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# Beliefs and attitudes of young towards cannabis legislation and associated factors: a cross-sectional study in Morocco

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## ABSTRACT

In Morocco, the legislation of cannabis marks a significant political shift that warrants thorough analysis. This study aims to identify the attitudes of young Moroccans towards the new cannabis regulations and their perceptions of its future consequences. A questionnaire was administered to a sample of 4040 participants, including high school and university students in southern Morocco. The results revealed that females were significantly more likely to be opposed to medical cannabis use (MCU) compared to males and believed more strongly that the law would discourage users from abstaining. Additionally, females were significantly more likely to be against the recreational use of cannabis (RCU). In contrast, tobacco smokers, cannabis users, and participants with depression were more favourable towards MCU legislation. Further studies on young people's perceptions of cannabis and its effects remain crucial for public health and prevention policy-makers.

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## Introduction

Cannabis use is widespread in many societies, despite political, economic and socio-cultural differences among them. Cannabis remains one of the most preferred drugs among many populations, especially adolescents and young adults.

Some 219 million people (4% of the world's population) experimented with cannabis in 2021 (Bremond, 2022). The same is true in Europe : 8% of European adults, including 22.6 million aged 15 to 64, used cannabis in 2022 (European Monitoring Centre for Drugs and Drug Addiction, 2023).

In Morocco, the only figures for the prevalence of drug use in the general Moroccan population come from the results of the national community survey carried out in 2003 by the Ministry of Health on a sample of 6000 people aged 15 and over, which showed a lifetime prevalence of 4.1% for the use of psychoactive substances, and that dependence on a substance was 2.8% (Kadri et al., 2010a).

In terms of consumption preferences, tobacco remains the most widely used drug in Morocco, followed by cannabis in 3 forms : smoke joints, smoked leaves or resin-based cakes (Rammouz et al., 2020).

In December 2020, the United Nations Commission on Narcotic Drugs reclassified cannabis and its resin as a medical drug under strict international control, with the aim of facilitating research,

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production and access to cannabis-based medicines in compliance with national standards, while maintaining the prohibition of non-medical use, given that cannabis and its derivatives are abused in the same way as medical products such as morphine and oxycodone (World Health Organization, 2020). The reclassification will overturn certain long-standing procedural procedures that have hindered the research and development of cannabis based products (Weisman & Rodríguez, 2021).

But long before this date, more than 40 countries have legalized cannabis for industrial, medical or recreational use (UNODC, 2022). In 2012, Colorado and Washington State became the first two jurisdictions to legalize cannabis for recreational use. Then, several jurisdictions around the world adopted recreational measures, including Canada, Uruguay and many other U.S states (Branch, 2023; Hua et al., 2020).

In May 2021, 36 US states and dozens of countries around the world passed laws authorizing the renewed medical use of cannabis. Numerous studies were conducted between 1996 and 2019, well before the World Health Organization (WHO) declaration in 2020, and dozens of studies assessed the attitudes and knowledge of healthcare professionals, medical students and consumer patients towards medical cannabis (Weisman & Rodríguez, 2021).

Questions are being raised about changes in the prevalence of cannabis use, and several publications have investigated how these new regulations might influence cannabis and other drug use, especially among young people (Weisman & Rodríguez, 2021).

In Canada, the prevalence of recreational cannabis use has risen by 26% since it was legalized for medical purposes in 1999. Problems with legal access to preferred products ; Higher costs and difficulties using a legal access system (Hawley et al., 2020). California legalized cannabis for adult use in 2016. A cohort study of patients between the ages of 18 and 26 showed that self-reported medical cannabis use was associated with more frequent cannabis use, but less problematic cannabis and other drug use (Fedorova et al., 2022).

Motivation remains one of the main elements that would be affected by care-seeking among cannabis users, given that legislation could affect their perception of the substance and would no longer be the demonized substance (Rammouz & Boujraf, 2022; Turna et al., 2020).

A number of studies have confirmed that knowledge of the benefits and harms of cannabis remains subjective, while the perceived social status of cannabis has reduced cannabis abuse, particularly among older users (Ghandour et al., 2024; Lau et al., 2015).

In addition, adolescents and young adults who use cannabis are at risk of developing depression, mood disorders and anxiety, not to mention the fact that cannabis can cause acute psychosis in adolescents even without a history of mental illness (Chadwick et al., 2013; Grant & Bélanger, 2017; Salas-Wright et al., 2019).

Over and above the psychiatric and physiological disorders caused by cannabis use in adolescence, the Tempo cohort study by the French National Institute for Health and Medical Research (INSERM) has demonstrated that experimentation with cannabis in adolescence not only has a detrimental effect on physical and mental health, but also on socio-economic status and difficulties in finding employment in adulthood, it's a strong association between cannabis use before the age of 16 and unemployment (Barry et al., 2022). Other studies have demonstrated the link between cannabis use and road accidents (Brubacher et al., 2019) and even greater use of healthcare and emergency medical visits (indicating that marijuana use increases the likelihood of Emergency Department visits through increased injury risk and Healthcare use) (Choi et al., 2018).

