.900	<.001	−.552	−.308	.260	3.820	<.001	.126	.393	.692	.138	<.001	.421	.962
Partner/Housemates	−.005	−.095	.924	−.112	.101	−.163	−3.061	.002	−.268	−.059	−.018	−.315	.752	−.133	.096	.844	.161	<.001	.529	1.160
Employment																				
Student ref)	—	—	—	—	—	—	—	—	–	—	—	—	—	—	—	—	—		—	—
Employed	.042	.752	.452	−.067	.151	−.052	−.959	.338	−.159	.055	−.092	−1.550	.121	−.209	.025	−.092	.140	.511	−.366	−.182
Unemployed	.142	1.273	.203	−.077	.360	.065	.591	.555	−.150	.280	−.017	−.144	.886	−.252	.218	−.550	.281	.050	−1.101	.001
Daily Cannabis Use																				
No (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yes	.410	8.932	<.001	.320	.500	.666	14.736	<.001	.577	.755	.471	9.544	<.001	.374	.568	−1.223	.120	<.001	−1.460	−.987

countries except Germany showed significantly higher levels of using cannabis in risk-taking settings (for example, in a car), with the mean score highest for the Portuguese (+0.45 compared to the Dutch), followed by the Greeks (+0.36), and French (+0.25), British (+0.22), and Italians (+0.18). Male participants were more likely than females to use in risk-taking settings (means score +0.09), and users who live with their parents were more likely to do so compared to those who live alone (+0.13). Daily users were more likely to consume cannabis in a risk-taking setting than less frequent users (+0.41 compared to non-daily users).

Model 2 did not show any cross-national differences in predicting cannabis use in private settings. The likelihood of use in a private setting decreased with age (mean score −0.015 per increasing year of age), and was lower for participants who live with parents or with a partner/housemates compared to those who live alone (mean scores −0.43 and −0.17, respectively). Daily users were much more likely to use cannabis in a private setting than less frequent users (mean score +0.67).

In Model 3, compared to Dutch participants, the Portuguese and Greeks were more likely to use cannabis in a public setting (mean scores +0.60 and +0.38). The likelihood of use in public settings decreased with age (mean score −0.016 per increasing year of age). Participants living with their parents were more likely to use in a public setting than those who live alone (mean score +0.26). As with the other two settings, daily users were much more likely to use cannabis in a public setting than non-daily users (+0.47).

Table 5 also depicts the results from ordinal regression for social setting (Model 4). Compared to Dutch users, Portuguese and Greek users were less likely to use cannabis in social company, and Germans more likely. Older age and male gender were negatively associated with use in social company: younger users and female users were less likely to use when alone. Participants living with parents or partner/housemates were more likely to use cannabis in social company than those living alone, and unemployed participants were more likely to use when alone than students. The same is the case for daily users when compared to non-daily users.

Rules for Using and Never Using

Table 2 presents frequencies regarding the rules that participants follow for using or never using cannabis. In the total sample, more than 8 in 10 participants reported that they usually use cannabis with people they trust, followed by three-quarters that use when they have finished work or study. Close to two-thirds reported that they usually use cannabis when they can afford it financially and when they are in a good mood. Finally, 6 out of 10 respondents said that they usually use cannabis before they go to sleep. In regard to never using, the most common rule was not to use in the presence of children (85.6%). Next, over three-quarters of participants replied that they never use cannabis in the presence of their parents or relatives, and slightly less would apply that rule before or during work or study. Around half of the total sample reported that they never use more than one to two joints per day, followed by never in the company of non-users or in the presence of colleagues/students. The least common rule was to never use when stressed (41.7%).

Table 6 shows the results from three models of linear regression for rules that participants follow for using or never using cannabis. Significant regression equations were found for all three models (Model 5, risk avoidance $F(13, 1203) = 16.818$, $p < .001$; Model 6, comfort $F(13,1203) = 2.907$, $p < .001$; and Model 7, setting avoidance $F(13,1203) = 4.599$, $p < .001$]. Model 5 indicates that, compared to Dutch participants, Germans and Greeks were more likely to apply risk avoidance rules (mean score +0.16 and +0.10, respectively). The likelihood of users making these rules for themselves increased with age (mean score +0.008 per increasing year of age), and was lower for male users compared to female users (mean score −.04), but higher for participants living with partner/housemates (+0.05 compared to those who live alone). Daily users were less likely to apply risk avoidance rules (mean score −0.19 compared to non-daily users). Model 6 indicates that comfort rules were more common for Portuguese

Table 6. Regression Models for Rules Regarding Using and Never Using Cannabis.

