Conservative Consumer towards Legal Cannabis Use

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Cannabis consumption has become the center of much debate globally. The positive public perception of the medicinal benefits of cannabis and the rise of recreational usage of cannabis necessitate dramatic changes in cannabis reform policy. As a consequence, there is an increase in cannabis legalization around the globe, although it is still facing many rejections. It is crucial to understand the factors affecting public acceptance of cannabis use to support the contextualization and success of cannabis legalization.

Keywords: public perception; cannabis legalization; political view

1. Cultural and Subcultural Factors towards Legal Cannabis Use

A cross-cultural and subcultural analysis is necessary to provide deeper insights into legal cannabis consumption behavior. The differing behaviors and attitudes of people towards the legalization of cannabis are governed by sociodemographic factors as cultural systems change with demographic location. Social values and norms as shaped by the culture reflect judgments which eventually construct people's opinions towards cannabis. Cannabis use may be identified as a social need and part of their culture, or a specific lifestyle marked as in vogue by some cultures. Across the globe, different countries have implemented rules and regulation for cannabis legalization based on the requirement of their citizens, as presented in **Table 1**.

Table 1. Contributing factors for legalization of cannabis use for recreational and medical purpose in several countries.

S. No.	Country	Status (Legal/Illegal)	Medical/Recreational	Possession Limit	Reason for Legalization	Reference
1	Uruguay	Completely Legal	Both	up to 40 g/month or 10 g/week	Reduce crime rate Reduce illegal trading	[1][2]
2	Canada	Completely Legal	Both	legal cannabis up to 30 g	 Reduce the risk of its consumption in youth and children (Age ≤ 18 years) Public health protection from potential risk Increase workplace, road and public places safety by addressing impairment Restrict illegal market 	<u>[3][4]</u>
3	Malta	Completely Legal	Both	dried cannabis up to 50 g	 Decriminalization for responsible use Fight back illicit drug trafficking Nullify the criminal records of people in illicit possession of substance 	[5]
4	Netherlands	Completely Legal	Both	not more than 5 g	1. Combat drug-related crime and nuisance	<u>[6]</u>

S. No.	Country	Status (Legal/Illegal)	Medical/Recreational	Possession Limit	Reason for Legalization	Reference
5	United States of America	Partially Legal (in 19 states)	Both	varying amounts between 10 g to 30 g	1. Alleviate the pain of critically ill people 2. Complete potential and shortcomings are not clear yet 3. Overcome the issue of illicit market	[7][8]
6	Australia	Partially Legal (Australian Capital Territory)	Both	up to 50 g	1. Availability of drug to treat serious patients 2. Black market uncertified product without the guarantee 3. Associated criminality 4. Flexible customs regulations to leverage the research on therapeutic benefit	[9][<u>10]</u>
7	Spain	Partially Legal	Medical (legal)/ Recreational (decriminalized)	no limit	Legalized with no upper limit on possession unless the consumer is a menace to the society	[11]
8	Portugal	Partially Legal	Medical (legal)/ Recreational (decriminalized)	Not reported	Medical use (in form of Sativex) to relieve pain associated with epilepsy, MS and oncology	[<u>12</u>]
9	South Africa	Legal in private and illegal in public	Both	up to 600 g in private and up to 60 g in public	1. The government legalized cannabis owing to fragile health and law system, unemployment. 2. Moreover, the conducive environment would have propelled illegal cultivation of cannabis	[<u>13</u>]
10	Paraguay	Partially Legal	Both	maximum of 10 g	1. Curb the illicit drug trade 2. Open new avenues for revenue generation as the country exports cannabis at cheap rates	[14]

Cannabis use is largely shaped by subculture, which may be defined as the culmination of stories, rituals and symbols around cannabis use. The perspective of Canadian recreational users towards decriminalization of cannabis consumption was demonstrated by Osborne and Fogel [15]. The evaluation focused on employed adults, namely graduate students and white-collar professionals. Interestingly, the majority of the participants strongly supported the liberalization of cannabis use. These proponents articulated that cannabis normalization is important and that the legal process will lead to economic benefits and increased safety, as well as the mitigation of violent crimes associated with illegal drug enterprises and trades. Additionally, the supporters viewed the prohibition of cannabis for non-medical or recreational use as unjust. A sociological investigation was carried out in Sri Lanka to assess cultural factors influencing the use of cannabis. The qualitative research findings reveal that cannabis consumption in Sri Lanka was considered a counterculture while betel chewing was not. The outcome of the study based on the interviews conducted by Mahees et al. [16] revealed acceptance among sportspeople, despite it being countercultural. Nevertheless, cannabis belongs to the WADA list of prohibited drugs [17].