Morocco was one of the first African countries to legalize the use of cannabis for medical and industrial purposes. In 2021, the Moroccan legislature adopted Decree No. 1-21-59, promulgating Law No. 13-21, which regulates the legal use of cannabis within Moroccan territory by establishing a national agency to oversee cannabis-related activities (Bulletin Officiel, 2021). This legislation governs all stages of cultivation and production, from the import of seeds to the marketing of medical, cosmetic, and industrial products. However, recreational cannabis remains prohibited (Rammouz & Boujraf, 2022). Additionally, Article 6 of Law 13-21 stipulates that authorization for the cultivation and production of cannabis varieties with a tetrahydrocannabinol (THC) content

exceeding the regulatory limit may only be granted to the medical and pharmaceutical industries (Bulletin Officiel, 2021).

Morocco is the leading producer of cannabis resin, which is grown mainly in the Rif mountains for shipment to the European market (Rapport mondial sur les drogues 2018, *s. d.*). This suggests that young Moroccans are becoming more vulnerable to early experimentation with this substance.

No published research has been carried out to assess the effect of therapeutic and industrial cannabis legislation in Morocco on representations and knowledge of the risks associated with cannabis consumption, or to study the population's reactions following approval of its legislation.

Rammouz and Boujraf, in their publication on the legislation of industrial and medical use of medical use of cannabis based on the African-Arab experience, affirm the usefulness and importance of carrying out critical post-legislation studies on the mechanism of evolution of cannabis consumption, the demand for care and the number of hospitalizations linked to disorders caused by the consumption of this substance (Rammouz & Boujraf, 2022). Although this study does not focus on analysing the prevalence of cannabis use before and after legislation, previous research highlights the importance of such analyses for understanding the effect of legislative changes on cannabis use behaviour (Fedorova et al., 2023; Harris-Lane et al., 2023; Imtiaz et al., 2024).

Our hypotheses indicate that young people may consider cannabis to be less risky, which could encourage experimentation. While our study does not establish a causal relationship, rather it explores how legislative developments may influence young people's perceptions and motivations for cannabis use.

The aim of this study is to assess the attitudes of young Moroccans towards the legislation of medical cannabis in Morocco, and also towards recreational cannabis. It also aims to ascertain whether being informed of the new law legalizing the medical and industrial use of cannabis in Morocco would help young Moroccans to adopt more favourable attitudes towards cannabis, and demotivate users to stop their consumption.

## Methods

This is an observational, quantitative, descriptive, analytical and cross-sectional study involving a sample of 4040 pupils and university students from the Souss Massa region during the 2023–2024 school and university year. The Souss Massa region is located in Morocco between the High Atlas, the desert and the Atlantic Ocean, and is a junction between the north and south of the country. The region included six prefectures: Agadir Ida Outnane and Inezgane Ait Melloul, Chtouka Ait Baha, Tiznit, Taroudant and Tata.

## Participants

The study was carried out among secondary school pupils in 10 public high schools, for a total of 86 classes to be visited, selected by the regional education authority for the Souss Massa region, spread across the cities of Agadir, Taroudant, Ouled Teima and Ait Baha. Secondly, with university students at 6 public establishments belonging to this university (Faculty of medicine; Faculty of Arts and Humanities; Faculty of sciences; Faculty of Legal, Economic and Social Sciences; School of Engineering and School of Nursing).

This survey involved an overall sample of 4040 participants, divided into 2 representative sub-samples totalling 2354 high school students and 1686 university students using stratified random sampling. We included in our study only participants of Moroccan nationality, students from all selected classes for all options and grade levels in secondary school. On the other hand, we excluded pupils and students who were not of Moroccan nationality, as well as pupils and students who refused to participate in the study.

## Measures

A socio-demographic questionnaire containing a section on socio-demographic information (gender, age, school or university repetition and parent's socio-economic level). Then we selected items looking at lifetime tobacco and cannabis use, according to the methodology of the Mediterranean School Project on Alcohol and other Drugs national epidemiological survey (El Omari & Jallal Toufiq, 2021). The survey also covered an assessment of depressive disorder using Patient Health Questionnaire (PHQ9) (Kroenke et al., 2001).

A section containing questions to assess participant's attitudes towards the medical use of cannabis, its personal use and its relationship with the latest law 13–21 adopted in Morocco in 2021 based on their yes/no or don't know answers to the following four questions: (Are you against the medical use of cannabis?; Are you against the personal use of cannabis?; Do you think the new law on the medical use of cannabis will increase the number of young people using cannabis ?; Do you think that the new law on the medical use of cannabis will make young people give up the idea of stopping using cannabis ?). However, participants' perceptions are subjective and do not reflect the real purpose of the law on the legal use of cannabis in Morocco.

All questions were written in French and a simple, easy-to-read, understandable style. The time required to answer the questionnaire, as estimated by a pre-test, varied between 8 and 12 min.

## Procedures

We made regular visits to carry out our survey according to a well-prepared schedule drawn up by the region's education authority, to ensure that our survey went smoothly and did not disrupt the pedagogical sequence of courses.