	Model 5: Risk Avoidance (.154)					Model 6: Comfort (.030)					Model 7: Setting avoidance (.047)				
Models (R^2)	Beta	t	*p*	Lower	Upper	Beta	t	*p*	Lower	Upper	Beta	t	*p*	Lower	Upper
Country						–									
Netherlands (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
France	.041	1.356	.175	−.018	.100	−.042	−1.318	.188	−.104	.020	−.048	−.1708	.088	−.103	.007
Germany	.160	4.981	<.001	.097	.222	.012	.364	.716	−.054	.078	.042	1.410	.159	−.016	.100
Greece	.095	2.342	.019	.015	.175	.036	.843	.399	−.048	.120	.048	1.259	.208	−.027	.122
Italy	.043	1.403	.161	−.017	.103	−.009	−.277	.781	−.072	.054	.042	1.464	.143	−.014	.097
Portugal	.052	1.315	.189	−.026	.129	.087	2.104	.036	.006	.169	−.028	−.755	.450	−.100	.044
United Kingdom	.030	.924	.356	−.033	.093	.029	.844	.399	−.038	.095	−.035	−1.158	.247	−.093	.024
Age															
Age	.008	4.009	<.001	.004	.096	.001	.035	.972	−.004	.004	.001	.426	.670	−.003	.004
Gender															
Female (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Male	−.042	−2.139	.034	−.081	−.004	.014	.677	.498	−.027	.055	−.026	−1.427	.154	−.062	.010
Household															
Alone (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parents	.024	.865	.387	−.030	.078	−.066	−2.288	.022	−.123	−.009	−.032	−1.258	.209	−.082	.018
Partner/Housemates	.050	2.121	.034	.004	.012	−.039	−1.564	.118	−.088	.010	.005	.208	.835	−.038	.048
Employment															
Student ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Employed	.072	2.976	.003	.024	.119	−.001	−.004	.997	−.050	.050	−.008	−.376	.707	−.052	.036
Unemployed	−.006	−.127	.899	−.101	.089	−.046	−.896	.370	−.146	.054	−.106	−2.350	.019	−.194	−.017
Daily Cannabis Use															
No (ref)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yes	−.185	.020	<.001	−.224	−.146	.093	4.441	<.001	.052	.135	−.081	−4.357	<.001	−.117	−.044

participants (means score +0.09 compared to the Dutch), but less common for those living with parents (−0.07 compared to those living alone). Daily users were less likely to have comfort rules (−0.09 compared to non-daily users). In model 7, setting avoidance rules did not differ between countries and were only predicted by employment status and frequency of use. Unemployed participants (−0.11 compared to students) and daily cannabis users (−0.08 compared to non-daily users) were less likely to apply these rules.

Discussion

Across the seven countries, cannabis was much more likely to be used in the company of friends, partner and peers than when alone. The drug was also was commonly used in various physical environments, yet most often in private settings (i.e. user's own or friend's/partner's home), followed by in public settings such as streets, parks, nightlife, and festivals. Cannabis use in risk-taking settings which could potentially harm the user or others around them (i.e. in a car as a driver or passenger, and in school or the workplace) (Dubois et al., 2015; Earle et al., 2019), was uncommon. These results indicate that many cannabis users set boundaries to regulate their use and ensure that it takes place in a way that does not interfere with other aspects of their daily lives (cf. Erickson et al., 2010; Lau et al., 2015). That the majority avoids risky settings may imply that they avoid interference of their use in their daily life, and can be considered a form of self-regulation. Restricting use to appropriate times and places, social stigma might be avoided or minimized, although preference for certain physical settings could be more driven by discretion and respect toward non-users than by the threat/fear of stigmatization (cf. Duff et al., 2012).

Regarding rules that users adopt an−d practice for when and where to use cannabis, the most frequently reported set of rules was defined as setting avoidance. This refers to situations where they never use cannabis, namely in the presence of children or parents/relatives and before or during work/study. This finding is consistent with Canadian research (Duff et al., 2012; Hathaway et al., 2011), and confirms that many cannabis users are concerned with responsible use (cf. Erickson et al., 2010). It also demonstrates the importance that many cannabis users attach to discretion (cf. Erickson et al., 2010; Lau et al., 2015) and/or to achieving or maintaining a good level of study and work performance by drawing a line between school/work time and leisure time (cf. Duff et al. 2012). Moreover, and similar to Duff et al.'s study, it refers to common assumptions about the social responsibilities of studying and working.