2. Social Class Factors towards Legal Cannabis Use

Social class factors influence the patterns of consumption and attitude towards legal cannabis use. Studies pertaining to the association between cannabis use and social class hold paramount importance. Country-level differences, namely legislation, taxation and availability, are the determinants for these socioeconomic variations. However, socioeconomic status may not necessarily be associated with prevalent cannabis use among adolescents, as indicated by a thorough analysis of twenty-four European countries by Shackleton et al. [18].

The interrelation between socioeconomic status, individual sociocultural resources, school connectedness, parental education and substance use has been studied in various Europe countries by Gerra et al. [19]. Disadvantaged socioeconomic status leads to stressful life, which eventually leads to cannabis use. However, an inverse relationship has also been identified which showed higher experimentation among adolescents from the affluent class. The family affluence and cannabis use are dictated by several other factors such as academic excellence and future stability in terms of employment. Rich families' youth showed a marked decrease in cannabis use with expectations of academic excellence. However, a confounding result showed that affluent families' youth who had poor school performance and lower academic results, regarded cannabis use as comforting.

Hamilton et al. [20] studied the correlation between subjective social statuses, cannabis use and immigrant generation among adolescents. The research findings indicate that preference for cannabis use was lower among first-generation immigrant adolescents as opposed to those of other immigrant generations. The underlying reason for these research outcomes could be peer influences to adapt and achieve acculturation. On the other hand, parental education may influence cannabis use differently for different immigration generations. Therefore, this aspect may be ruled out for determining cannabis use among immigrated adolescents. In sharp contrast to the above findings, Petruzelka et al. [21] reported that students from affluent backgrounds exhibited increased chances of cannabis use as compared to students from vulnerable socioeconomic statuses. The findings suggest that sufficient finances are required to procure the substance.

Jones et al. [22] reported higher cannabis vaping among males and individuals from high-income classes. The particular pattern of use may be explained by excess means available to purchase the vaping device and cannabis. The findings highlight that 65% of the young participants vaped cannabis owing to its ease and acceptance in public places. On the other hand, Rogeberg [23] stated that cannabis consumption was common among youngsters from low socioeconomic status. It seems that people with lower socioeconomic backgrounds bear more grave consequences than people with higher socioeconomic positions. Socioeconomic disparities have percolated and cast a disproportionate level of substance-related consequences among marginalized and vulnerable populations. Unhealthy behaviors have been encountered among individuals from lower socioeconomic status.

Social class factors are also associated with risk behaviors. To cite a few, maternal education and self-literacy create awareness about health risks related to cannabis use [24]. A social position has been regarded as a critical determinant of cannabis use. Chan et al. [25] investigated the socioeconomic differences in cannabis use patterns in Australia. The findings reinforce that people with low education and income report frequent cannabis use (daily or weekly). However, a steep decrease in cannabis consumption patterns among Australian citizens of high socioeconomic status has been recorded.

3. Beliefs and Attitudes of Conservative Consumers towards Legal Cannabis Use

The medical use of cannabis is fast expanding and receiving acceptance from people worldwide. The opinion towards cannabis is governed by religious affiliation, generational cohort, prior or current prescription, media exposure and political affiliation. However, absolute cessation of the stigma associated with cannabis has not been achieved. Several studies have documented that patients are hesitant to seek cannabis therapeutics/treatment because of the stigma surrounding cannabis. Researchers have argued that the legalization of cannabis will cause serious health repercussions for people. Contrary to this perception, several groups have a positive stance towards the liberalization of cannabis. The findings shed light on associated benefits such as increases in tax revenue from cannabis sales, reductions in the number of individuals experiencing arrest, and societal costs. Additionally, the pro-legalization argument for cannabis supports the idea that cannabis consumption may substitute for the frequency of alcohol intake. However, some researchers have demonstrated a positive correlation between cannabis and alcohol consumption. The past decade has witnessed a surge in cannabis consumption among youngsters (18–25 years). However, the data did not show any statistically significant relationship between the increased use and a state's liberalization of laws [26].