First and foremost, consent was obtained from participating pupils and students in a written and signed format from parents or guardians for minors, in consultation with representatives of the parents' association for each school, and in a direct written and signed format for participants aged 18 and over, after we had ensured that they understood the aims of the study, the voluntary nature of their participation, and the confidentiality and anonymity of their responses, which we detailed in an information note.

In order to avoid any response bias, the questionnaires were distributed to students in their classrooms, while ensuring, following advance preparation by the school administration, that each participant would be seated alone, with a space between them, and that no school management staff or teachers would be present at the time of answering.

## Ethical considerations

The research protocol of our study was approved by a favourable opinion according to reference n° 51/23 from the ethical committee for biomedical research of the Faculty of Medicine and Pharmacy of Rabat, Morocco. The procedure adapted in this study complies with the ethical standards of the Helsinki declaration, and we have obtained the agreement of the Regional Academy of Education and Training of Agadir to carry out the survey in schools, and the approval of the President of Ibn Zohr University to carry out the survey in the region's universities.

## Statistical analysis

To describe the socio-demographic data in our sample, we calculated frequencies in (%) for all categorical variables.

We then applied the Chi-2 test to analyse the relationship between medical and personal cannabis use in relation to gender, grade repetition and parental socio-economic level.

The same test was applied to analyse the significance of the link between the new medical use law and increased cannabis use in relation to gender, grade repetition and parents' socio-economic level. In the same way, the Chi-2 test was used to study the link between the new law on medical use of cannabis and discouragement to stop using this substance, in relation to gender, grade repetition and parents' socio-economic level.

The Odds Ratio (OR) was performed to explain the correlation between the group of participants who are against the therapeutic use of cannabis and the probability that the new cannabis legislation will promote its use, and similarly, to analyse the correlation between the group of participants against the therapeutic use of cannabis and the new cannabis legislation and its relationship with discouragement of cannabis cessation. The confidence interval was set at 95%.

## Results

A total of 4040 participants took part in our survey, divided into two groups. The first group of pupils (2354) (59.7%) with an age range between [14–19] and the second group of university students (1686) (40.3%) with an age range between [19–24].

The lifetime prevalence of tobacco is 9.4%, cannabis 3.0%, alcohol 4.38% and benzodiazepine abuse 4.83%. (Table 1)

20.8% of participants expressed an attitude against the medical use of cannabis, (54.7%) against the recreational use of cannabis, and 46.8% thought that the new law on the medical use of cannabis would increase the number of young people using cannabis, while 22.2% thought that the new law on the medical use of cannabis could have a discouraging effect on cannabis use among young people. (Table 1)

**Table 1.** Sociodemographic data, substance use and attitudes towards the law.

Variables	% (n)
Average Age	18.19 ± 1.97
Gender	62.0% (2445)
Female	38.0% (1501)
Male	
Socioeconomic level	17.5% (690)
Low	73.0% (2879)
Average	9.3 % (368)
High	
Repeater	28.3% (1115)
Yes	71.7% (2830)
No	
Tobacco prevalence	9.4% (380)
Cannabis prevalence	3.0% (121)
Benzodiazepines prevalence	4.83% (195)
Attitudes towards MCU	20.8% (841)
Against MCU	34.8% (1408)
With MCU	44.3% (1791)
I don't know	
Attitudes towards RCU	54.7% (2208)
Against RCU	15.5% (624)
With RCU	29.9% (1208)
I don't know	
The law will increase prevalence use	46.8% (1891)
Yes	12.0% (484)
No	41.2% (1665)
I don't know	
The law will demotivate users to stop	22.2% (897)
Yes	33.2% (1339)
No	44.6% (1803)
I don't know	

Medical cannabis use (MCU), Recreational cannabis use (RCU).

Table 2 and 3 describe the association between attitudes towards cannabis legislation in Morocco and its relationship with gender, grade repetition and parent's socio-economic level. No parameters were associated with certain responses, with the exception of gender, grade repetition, parent's socio-economic level, tobacco consumption, cannabis use and presence of severe depressive symptoms.

Females were much more opposed to the use of medical cannabis, and thought more than males that the law would demotivate users to abstain, yet they more strongly and significantly against the recreational use of cannabis (Table 2).

Similarly, and in relation to the four questions, the attitudes of repeaters did not differ from those of non-repeaters (Table 3). Participants from higher socio-economic backgrounds were significantly more opposed to the recreational use of cannabis, but not as opposed to the medical use of cannabis (Table 4).

With regard to the fact that the new cannabis legislation in Morocco will promote the use and trivialization of the consumption of this substance among young people, the results of (Table 5) show that respondents who are against the medical use of cannabis, agree 6 times that this new law promotes the use of cannabis ( $p < 0,0001$ ), and that (Table 6) shows that participants who are against the medical use of cannabis find 2 times that this law will promote discouragement to stop using cannabis among young people ( $p < 0,0001$ ).