The second most often cited set of rules of use was labeled "comfort." These rules refer to situations in favor of use and entail economic ("only when I can afford it"), leisure ("only when I am done with study/work") and emotional aspects ("only when I am in a good mood"). Comfort rules place cannabis use in a recreational context of leisure (Parker et al., 2002). Restricting use to certain times or situations can serve as a risk-management strategy to counter the stigma that accompanies "problematic" use (Duff et al., 2012).

Finally, a set of rules of use that we named "risk avoidance" ranked third. Similar to setting avoidance, risk avoidance rules refer to when or where participants never use cannabis. Risk avoidance rules comprised moderating quantity ("never more than two joints") and not using when stressed, nor in the presence of colleagues or non-users. Our findings confirm previous research that showed that moderation of the frequency and volume of cannabis use is a structural factor that determines controlled use (Duff et al., 2012). Regular use of small amounts of cannabis do not appear to increase an individual's likelihood of experiencing problems, and does not threaten the ability to function well and perform expected roles (Asbridge et al., 2014). However, cannabis use in the presence of non-users or colleagues could violate societal norms and thus pose risks to users such as social disapproval, stigma, and status loss (Hammersley et al., 2001; Hathaway, 2004).

In terms of the evidence from this study concerning the possible role of national cannabis policies on use, cross-national comparisons revealed both similarities and differences in the setting of use and self-regulation rules. Irrespective of national cannabis policy, using cannabis in private settings was equally predominant in all countries, and so were setting avoidance rules. This indicates that discretion is a widely shared norm, a collective effort in cannabis culture that transcends cross-national differences in cannabis policy stringency, either as a mechanism to minimize the risk of social disapproval and stigma, or to emphasize respect and courtesy to non-users (Duff et al., 2012; Erickson et al., 2010; Lau et al., 2015).

On the other hand, compared to the Netherlands (that had the most liberal cannabis policy), using cannabis in risk-taking settings was more prevalent in all other countries, except Germany. Greece and Portugal differed most from the Netherlands, as cannabis was not only more likely to be used in risk-taking settings, but also in public settings, while it was less likely for the drug to be used in social company. At first sight, the situation in Greece, the country with the most stringent cannabis policy in this study, could be interpreted as a confirmation of the hypothesis that users in countries with a more punitive cannabis policy are more strongly driven by formal control than informal norms (see Introduction). That would mean that fear of violating informal social norms would paradoxically result in users taking greater risks of formal control by law enforcers (e.g. arrest).

However, that does not explain the similarities between Portugal, where cannabis policy is relatively liberal, and Greece. An alternative explanation could be that the southern European physical climate in Greece and Portugal favors outdoor use (at the beach, in a car) more than in colder countries. That said, this does not explain why was this not also the case in Italy, a country with similar Mediterranean weather. Another possible explanation might be related to the contextual role of the normality of cannabis use in a country (Sznitman et al., 2015). While cannabis prevalence rates are around the EU average (lifetime use by adults 27.4%, last-year use by young adults 14.4%) in Germany, the Netherlands and UK, and above average for France and Italy, they are among the lowest in Portugal and Greece (EMCDDA, 2019b). According to the normalization thesis, societal acceptance of drug use is generally accompanied by increased prevalence rates (Parker et al., 1998).

It appears, then, that differences in societal and cultural accommodation of cannabis use are more important than cross-national differences in cannabis policy in understanding risk-management in terms of the setting of cannabis use and self-regulation rules (cf. Chatwin, 2011; Reinarman & Cohen, 2007). This does not mean that the legal status of cannabis does not matter. In this study, we examined only European users. Although cannabis is an illegal drug in their countries, in many others, cannabis policy is more punitive, and it might have a stronger impact on users' behavior.