A survey was conducted by Mendiburo-Seguel et al. [27] in nine cities in Latin America to understand the public opinion towards legal cannabis consumption. Among surveyed respondents, Chile showed the highest agreement (48.2%) toward its legal use, whereas Bolivia was not in favor of its legalization and only 9.4% of respondents agreed from the surveyed population. The respondents also showed similar trends for recreational and for therapeutic use, i.e., the highest for both being from Chile (5.1 and 7.9 on a scale of 10) and the lowest being from Bolivia (2.9 and 3.9). Among surveyed regions, the Human Development Indexes were lowest for El Salvador and Bolivia, and also the respondents in those places were linking the crime rate with cannabis use as the main reason for the lower agreement.

Different demographic variables in Canadian residents were measured by MacQuarrie and Brunelle [28] for the decriminalization of cannabis. Due to religiosity and conservatism, women were less in favor of decriminalization compared to men. Compared to committed or married persons, decriminalization was supported more by singles. The growing awareness about the therapeutic effects of cannabis has led to a positive attitude towards the legalization of cannabis. The participants have shown 69% agreement or strong agreement towards cannabis decriminalization.

Gritsenko et al. [29] conducted a study on medical students from cannabis-banning countries to understand the influence of religiosity and gender on beliefs and attitudes. Based on the analysis conducted by the Chi-square test on surveyed students, it showed that the female participants were more in favor of cannabis use compared to male participants to treat patients (**Figure 1**). Out of 208 females and 255 males, 41.7% of females and 26.1% of males recommended cannabis for medical purposes. The religious beliefs of these students also were a hindrance to cannabis use. The acceptance rates of non-religious and religious students were 57.6% and 27.0%, respectively; however, ~64% of the population of selected medical students were in favor of additional research about cannabis, irrespective of gender. Comparatively, the non-religious students were more in favor of the additional research about cannabis than religious students



Figure 1. The study on medical students from cannabis-banning countries to understand the influence of religiosity and gender on beliefs and attitudes (data was retrieved from Gritsenko et al. [29]).

Findley et al. [30] conducted a cross-national comparison to assess beliefs and attitudes towards the therapeutic use of cannabis among US and Israeli social work students. Medical cannabis use received substantial acceptance and support by social work students from the US (84.3%) and Israel (96.7%). Khamenka and Pikirenia [31] sought to discern the attitudes and beliefs of Belarus medical students towards medical cannabis use. In spite of the legal prohibition, it has been found that the respondents showed a positive attitude toward the substance and they were ready to use it for treating patients as it has physical and mental health benefits. Respondents (76.9%) opined that cannabis helps in the alleviation of chronic pain. To achieve the health benefits of cannabis use, specific outcome-oriented training on medical substances must be imparted. As per the study conducted by Lombardi et al. [32], 62% of the surveyed Ohio physicians strongly recommended the medical use of cannabis. However, the majority of them did not intend to get any formal training or certification for the same.

Another study was conducted by Clark et al. [33] on students of psychology from Russia and Malta to understand their beliefs and attitudes towards the use of medical cannabis. Compared to Russian students, 76.8% of Maltese students were in favor of cannabis use for the treatment of patients. Compared to 58.4% of Russian students, a 77.3% population of the students from Malta thought that cannabis has benefits for mental health. The legal policies of different countries had a significant impact on the beliefs and attitudes of the consumers. In Malta the use of cannabis was legalized, and the Maltese students supported it more compared to Russian students, where Russia had a zero-tolerance policy.