### Concerning question 1: are you against the medical use of cannabis?

Tobacco smokers are less likely to be against the medical use of cannabis than non-smokers. There is a significant negative association ( $<0,0001$ ) between being a smoker and being

**Table 2.** Gender-related cannabis legislation.

	Females	Males	$\chi^2$	p
Medical use of Cannabis				
Disagree	522	319	1,8	0,17
Agree	882	576		
Personal use of Cannabis				
Disagree	1402	806	18,09	<0,0001
Agree	337	287		
Medical use law and increased consumption				
Agree	1131	759	0,17	0,67
Disagree	284	200		
Medical use law and discouragement of cessation of consumption				
Agree	554	341	1,37	0,24
Disagree	795	545		

**Table 3.** Cannabis legislation in relation to repeating a year.

	Repeaters	Non-Repeaters	$\chi^2$	p
Medical use of Cannabis				
Disagree	258	583	1,82	0,17
Agree	393	1015		
Personal use of Cannabis				
Disagree	600	1608	3,22	0,07
Agree	193	431		
Medical use law and increased consumption				
Agree	573	1317	2,04	0,15
Disagree	130	354		
Medical use law and discouragement of cessation of consumption				
Agree	284	611	6,55	0,01
Disagree	357	983		

**Table 4.** Cannabis legislation in relation to parent's socio-economic level.

	Low	Average	High	$\chi^2$	p
Medical use of Cannabis					
Disagree	71	609	154	4,43	0,1
Agree	147	1038	221		
Personal use of Cannabis					
Disagree	185	1631	386	26,22	<0,0001
Agree	94	443	87		
Medical use law and increased consumption					
Agree	191	1368	329	0,82	0,66
Disagree	51	357	76		
Medical use law and discouragement of cessation of consumption					
Agree	95	642	158	0,23	0,88
Disagree	136	970	229		

**Table 5.** Correlation between participants who are against the medical use of cannabis and the law governing this use and its relationship with the increase in cannabis consumption.

	Disagree with MCU*	Agree with MCU	$\chi^2$	OR	p
Law Promotes Consumption	577	46	160,22	6,8	<0,0001
Law does not Promote Consumption	676	367			

\*MCU= Medical Use Cannabis.

**Table 6.** Correlation between participants who are against the medical use of cannabis and the law governing this use and its relationship with discouragement to stop using cannabis.

	Against MU* Cannabis	For MU Cannabis	$\chi^2$	OR	p
Law encourages abandonment-stop	268	320	41,47	2,02	<0,0001
Law does not <b>favour</b> abandonment-stop	281	678			

\*MU= Medical Use.

against the medical use law. Similarly, cannabis users were less likely to be against the medical use law than non-smokers – there was a significant negative association (<0,0001) between being a cannabis user and being against the anti-law, with a lower risk of being against the law among cannabis users compared with non-users. There was also a negative association between depression and being against the anti-smoking law. Participants with depression were less likely to oppose the law compared to participants without depression. (Table 7)

### **Concerning question 2: are you against the recreational use of cannabis?**

Tobacco smokers are less likely to be against the smoking law (OR  $\approx$  0.24). Tobacco smokers compared with non-smokers show a reduction of around 76% in the likelihood of being against the cannabis law. Similarly, cannabis users are less likely to be against the law compared to cannabis non-smokers (0,16). In percentage terms, this represents a reduction of around 83.5% (100% – 16.5%) in the likelihood of being against the law among cannabis smokers compared to cannabis non-smokers. There was also a negative association between having severe depression and being against the law on the recreational use of Cannabis. Subjects with severe depression were less likely to be against the law than subjects without severe depression (Table 7).

### **Concerning question 3: do you think the new law will increase the use of cannabis?**

Tobacco smokers are less likely than non-smokers to believe that the new law will increase cannabis consumption (OR: 0,556) (Table 7).





**Table 7.** Association between cannabis legislation and age, gender, tobacco, cannabis use and depression.

	Age				Gender				Tobacco				Cannabis				Severe depression								
	[14-19]*	[19-24]	$\chi^2$	OR	p	Females*	Males	$\chi^2$	OR	p	Yes*	No	$\chi^2$	OR	p	Yes*	No	$\chi^2$	OR	p					
Are you against the medical use of cannabis?																									
Yes	503	315	3,5	1,1	0,05	508	310	0,925	1,05	0,3	56	762	16,6	0,51	<0,0001	14	804	10,5	0,37	0,001	39	779	12,5	0,5	0,0004
No	779	581				815	545				169	1190				60	1299				122	1238			
Are you against the personal use of cannabis?																									
Yes	1284	867	0,9	0,9	0,3	1370	781	1	1,1	0,3	139	2011	127,6	0,24	<0,0001	37	2113	83,4	0,16	<0,0001	140	2011	28,6	0,45	<0,0001
No	351	250				331	270				133	468				57	544				80	521			
Do you think the new law will increase the use of cannabis?																									
Yes	1101	751	0,07	0,96	0,7	1111	741	0,5	0,91	0,47	178	1674	14,9	0,55	0,0001	68	1784	0,1	1,14	0,61	170	1682	0,006	1,03	0,9
No	271	185				275	181				73	382				19	436				43	413			
Do you think the new law will make consumers abandon the idea of stopping smoking?																									
Yes	534	348	0,3	1,05	0,52	549	333	0,13	1,03	0,7	100	782	1,8	1,2	1,17	44	838	6,7	1,84	0,0092	95	787	3,6	1,33	0,004
No	774	531				784	521				123	1181				36	1268				108	1197			

OR= Odd Ratio.