Concerning sociodemographic characteristics, with increasing age, cannabis users were less likely to use cannabis in private or public settings, and in the company of peers or partners, and were more likely to apply rules to avoid risks. This confirms that younger people tend to be more visible or less selective in their use (Parker et al., 1998, 2002); that their cannabis use is less confined to certain settings (Zinberg, 1984); and that for young users, cannabis use is more a social activity (Anderson et al., 2015; Lee et al., 2007; Patrick et al., 2011), while use in solitude is more common among older users (Rossi, 2019). These age differences can be explained by the adult roles and responsibilities that come with maturation and aging (Shiner, 2009), and trigger strategic reasoned choices that make drug use fit better in the context of the demands of adulthood life (Osborne & Fogel, 2008; Williams & Askew, 2016).

Regarding gender, male users were more likely to use cannabis in risk-taking settings than females, less likely to use in the social company of peers and partners, and less likely to apply risk avoidance rules. These results are in line with research showing that female cannabis users are more inclined than males to remain in control when using cannabis (Dahl & Sandberg, 2015). They also might reflect the socially constructed cannabis-related norms, roles, and behaviors that society has attached to genders (Hathaway et al., 2018; Hemsing & Greaves, 2020), characterized by women reporting less positive

cannabis acceptability attitudes (Kolar et al., 2018), while male cannabis users tend to engage in riskier behaviors, such as driving under the influence of cannabis (Dubois et al., 2015; Earle et al., 2019; Jones et al., 2016).

Turning to the micro-level of household type, compared to users who lived alone, those living with their parents were more likely to use cannabis in risk-taking and public settings, but were less inclined to apply rules that favor comfort. Together with users who lived with their partner or housemates, they were less likely to use in private settings or alone. In addition, users living with partner/housemates were more likely to apply risk avoidance rules than those who live alone. These results indicate that users who live with their parents are especially more inclined to not use in a home setting, whether out of respect to relatives or as method to possibly avoid judgment by or issues with others. However, as they more often turn to public settings and risk-taking settings, but are similar to others in applying risk avoidance rules, their cannabis use may encompass higher risks, such as arrest (e.g. for driving a car while intoxicated), traffic accidents, or lower school or work performance.

In contrast to household type, employment status did not contribute much to the prediction of use setting and self-regulation rules. Compared to students, only employed participants were more likely to apply risk avoidance rules, and unemployed participants used cannabis less often in the company of others.

Finally, frequency of use was a significant predictor of both settings of use and self-regulation rules. Daily cannabis users were more likely than non-daily users to use in private, public and risk-taking settings, but less likely to use in social company. Daily users were also less likely than non-daily users to apply risk avoidance and setting avoidance rules, while they were more inclined to apply rules favoring comfort. All in all, these findings indicate that daily users are less selective in where they use cannabis and may focus less on risk-management strategies.

Thereby, our findings underline the relevance of a differentiated, more nuanced understanding of normalization (Hathaway et al., 2016; Pennay & Measham, 2016; Shildrick, 2002; Sznitman et al., 2013). Setting selectivity and self-regulation rules are important ingredients for the social and cultural accommodation of cannabis use, and conducive to minimizing or eliminating stigma (Duff & Erickson, 2014). Cannabis-related stigma is often associated with patterns of cannabis use, frequent use in particular (Hathaway, 2004; Kolar et al., 2018), while controlled use is central to a growing societal tolerance, the wider social and structural dimensions of cannabis normalization (Duff et al., 2012). In sum, daily use is at odds with a core element of the normalization thesis, namely moderate and responsible use (Erickson & Hathaway, 2010; Lau et al., 2015; Measham & Shiner, 2009). That is unsurprising, as the normalization thesis is concerned with recreational use (i.e. occasional use in certain settings) (Parker, 2005; Parker et al., 1995, 1998, 2002). While normalized, moderate, recreational cannabis use can be understood as one of many facets of users' lifestyles, daily users in our study were less selective in choosing settings of use, and seem to assign cannabis to a central role in their lives, which could indicate uncontrolled use (Liebregts et al., 2015). However, it may be questioned whether the concept of normalization of cannabis use should be restricted to "occasional use." Such a normative demarcation is at odds with the pluriform patterns of use, ranging from very occasionally to frequent use. Although in a dichotomous format, daily users differ from non-daily users in self-regulation, many daily users in this study also exercise discretion.