Edelstein et al. [34] examined the relationship between the beliefs, attitudes and religiosity of Israeli students using Pearson's chi-squared and Fisher exact tests. The test results showed that the recommendations for cannabis were higher for secular students compared to religious students. As per the religious students, the use of cannabis has mental health and physical health risks of 72.1% and 63%, respectively. One other aspect highlighted by the current survey was that the perspective of religious students also changed and they also supported medical and recreational use when they were in close association with cannabis users. Edelstein [35] studied the behavior of students (social work and medicine) towards cannabis use for the treatment of epilepsy. The majority of the participants held a permissive attitude towards medical cannabis health benefits. However, emphasis was on proper training and the need for the legalization of cannabis

for recreational purposes. The study highlighted the belief of medical practitioners about the potential efficacy of cannabis in treating epilepsy.

Cannabis has been seen to impart mental as well as physical health benefits. The attitude of the residents of Michigan state (US) was analyzed by Resko et al. [36] regarding the legalization of cannabis use. The outcome of the analysis highlighted that half of the residents endorsed cannabis legalization as the participants considered it less harmful than other narcotic compounds. On the contrary, approximately 42% of the participants were against the legalization because cannabis side effects are not clearly known to researchers and the medical fraternity. The participants who were unsure mentioned that thorough research is needed. Bonnici and Clark [37] explored attitudes, knowledge and beliefs of Maltese students (social wellbeing and health science) towards medical cannabis use. The key findings reflect polarity in the beliefs and attitudes of respondents. The respondents supported the therapeutic properties of cannabis to improve physical and mental health. However, there is a possibility of addiction and misuse of cannabis. Furthermore, 63.8% of the sample favored the legalization of cannabis for recreational use also.

Cunningham [38] conducted a survey in Canada to evaluate the belief of the general population about cannabis use at the time of legalization. In general, Canadians view cannabis as a low health risk substance. To expand on the above-mentioned statement, cannabis users associate it more with lower risk potential as compared to individuals who have never tried the substance. The participants of the survey believed that cannabis addiction could be reversed. In another study, Israeli and American nursing students were surveyed to examine their attitudes and knowledge about cannabis use for therapeutics [39]. The majority of the participants endorsed the medical use of cannabis based on their experience with cannabis users as it resulted in improvement of mental and physical health. The results were in line with other studies [40]. Although there was a paucity of scientific evidence, the participants acknowledged the positive effects of cannabis on mental and physical health based on their experience with cannabis users.

Research findings demonstrated ambivalent beliefs and attitudes of students (medical and nursing) and the general public toward cannabis use. A survey was conducted by Felnhofer et al. $\frac{[41]}{}$ to evaluate the attitude and knowledge of Austrian medical students towards medical cannabis. Overall, it was found that medical students did not favor the use of cannabis for psychiatric treatments or in medicine in general. Furthermore, with regard to differences in opinion towards medical cannabis on the basis of gender, male students endorsed the legalization of medical cannabis. On the other hand, female students were reserved and skeptical about the spillover effects of legalization. The perceptions of Uruguayan adults related to the legalization of cannabis and its use were studied by Cruz et al. $\frac{[42]}{}$. Among the surveyed population, the majority of the respondents (60.7%) were against the legalization of cannabis. Disapproval was mainly due to the negative belief system of the people. Cannabis poses health risks and even leads to harder drugs such as heroin. Cannabis was considered as harmful and a path to harder drugs by 68% and 71% of the surveyed population, respectively. Furthermore, with the advent of legitimization, society will be at risk as the security conditions are likely to worsen.

A survey was conducted by Rudy et al. [43] on Mid-Atlantic undergraduate students in the US to understand their attitudes about legalization policies for the use of cannabis. Among the tested population, only 4.4% were opposed to the use of cannabis as these participants thought that it was a major crime. On the contrary, cannabis legalization was accepted by 64.3% of participants and among those participants, 78.2% were in favor of private use. The main reason given for the legalization or adoption was low addictiveness. On the contrary, the study conducted by Weatherburn et al. [44] mentioned that the consumption of cannabis leads to detrimental effects on consumer health such as dependency, cardiovascular disease and ischaemic stroke, etc. The main detrimental effects of cannabis medical application are shown in **Figure 2**. In fact, Australians who have consumed cannabis once in their lifetime, especially at a young age, treated it as a benign drug. In addition, the study suggested that the consumption of cannabis was affected by its decriminalization. The decriminalization of cannabis led to its spreading, which results in higher usage among youngsters (age group of 14 and above).