\*.: Reference category.

### **Concerning question 4: do you think the new law will make consumers abandon the idea of stopping smoking?**

Cannabis users were more likely to perceive that the new law would encourage them not to stop smoking than non-users (OR :1,84). On the other hand, there was a positive association (OR :1,33) between being severely depressed and the belief that the new law would encourage users to give up the idea of quitting smoking (Table 7)

## **Discussion**

There are very few studies assessing the perception of cannabis legislation and its social status among young people, as well as the motivation of young users to stop. To the best of our knowledge, this study is the first of its kind after the medical and industrial legislation of cannabis in Morocco. The participants in this study were divided into two subgroups, representing schools and universities in the Agadir region of southern Morocco.

This study showed that participants who were against the medical use of cannabis found 2 times that this law would discourage young people from stopping using cannabis ( $p < 0,0001$ ). Attitudes differ according to gender, socio-economic level, whether or not they smoke tobacco, and whether or not they use cannabis.

Females are much more opposed to the use of medical cannabis than males, and those from higher socio-economic backgrounds are more likely than males to think that the law will discourage users from abstaining.

Participants from higher socio-economic backgrounds were significantly more opposed to the recreational use of cannabis, but not as opposed to the medical use of cannabis.

With regard to the fact that the new cannabis legislation in Morocco will encourage the use and trivialization of this substance among young people, the results of (Table 4) show that respondents who are against the medical use of cannabis, are 6 times in agreement that this new law encourages the use of cannabis. For all four questions, tobacco smokers, cannabis users and depressed participants tended to answer « no ».

Clarke et al. studied the impact of legislation on recreational cannabis use among undergraduate students. Results showed that attitudes, intentions, perceived norms and willingness to use marijuana were more favourable after passage of the law, but not as significant as among former users.

From this study, Clarke et al. concluded that legalization may lead to more favourable intentions to use marijuana and could lead abstainers or experimental users to become more frequent marijuana users (Clarke et al., 2018).

Weissman & Rodriguez reported a meta-analysis and identified 21 qualified studies (8016 respondents). Half (49,9%) of all respondents favoured legalization, and they showed that support for medical cannabis legalization among medical students and professionals increased from 1991 to 2019, and that medical professionals favoured MC legalization at a significantly higher rate than students (52% vs. 42%) (Weisman & Rodríguez, 2021).

In 2019, Gardiner et al. Conducted a systematic review about beliefs, knowledge and concerns regarding Medical Cannabis (Gardiner et al., 2019). They found that healthcare providers supported the use of medical cannabis, despite an almost unanimous lack of knowledge its effects.

In 2021, Zolotov et al. Published a scoping review exploring the level of knowledge of medical cannabis among trainee nurses (Zolotov et al., 2021). They found that trainee nurses lacked sufficient knowledge of medical cannabis and felt unprepared to counsel patients on the subject. In addition, they expressed a growing interest in the subject of medical cannabis and would like to see more standardized education on the subject.

In the same vein, a study of attitudes, beliefs and knowledge about medical cannabis among nurses and midwives in Cyprus showed that half the participants confirmed the importance of

receiving training in the medical use of cannabis before recommending its use for their illnesses (Sokratous et al., 2022).

Medical students in Colorado, in a study assessing attitudes and beliefs about Marijuana use in a health-care setting, expressed concern about the risk of developing a dependency as a result of its use (Chan et al., 2017).

Analysis of the results of several annual cross-sectional surveys, repeated over 24 years, on medical Marijuana laws and use among adolescents in the U.S from 1991 to 2014 shows that Marijuana use among adolescents does not increase after the adoption of medical Marijuana laws (Hasin et al., 2015).

On the other hand, policies prohibiting the use of cannabis in Canadian schools remain inconsistent with the increasing number of adolescents and young people using medical cannabis as a treatment for certain pathologies (Awal et al., 2022). Education, communication, family support and relevant policies are needed to normalize the use of cannabis-based medicines in Canadian schools (Mansell et al., 2023).

Public opinion needs to distinguish between the use of cannabis for medical purposes and for recreational purposes, as it cannot be denied that cannabis has harmful effects on the cognitive development and mental health of schoolchildren (De Faria et al., 2021).

To this end, the continuation of in-depth scientific research on the medical effects of cannabis seems necessary to understand the effects of this substance's involvement in the management of the diseases concerned, as well as the importance of integrating basic and continuous training programmes among healthcare professionals and medical science students about medical cannabis and the latest developments in its legislation (Chan et al., 2017).

The law approved in Morocco should certainly bring economic benefits to the country and improve the social situation, such as improving conditions for farmers. However, the cannabis addiction of youth care and prevention structures are being investigated.

The benefits for Morocco are likely to be numerous: elimination of the illegal cannabis market, reduction in prison sentences associated with minor cannabis-related offences? It will also bring financial benefits to the government, controlling the quality of cannabis and effectively reducing/prohibiting teenage access to cannabis.