An important limitation of this study is that although normalization of drug use is a multifaceted concept that has been discussed in the literature from different angles, in this study we focused on the perspective of the users. Another limitation is that participants constitute a convenience sample that cannot be expected to generate normative, statistically representative results for the population of current cannabis users: daily users were over-represented. It is estimated that around 1% of adults in the EU are daily cannabis users (EMCDDA, 2019b), but almost a third of this study's participants were. Moreover, to some extent, cross-national differences might also be due to travel preferences for visiting a coffeeshop in the Netherlands. That said, the sample was diverse in frequency of cannabis

use, as well as in age, gender, and other socio-demographic characteristics, and thereby allowed for comparative cross-national analysis. Although the overrepresentation of daily users generated lower levels of self-regulation for the whole sample, the relatively high proportion of daily users allowed for more differentiated insights into normalization.

Conclusion

This study contributes to the further development of the normalization thesis. In particular, it responds to the call for a differentiated approach and further cross-national exploration (Pennay & Measham, 2016). We compared current cannabis users from seven European countries with different cannabis legislation and policies, and examined how, and to what extent their self-regulating behavior contributes to the normalization of cannabis use in everyday life. In particular, we investigated how cannabis users regulate their use with regard to social and physical settings, and what rules they adopt regarding the setting of their use.

Cannabis was more likely to be used in the company of friends, partner and peers than when being alone. It was commonly used in various physical settings, yet most often in private settings. Cannabis use in risk-taking settings was uncommon. These results indicate that many cannabis users set boundaries to control their use and ensure that it takes place in a way that does not interfere with other aspects of their daily lives. This may be considered as a form of self-regulation. Many of the users in our study restrict their use to certain times or situations, which can serve as a risk-management strategy to counter the social stigma that accompanies problematic use. However, the findings also indicate that many cannabis users are concerned with responsible use, and their preference for certain physical using settings could be driven more by discretion and respect toward non-users than by the threat or fear of stigmatization. Finally, the frequent application of risk avoidance rules indicated that moderation of the frequency and volume of use is a factor that determines controlled use and, subsequently, normalized use.

The differences in self-regulation that were associated with age, gender, household status, and frequency of use underline the relevance of a differentiated, more nuanced understanding of normalization. The setting of cannabis use and self-regulation rules were strongly associated with frequency of use. Compared to less frequent current users, daily users were less selective in choosing using settings and less strict in applying self-regulation rules.

Liberalization, if not legalization, is an important current international trend in cannabis policies (Decorte et al., 2020). An important finding in this study is that in cross-national comparison, overall, self-regulation was highest in the most liberal country (the Netherlands). This indicates that liberalization does not automatically lead to chaotic or otherwise problematic use as critics of the policy have predicted, as the diminishing of formal control (law enforcement) is accompanied by increased importance of informal norms and stronger self-regulation. Yet, irrespective of national cannabis policy, using cannabis in private settings was equally predominant in all countries, as was setting risk avoidance rules. It appears that differences in the societal and cultural accommodation of cannabis use is more important in understanding risk management in terms of the setting of cannabis use and self-regulation rules than cross-national differences in cannabis policy.

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ORCID iD

Kostas Skliamis https://orcid.org/0000-0003-1088-405X

Note

1. This is considered a "risk setting" as (a) using cannabis in a car might attract the attention of police, and (b) the driver might get intoxicated through passive smoking (Berthet et al., 2016).

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Author Biographies

Kostas Skliamis is a researcher and PhD student at the Bonger Institute of Criminology, University of Amsterdam. He received a BSc degree in Political Science from the National and Kapodistrian University of Athens and a MSc degree in Political Science from Vrije Universiteit Amsterdam. He has worked in European research projects, and he is interested in the field of social drug research.

Annemieke Benschop currently works as a project leader in Amsterdam University of Applied Science. She has published from 2001 up to 2019 at (or in association with) the University of Amsterdam a total of 83 publications. Since 1995 she has been working as a researcher in the field of addiction and drug research and has been involved in major local, national and international research projects.

Dr Nienke Liebregts worked at the Bonger Institute for Criminology, University of Amsterdam. She has published from 2010 up to 2019 at (or in association with) the University of Amsterdam a total of 23 publications. She does mainly qualitative social research in the field of drug research and she has been involved in several research projects, including European studies on stimulant drugs and on drug policies.

Dr Dirk J. Korf is a Professor in Criminology and Director of the Bonger Institute of Criminology, Faculty of Law, University of Amsterdam. He is also member of the scientific committee of the EMCDDA and president of the European Society for Social Drug Research (ESSD). His main fields of research are patterns and trends in drug use and drug trafficking, drug policy, crime and crime prevention. He has published numerous papers, reports, and books on these issues.