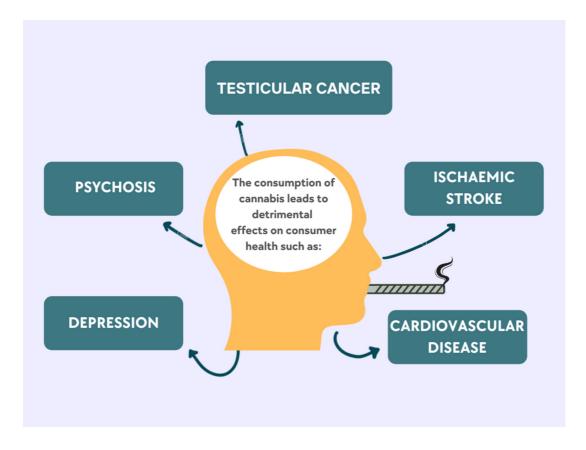


Figure 2. The main detrimental effects of cannabis medical application (based on Weatherburn et al. [44]).

Taneja et al. [45] evaluated the attitudes and beliefs of Canadian Genitourinary cancer patients about care and symptom management by cannabis use. The findings reveal that patients reported an overall improvement in quality of life. The participants experienced relaxation and increased appetite with a marked reduction in anxiety, nausea and pain. However, the participants were unsure about the ability of cannabis to inhibit the progression of cancer. Tanco et al. [46] studied the difference in beliefs of cancer patients towards medical cannabis use in decriminalized vs. criminalized states. The research findings reveal the positive belief of patients, irrespective of the legal status of cannabis, about it alleviating anxiety and pain, stimulating appetite, and treating nausea and sleep disorders. Hence, the cancer patients strongly supported the legalization of cannabis for medical use alone.

Gerontology students believed in the medical use of cannabis for the treatment of Parkinson's disease and Alzheimer's disease. The supportive stance may be a result of their experience and direct contact with affected elderly individuals. Moreover, the medical students supported its legalization for recreational use as well. However, the results on the basis of religious background reveal that students from staunch religious backgrounds exhibited less positive attitudes towards the medical benefits of cannabis than students from secular backgrounds [47].

Educational advancement and intervention are necessary for the de-stigmatization of medical cannabis [33][44]. A comparative study was conducted to assess the beliefs, attitude and knowledge of foreign medical students studying in Belarus and Russia about medical cannabis use for pain relief [48]. The findings suggest that the gender, country of origin and religious status of the medical students did not influence their attitude towards medical use of cannabis. Belarusian students exhibited positive attitudes towards the medical use of cannabis in treating chronic pain (77%), cancer (65%) and fibromyalgia (53%). However, only 34% and 30% of the medical students believed in the effectiveness of cannabis for treating arthritis and multiple sclerosis, respectively [49].

Philpot et al. [50] surveyed the beliefs, attitudes and knowledge towards medical cannabis among primary health care providers. The results reveal that 58.1% of the respondents (primary care providers) endorsed the legitimization of medical cannabis and believed it was an efficient medical therapy. On the other hand, 38.7% of the respondents supported its use in addressing medical conditions. Furthermore, the beliefs of the providers towards cannabis in treating specific diseases were assessed. More than 50% of the providers were oblivious of the efficacy of cannabis in managing amyotrophic lateral sclerosis, inflammatory bowel disease, post-traumatic stress disorder, obstructive sleep apnea and autism. However, the medical effectiveness of cannabis in treating intractable pain, terminal illness and the medical conditions of cancer was strongly accepted by the providers (>50%). Vujcic et al. [51] evaluated the attitude of Serbian medical students towards the legalization of medical cannabis. The majority of the students (63.4%) favored the decriminalization of the medical use of cannabis, while 20.8% did so for recreational use. The results indicate that medical

students who support the legalization of medical cannabis are well versed with medical indications. On the other hand, students against legalization had sound knowledge about the associated adverse effects.