However, the interface between recreational and medicinal cannabis use is complex. Dual-motivated users may deserve special attention as a subpopulation of cannabis users (Ghandour et al., 2024).

Questions remain in relation to the transition from medical to abusive use of cannabis, particularly among older people (Lau et al., 2015; Meffert et al., 2019).

Turna et al. (2020). found that compared to medical users, the dual-motivated group of medical treatment and recreational use reported increased daily cannabis consumption and increased alcohol and tobacco use, and were more likely to use cannabis to treat psychiatric disorders (Turna et al., 2020).

In Lebanon, a country similar to Morocco, also known as one of the world's leading cannabis-producing countries, Ghandour et al. conducted a study of young adults after the 2020 cannabis legislation, and showed that all dual-motivated medical and recreational user shad first consumed cannabis for recreational purposes, on average, 2 years before medical use (Ghandour et al., 2024).

In Morocco, although nationwide data on cannabis use date back to 2005 (Kadri et al., 2010b), more recent data on fluctuations in the prevalence of cannabis use are almost non-existent. The only exception is the Medspad school surveys, which have consistently shown cannabis to be the most widely consumed illicit drug, and prevalence rates have changed very little : 9.4% in 2013, 9.0% in 2017, and 5.8% in 2021 (El Omari & Jallal, 2021)

A U.S national survey showed that the percentage of young people who reported having used marijuana, their risky use reached a low (5–8%). Occasional experimentation and regular use are on a downward trend (Johnston et al., 2020), while support for the legalization of medical

cannabis in the U.S. is much stronger than support for the recreational use of cannabis (Bensberg, 2021).

## Limitations

Limitations of this study include the representativeness of Moroccan youth in the study sample. Non-university youth aged over 18 outnumber university youth in the general population. Additionally, female participants outnumbered males, reflecting the fact that the Moroccan educational context includes more female than male university students. Future studies should aim for a more balanced sample to improve representativeness.

Another limitation is the issue of 'I don't know' responses. It remains unclear whether these respondents were unable to understand the subject of cannabis legislation in Morocco or whether they chose not to take a position on the issue.

Finally, the study did not explicitly assess participants' knowledge of the laws governing the legal use of cannabis. Knowledge and perceptions are distinct concepts, and future research should incorporate specific measures to evaluate participants' understanding of the legal framework.

## Conclusion

This study explores the attitudes of young Moroccans towards cannabis legislation. The findings reveal that young females and participants from higher socio-economic backgrounds are opposed to the recreational use of cannabis. Conversely, tobacco and cannabis users, as well as participants with depressive symptoms, were less resistant to the new law.

By considering socio-economic, behavioural, and psychological factors, this study provides crucial data highlighting the need to prevent the trivialization of cannabis use among young people.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## References

- Awal, M., Kelly, L. E., Anderson, J., Brace, T., Brown, C., Buettner, T., King, P. M., Klemmer, J., Lougheed, T., O'Shea, K., & Mansell, H. (2022). Medical cannabis in Canadian schools: A scoping review of existing policies. *Cannabis and Cannabinoid Research*, 7(6), 758–768. <https://doi.org/10.1089/can.2021.0199>
- Barry, K. M., Gomajee, R., Kousignian, I., Bustamante, J. J. H., Lakrou, P., Mary-Krause, M., & Melchior, M. (2022). Adolescent cannabis experimentation and unemployment in young to mid-adulthood: Results from the French TEMPO cohort study. *Drug & Alcohol Dependence*, 230, 109201. <https://doi.org/10.1016/j.drugalcdep.2021.109201>
- Bensberg, L. (2021). An examination of the public opinion on marijuana legalization. *Nysa: The NKU Journal of Student Research*, 17–24. [https://inside.nku.edu/content/dam/gero/docs/NYSA/Bensberg\\_Examination%20of%20Public%20Opinion%20Surrounding%20Marijuana%20Legalization%20Nysa%203%202021.pdf](https://inside.nku.edu/content/dam/gero/docs/NYSA/Bensberg_Examination%20of%20Public%20Opinion%20Surrounding%20Marijuana%20Legalization%20Nysa%203%202021.pdf)
- Branch, L. S. (2023, avril 27). *Consolidated federal laws of Canada, cannabis act*. <https://laws-lois.justice.gc.ca/eng/acts/c-24.5/>
- Brémond, P. (2022, juillet 27). Rapport mondial sur les drogues 2022. *Dianova*. <https://www.dianova.org/fr/nouvelles/rapport-mondial-sur-les-drogues-2022/>
- Brubacher, J. R., Chan, H., Erdelyi, S., Macdonald, S., Asbridge, M., Mann, R. E., Eppler, J., Lund, A., MacPherson, A., Martz, W., Schreiber, W. E., Brant, R., & Purssell, R. A. (2019). Cannabis use as a risk factor for causing motor vehicle crashes: A prospective study. *Addiction*, 114(9), 1616–1626. <https://doi.org/10.1111/add.14663>

