



“I Feel Validated”: Participation in a Medical Cannabis Program in the Context of Legalized Recreational Use

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Abstract

We examined the effects of California’s 2016 law legalizing cannabis for recreational use among young adult medical cannabis patients (MCP) and non-patient users (NPU). Three groups of young adult cannabis users ($n = 30$) were qualitatively interviewed in Los Angeles between 2020-21: current MCP ($n = 3$), who always had a medical cannabis recommendation, NPU ($n = 6$), who never had a recommendation, and MCP-to-NPU ($n = 21$), who had a recommendation in the past. MCP remained MCP due to greater acceptance of cannabis and lower prices afforded to MCP. MCP-to-NPU and NPU remained NPU due to increased acceptance of cannabis use within their community, greater legal security, and no compelling need for a medical cannabis recommendation. Price increases drove many to purchasing cannabis from unregulated black-market dispensaries. The legalization of cannabis for recreational use led to decisions to transition out of MCP status, destigmatization of cannabis use, increased prices of cannabis, and increased sourcing of cannabis from the black-market.

Keywords

cannabis, medical cannabis, qualitative research, legalization, young adults

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Introduction

Since California's Compassionate Use Act (1996) legalized cannabis for medical use, the number of medical cannabis patients (MCP) increased so that by 2018 California had an estimated 915,000 MCPs, with 23 MCPs per 1000 state residents (Procon.org, 2018). In 2015 in Los Angeles County, 33% of all adults, 24% of those aged 18–20 years, and 26% of those aged 21–29 years who reported using cannabis in the past year reported having a medical cannabis ID card or doctor's recommendation for medical use (L.A. County Dept of Public Health, 2018). As such, young adults comprise a substantial part of MCPs in Los Angeles County.

From 1996 to 2016, obtaining a medical cannabis recommendation was the only legal option for accessing cannabis for medical purposes in California. In November 2016, California passed the Adult Use of Marijuana Act (Proposition 64), legalizing adult cannabis possession and use for recreational or personal use (CA.gov. Cannabis Legislation, 2021), while retail sale began on January 1, 2018. Since recreational legalization, a topic of investigation has been the benefits and adverse effects of this policy on health and substance use (Burggren, Shirazi, Ginder, 2019; Smart and Pacula, 2019). However, given the recency of this law, evidence is limited on the role of legalization in young adult's decisions to participate in a medical cannabis program (Fedorova et al., 2021).

The role of legalization in MCPs' decision to let their recommendations lapse before renewal or expiration (Lankenau, Kioumars, Reed, McNeeley, Iverson, 2018), which effectively transitions them from MCP to non-patient users (NPU), is unknown. Generally, the process of obtaining a recommendation involves finding a physician who is authorized by the state to recommend medical cannabis, filling out a health questionnaire and undergoing a physical examination, while an annual recommendation renewal can cost around \$40–60 (Lankenau et al., 2018). As such, becoming and maintaining MCP status can be an involved and expensive process. However, it also provides MCP with direct access to cannabis from state-licensed medical cannabis dispensaries. Prior to recreational cannabis legalization, MCP who transitioned to NPU would lose their access to legal medical cannabis dispensaries. Reasons for transitioning out of MCP status during the post-legalization period can provide insights into the role of legalization of cannabis has on decisions to remain MCP and the broader impact on medical cannabis programs.

An additional area of interest is how drug policies that reduce or remove criminal penalties for cannabis possession and use might impact stigma towards cannabis use (Hathaway, Comeau, Erickson, 2011). Prior to recreational cannabis legalization, a qualitative study of self-reported medical cannabis users in California found that almost all respondents reported the stereotype that patients were viewed as "stoners" who took advantage of the law, including those who used cannabis for cancer treatment (Satterlund, Lee, Moore, 2015). Openness about one's cannabis use is often guarded due to stigmatizing factors such as social disapproval; as a result, patients may be reluctant to reveal their MCP status to friends and family members and avoid discussing their cannabis use with their regular physician (Hathaway et al., 2011; Satterlund et al., 2015). Additionally, a qualitative study of self-reported medical cannabis users in Canada found that medical cannabis user identity was maintained partially as a defense mechanism against social stigmatization (Athey, Boyd, Cohen, 2017). As such, managing "patient identities," i.e., choosing with whom to disclose cannabis use, and using medical cannabis use as a defense against stigma, is a regular part of MCP and self-identified medical cannabis users' lives (Athey et al., 2017; Satterlund et al., 2015). However, a change in legal status can affect perceived stigma; in a qualitative study among Canadian recreational cannabis users, participants felt that recreational cannabis legalization would reduce the social stigma of cannabis use (Osborne and Fogel, 2017). Similarly, following legalization of recreational cannabis in Nevada, young adults reported less negative social pressure about their cannabis use from their families (Amroussia, Watanabe,

Pearson, 2020). Popular support for cannabis legalization has been increasing with 68% of U.S. adults currently supporting legalization, indicating normalizing societal perceptions of cannabis use (Amroussia et al., 2020; Brennan, 2020). Reasons for supporting legalization include adding tax revenue, reducing violent crime associated with the black-market trade, reducing the cost to the criminal justice system, and reducing the social stigma and associated negative stereotypes of cannabis users (Amroussia et al., 2020; Osborne & Fogel, 2017). However, no U.S. studies have investigated how recreational cannabis legalization impacts perceived stigma and MCP identity among current and former young adult MCP.