The positive attitudes and beliefs in the medical potential of cannabis, and hence towards legalization of medical cannabis, arise from the previous use of the substance. According to **Figure 3**, the majority of Colombian psychiatrists (82.1%) favored medical cannabis use along with showing a willingness to prescribe it (73.1%). However, knowledge about medical cannabis use is sparse among these psychiatrists. The psychiatrists showed the highest agreement for medical cannabis use in treating insomnia (35.2%), followed by anxiety disorders (29%). For non-psychiatric pathologies, cancer-related chronic pain received the highest approval from psychiatrists (87.6%), while chronic pain not associated with cancer received approval by 72.4% [52]. Bega et al. [53] discuss the beliefs, practices and attitudes of medical experts with regard to cannabis prescription for Parkinson's disease (PD) patients. The survey reveals mixed opinions of physicians about the efficacy and side effects of medical cannabis use for PD conditions. The physicians believed that cannabis is helpful in mitigating motor complications of PD-affected patients. However, they raised concerns about negative effects (dampening motivation, hallucinations, driving and worsening fatigue) stemming from the use of medical cannabis. Scientific findings should be translated to clinical practice keeping in mind the pharmacological risks versus the benefits of cannabis use.

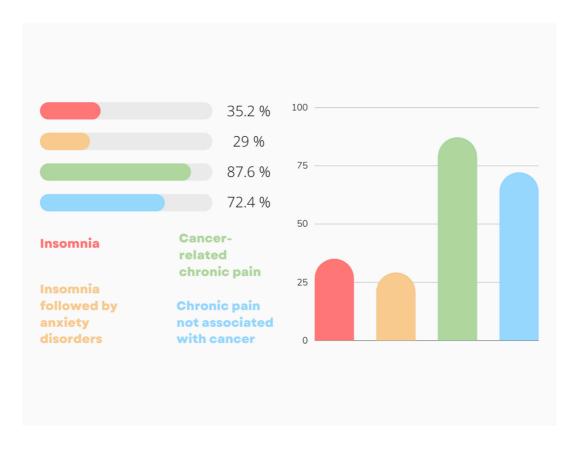


Figure 3. Agreement of psychiatrists with medical cannabis use in treating insomnia, insomnia followed by anxiety disorders, cancer-related chronic pain and chronic pain (data were retrieved from Orjuela-Rojas et al. [52]).

Clobes et al. [54] have studied the impact of health education on cannabis use using the Wilcoxon Sign–Rank Test (WSR) by analyzing the Medical Cannabis Attitudes Scale (MCAS). The test results showed that educational lectures have increased awareness among the participants and led to a significant increase in MCAS scores because it reduced the stigma among the users. Sokratous et al. [55] analyzed the year and gender-specific attitudes and beliefs towards medical cannabis use among nursing students. The findings suggest that third-year students favored cannabis for personal as well as medical use. It may be hypothesized that their positive attitude can be attributed to the relevant topics being taught in the curriculum. Meanwhile, the willingness towards medical cannabis use is different for fourth-year students due to their engagement in clinical settings as opposed to medical cannabis discussions. The analysis of gender-based attitudes towards medical cannabis use reports that females possessed more knowledge and awareness about the therapeutic use of cannabis and thus showed the need for formal medical cannabis education.

The beliefs, attitudes and knowledge of Greek graduate and postgraduate nursing students towards medical cannabis use were studied by Giannakopoulou et al. ^[56]. The research findings reveal that junior undergraduate students (first and second year) feared the health risks associated with cannabis use. Meanwhile, the senior undergraduate respondents (third and fourth year) and postgraduates were more inclined towards the medical benefits of cannabis in treating terminal

illness, fibromyalgia and mental health [57][58][59]. The training and clinical education led to a change in the behavior of undergraduate students. Studies evidence that globally the medical fraternity believes in the therapeutic properties of cannabis [60][61]. However, due to lack of knowledge, especially component-specific, recommendations may not be confident and may be deficient [41][61]. Hence, formal educational training on cannabis indications and side effects must be imparted to medical workers before the legalization of cannabis.

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