- Bulletin Officiel. (2021). *Bulletin officiel N°7010- 25 hija 1442 (p.9)*. <https://www.anrac.gov.ma/wp-content/uploads/2023/10/13-21-Fr.pdf>
- Chadwick, B., Miller, M. L., & Hurd, Y. L. (2013). Cannabis use during adolescent development: Susceptibility to psychiatric illness. *Frontiers in Psychiatry*, 4. <https://doi.org/10.3389/fpsy.2013.00129>
- Chan, M. H., Knoepke, C. E., Cole, M. L., McKinnon, J., & Matlock, D. D. (2017). Colorado medical students' attitudes and beliefs about Marijuana. *Journal of General Internal Medicine*, 32(4), 458–463. <https://doi.org/10.1007/s11606-016-3957-y>
- Choi, N. G., Marti, C. N., DiNitto, D. M., & Choi, B. Y. (2018). Older adults' marijuana use, injuries, and emergency department visits. *The American Journal of Drug and Alcohol Abuse*, 44(2), 215–223. <https://doi.org/10.1080/00952990.2017.1318891>
- Clarke, P., Dodge, T., & Stock, M. L. (2018). The impact of recreational Marijuana legislation in Washington, DC on Marijuana Use cognitions. *Substance Use & Misuse*, 53(13), 2165–2173. <https://doi.org/10.1080/10826084.2018.1461226>
- De Faria, L., Mezey, L., & Winkler, A. (2021). Cannabis legalization and college mental health. *Current Psychiatry Reports*, 23(4), 17. <https://doi.org/10.1007/s11920-021-01231-1>
- El Omari, F., & Jallal, T. (2021). *Evaluation de l'usage de substances psychoactives et du comportement addictif auprès des élèves scolarisés au Maroc L'enquête Nationale MedSPAD-IV MAROC 2021*. (p. 105). Conseil de l'Europe (2022).
- European Monitoring Centre for Drugs and Drug Addiction. (2023). *European drug report 2023*. Publications Office. <https://data.europa.eu/doi/10.2810/161905>
- Fedorova, E. V., Ataïants, J., Wong, C. F., Iverson, E., & Lankenau, S. E. (2022). Changes in medical Cannabis patient status before and after Cannabis legalization in California: Associations with Cannabis and other drug use. *Journal of Psychoactive Drugs*, 54(2), 129–139. <https://doi.org/10.1080/02791072.2021.1926604>
- Fedorova, E. V., Mitchell, A., Finkelstein, M., Ataïants, J., Wong, C. F., Conn, B. M., & Lankenau, S. E. (2023). Pre-post cannabis legalization for adult use: A trend study of two cohorts of young adult cannabis users in Los Angeles. *Journal of Psychoactive Drugs*, 57(1), 99–109. <https://doi.org/10.1080/02791072.2023.2282515>
- Gardiner, K. M., Singleton, J. A., Sheridan, J., Kyle, G. J., Nissen, L. M., & MacLure, K. (2019). Health professional beliefs, knowledge, and concerns surrounding medicinal cannabis – A systematic review. *PLOS ONE*, 14(5), e0216556. <https://doi.org/10.1371/journal.pone.0216556>
- Ghandour, L., Slim, A., Abbas, N., & El-Khoury, J. (2024). Patterns of cannabis use, perception of harm, and perceived impact of legislative change in an online sample of young adults from Lebanon: Insight on recreational users versus dual motive users. *Harm Reduction Journal*, 21(1), 41. <https://doi.org/10.1186/s12954-024-00958-3>
- Grant, C. N., & Bélanger, R. E. (2017). Le cannabis et les enfants et adolescents canadiens. *Paediatrics and Child Health*, 22(2), 103–108. <https://doi.org/10.1093/pch/pxx018>
- Harris-Lane, L. M., Storey, D. P., Drakes, D. H., Donnan, J. R., Bishop, L. D., & Harris, N. (2023). Emerging adult perceptions of cannabis consumption: Examining changes in perceptions from pre-legalization to post-legalization. *International Journal of Drug Policy*, 120, 104193. <https://doi.org/10.1016/j.drugpo.2023.104193>
- Hasin, D. S., Wall, M., Keyes, K. M., Cerdá, M., Schulenberg, J., O'Malley, P. M., Galea, S., Pacula, R., & Feng, T. (2015). Medical marijuana laws and adolescent marijuana use in the USA from 1991 to 2014: Results from annual, repeated cross-sectional surveys. *Lancet Psychiatry*, 2(7), 601–608. [https://doi.org/10.1016/S2215-0366\(15\)00217-5](https://doi.org/10.1016/S2215-0366(15)00217-5)
- Hawley, P., Gobbo, M., & Afghari, N. (2020). The impact of legalization of access to recreational Cannabis on Canadian medical users with cancer. *BMC Health Services Research*, 20(1), 977. <https://doi.org/10.1186/s12913-020-05756-8>
- Hua, J. T., Afshar, M., Clark, B. J., Kovacs, E. J., & Burnham, E. L. (2020). The relationship of cannabis decriminalization in Colorado and Cannabis use in individuals with alcohol use disorders. *Journal of Cannabis Research*, 2(1), 13. <https://doi.org/10.1186/s42238-020-00018-0>
- Imtiaz, S., Nigatu, Y. T., Sanches, M., Ali, F., Boak, A., Douglas, L., Hamilton, H. A., Rehm, J., Rueda, S., Schwartz, R. M., Wells, S., & Elton-Marshall, T. (2024). Effects of cannabis legalisation on patterns of cannabis consumption among adolescents in Ontario. In *Drug and alcohol review* (Vol. 43, pp. 764–774). <https://doi.org/10.1111/dar.13786>
- Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). Monitoring the future National survey results on drug use, 1975–2019: Overview, key findings on adolescent drug use. In *Institute for social research* (pp. 131). Institute for Social Research, University of Michigan. <https://files.eric.ed.gov/fulltext/ED604018.pdf>
- Kadri, N., Agoub, M., Assouab, F., Tazi, M. A., Didouh, A., Stewart, R., & Moussaoui, D. (2010a). Moroccan national study on prevalence of mental disorders: A community-based epidemiological study. *Acta Psychiatrica Scandinavica*, 121(1), 71–74. <https://doi.org/10.1111/j.1600-0447.2009.01431.x>
- Kadri, N., Agoub, M., Assouab, F., Tazi, M. A., Didouh, A., Stewart, R., & Moussaoui, D. (2010b). Moroccan national study on prevalence of mental disorders: A community-based epidemiological study. *Acta Psychiatrica Scandinavica*, 121(1), 71–74. <https://doi.org/10.1111/j.1600-0447.2009.01431.x>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>