An additional unanswered question is the impact of recreational legalization on cannabis prices and sources. Prior to broader legalization across the U.S. the price of recreational cannabis was speculated to fall below black-market prices, leading to a reduction in black-market purchases (Hall & Lynskey, 2016). Black-market dispensaries, which are unlicensed to sell cannabis, may be a storefront or delivery service (Romero, 2019). A qualitative study conducted during the pre-legalization period in Los Angeles found that young adult cannabis users accessed cannabis from a variety of legal and illegal sources (Reed, Kioumarsis, Ataiants, Fedorova, Iverson, 2020). During this pre-legalization period, MCPs primarily purchased cannabis from dispensaries and delivery services, while NPUs mostly purchased from friends and private sellers; NPUs were also able to regularly access cannabis from dispensaries through in-person visits and the diversion of cannabis from dispensaries to the illicit market (Reed et al., 2020). Additionally, prior to recreational cannabis legalization, cannabis festivals and events provided the opportunity for MCPs to purchase wholesale cannabis directly from the sellers, and contributed to MCPs feeling connected to a broader culture of cannabis users (Reed et al., 2020). However, despite speculation that prices would be lower, the monthly average prices of cannabis sold from legal dispensaries in California continued a slight upward trend in the post-legalization period (Dills, Goffard, Miron, Partin, 2021). Similarly, data from Canada indicates legal cannabis was more expensive than black-market cannabis post-legalization (Mahamad, Wadsworth, Rynard, Goodman, Hammond, 2020). A 2019 report from the United Cannabis Business Association found 2835 black-market sellers in California, three times as many as legal dispensaries (Romero, 2019). Anecdotally, cannabis users opt to purchase from black-market dispensaries to avoid state, excise, and local taxes on legal recreational cannabis that can add up to 25% of the cost (Romero, 2019). With a rapidly changing policy landscape around cannabis use, there is a lack of research investigating whether real or perceived price difference impacts cannabis sources, and decision-making process towards being MCP.

Given the gaps in the research, this qualitative analysis examined the impact of recreational cannabis legalization on three interrelated sets of behaviors and perceptions among young adult MCPs and NPUs in Los Angeles: (1) decisions to stay or become MCP; (2) perceived stigma around cannabis use; and (3) perception of cannabis prices and sources.

Methods

Sample

Qualitative interviews were conducted with a subsample of 36 participants selected from a larger cohort study of young adult cannabis users in Los Angeles, California, which used a longitudinal mixed methods design (Lankenau, Fedorova, reed, Schrage, Iverson, 2017). To be eligible for the study, participants were required to be 18 to 26-year-old at baseline, live in the Los Angeles metro area, speak/read English, and have used cannabis at least 4 times in a month prior to study enrollment. These baseline criteria for age and cannabis use frequency were designed to enroll young adults as an age group with the highest rates of cannabis and other drug use and who used cannabis regularly (Lankenau et al., 2017; Lankenau et al., 2018; SAMHSA, 2021). Participants

were recruited through targeted, non-random sampling (Watters & Biernacki, 1989), as well as chain referral sampling (Biernacki and Waldorf, 1981). Participants were recruited in natural settings, such as neighborhoods, college campuses, and medical cannabis dispensaries, as well as via recruitment flyers and Craigslist advertisements. Young adults were selected for qualitative interviews based on three criteria: variability in the frequency of cannabis use, presence or absence of a chronic health condition, and scores on the Emotion Regulation Questionnaire, which assesses different dimensions of how participants manage negative affect and has been found to be associated with different patterns of substance use (Gross & John, 2003; Wong, Silva, Kecojevic, Schrage, Bloom, 2013).

The present study builds upon two prior qualitative analyses of this subsample which focused on becoming a medical cannabis patient (Lankenau et al., 2018) and cannabis sources in a medical cannabis environment (Reed et al., 2020). At the qualitative baseline interview in 2014, approximately two-thirds of the subsample possessed a doctor's recommendation for medical cannabis, which allowed MCP to legally purchase cannabis from licensed medical cannabis dispensaries. However, since recommendations need to be renewed annually, some participants who were MCP at baseline later transitioned to NPUs (Lankenau et al., 2018). Furthermore, as MCP became NPU and vice versa during the study period, sources of cannabis changed too so that MCP and NPU acquired cannabis from a mix of dispensaries, delivery services, and illicit sources (Reed et al. 2020). Following recreational cannabis legalization in California in 2016, subsequent waves of data collection from the qualitative subsample allowed for further exploration of these earlier themes in a new policy environment: participants' motivations for transitioning into and out of MCP status and prices, sources, and access to cannabis.