- Lau, N., Sales, P., Averill, S., Murphy, F., Sato, S.-O., & Murphy, S. (2015). Responsible and controlled use: Older cannabis users and harm reduction. *The International Journal on Drug Policy*, 26(8), 709–718. <https://doi.org/10.1016/j.drugpo.2015.03.008>
- Mansell, H., Zaslawski, Z., Kelly, L. E., Lougheed, T., Brace, T., & Alcorn, J. (2023). Medical cannabis in schools: A qualitative study on the experiences of clinicians. *Paediatrics and Child Health*, 28(2), 113–118. <https://doi.org/10.1093/pch/pxac110>
- Meffert, B. N., Morabito, D. M., Mosich, M. K., Loflin, M. J., Sottile, J., & Heinz, A. J. (2019). Navigating blind in the green rush: Clinical considerations and harm reduction practices for cannabis. *Current Drug Research Reviews*, 11(1), 3–11. <https://doi.org/10.2174/2589977511666181109153958>
- Rammouz, I., & Boujraf, S. (2022). Medical and industrial cannabis legalization in Morocco and the addictions care outlook of youth: First prospective study from African Arabic experience. *Cannabis and Cannabinoid Research*, 7(3), 237–238. <https://doi.org/10.1089/can.2021.0051>
- Rammouz, I., Rachidi, S., Sidki, Z., & Aalouane, R. (2020). Les addictions au Maroc : État des lieux. *Alcoologie et Addictologie*, 42(1), 28–33. <http://alcoologie-et-addictologie.fr/index.php/aa/article/view/882>
- Rapport mondial sur les drogues 2018. (s. d.). Consulté 15 février 2024, à l'adresse <https://www.unodc.org/wdr2018/>
- Salas-Wright, C. P., Carbone, J. T., Holzer, K. J., & Vaughn, M. G. (2019). Prevalence and correlates of cannabis poisoning diagnosis in a national emergency department sample. *Drug & Alcohol Dependence*, 204, 107564. <https://doi.org/10.1016/j.drugalcdep.2019.107564>
- Sokratous, S., Kaikoush, K., Mpouzika, M. D., Alexandrou, G., & Karanikola, N. M. (2022). Attitudes, beliefs and knowledge about medical cannabis among nurses and midwives in Cyprus: A cross-sectional descriptive correlational study. *BMC Nursing*, 21(1), 120. <https://doi.org/10.1186/s12912-022-00887-1>
- Turna, J., Balodis, I., Munn, C., Van Ameringen, M., Busse, J., & MacKillop, J. (2020). Overlapping patterns of recreational and medical cannabis use in a large community sample of cannabis users. *Comprehensive Psychiatry*, 102, 152188. <https://doi.org/10.1016/j.comppsy.2020.152188>
- UNODC. (2022). *World drug report 2022 (United Nations publication)*. No. United nations publication, sales No. 22.XI.8. United nations. <http://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2022.html>
- Weisman, J. M., & Rodríguez, M. (2021). A systematic review of medical students' and professionals' attitudes and knowledge regarding medical cannabis. *Journal of Cannabis Research*, 3(1), 47. <https://doi.org/10.1186/s42238-021-00100-1>
- World Health Organization. (2020). *UN commission on narcotic drugs reclassifies cannabis to recognize its therapeutic uses*. <https://www.who.int/news/item/04-12-2020-un-commission-on-narcotic-drugs-reclassifies-cannabis-to-recognize-its-therapeutic-uses>
- Zolotov, Y., Metri, S., Calabria, E., & Kogan, M. (2021). Medical cannabis education among healthcare trainees: A scoping review. *Complementary Therapies in Medicine*, 58, 102675. <https://doi.org/10.1016/j.ctim.2021.102675>