Data Collection

Four waves of qualitative interviews have been collected: wave 1 ($n = 62$, June 2014 – September 2015), wave 2 ($n = 60$, November 2015 – December 2016), wave 3 ($n = 30$, July 2017 – January 2018), and wave 4 ($n = 36$, May 2020 – February 2021). For the present analysis, wave 4 qualitative data were utilized so that all interviews were conducted after recreational cannabis sales began in January 2018. While wave 1 through wave 3 qualitative interviews were conducted face-to-face, wave 4 interviews were conducted remotely via Zoom due to COVID-19 restrictions. Interviews typically lasted between 60 to 90 minutes and were recorded using a digital recorder. Participants received a \$35 cash incentive upon completion of each interview.

The study was approved by the Institutional Review Board at Children's Hospital of Los Angeles. In addition, a Certificate of Confidentiality was obtained from the National Institutes of Health by the investigators to further protect study participants. All interviewers had training and experience in conducting interviews on sensitive topics, such as substance use.

Measures

Qualitative interviews were semi-structured and consisted of open-ended questions designed to create a narrative around events, experiences, and histories related to study aims. Questions focused on accessing cannabis from dispensaries and other sources, reasons for transitioning into and out of MCP status, cannabis culture, and other topics related to health, cannabis and other drug use. Follow-up interviews focused on changes in health and cannabis practices since the last qualitative interview. For instance, participants were asked about their impression of recreational cannabis legalization and how it impacted them ('How has your attitude towards being a patient/ becoming a patient changed since marijuana became legal?', 'Since marijuana became legal, how have your sources of marijuana and costs changed?'), stigma ('Do you feel you have to hide your

marijuana use from certain friends and family members? Do you have plans to talk to them about this?'), and sources ('What is your favorite or preferred dispensary that you go to for marijuana?', 'Tell me about other places where you get marijuana other than a dispensary over the past year, such as growing your own, getting it from another grower, friends, etc.'). Participants who transitioned from MCP to NPU were asked: "Where did you get marijuana from when [your recommendation] expired? How did the way you used marijuana change when it expired? What are the circumstances under which you might consider renewing your rec [recommendation card]?".

Data Analysis

Six participants were removed from the analysis since they had moved out of California at the time of the wave 4 interview, resulting in a final analytical sample of 30 participants. Interviews were recorded digitally, transcribed verbatim, and uploaded to Atlas.ti version 9.0, a qualitative data analysis software. An initial set of codes was based on domains and questions from the interview guide, which were then supplemented by an iterative set of codes developed by the research team after free coding the transcripts (Lankenau et al. 2018; Reed et al. 2020). The final coding scheme, which consisted of 32 codes, was applied using Atlas.ti by five data analysts. For this analysis, key codes such as "stigma", "legalization", "legalization: rec", "price", "dispensary: buy/features", "dispensary: other sources", "staying MMP", "staying NPU", and "transition to NPU" were used to extract primary themes. The research team met regularly to review coded material and to ensure inter-coder reliability. Participants in this analysis have been assigned pseudonyms.

Results

Participants in the qualitative sample ($n = 30$) were predominantly male (60.0%), self-identified as Hispanic/Latinx (51.7%; non-Hispanic White = 24.1%, Black/African American = 10.3%, multi-racial = 6.9%, and Asian/Pacific Islander = 6.9%), and aged 27.4 years old on average (range 24–32). An analysis of MCP and NPU status between interviews at waves 1 and 4 revealed three groups: participants who were always MCPs ($n = 3$); participants who transitioned from MCP-to-NPU at some point between waves 1 and 4 ($n = 21$); and participants who were NPU at wave 1 and never received a medical cannabis recommendation by wave 4 ($n = 6$). During qualitative analysis, several themes emerged related to our initial questions regarding MCP status, stigma, and prices/sources following legalization of cannabis in California, which will be described for each group: greater acceptance of cannabis use; disincentives for a medical cannabis recommendation; reduced legal concerns; increased price of cannabis; and increased use of black-market sources.

Greater acceptance of cannabis use

In the post-legalization period, all MCP indicated that they no longer felt the need to hide cannabis use from family or friends and reported feeling more validated and accepted within the broader society. Sam (male, non-Hispanic White, 30) viewed legalization positively because cannabis use was becoming more widely accepted:

I've felt more justified. I feel validated. I've been [smoking] for a long time, so sort of rubbing people the wrong way for a long time. So to finally see it legalized and to see the mainstream culture accept it, for me it's been nice.

Conversely, Adam (male, Hispanic, 30) stated that legalization had a negative impact on the broader cannabis community he was a part of:

I hate legalization. I loved it at first because I was a part of [the cannabis industry] at the time when legalization happened...but now I just hate it...It's horrible. There's no events. There's no community. There used to be a community, you know, where people actually got together and like all smoked out. Like, these cannabis clubs are not what they are, what they used to be, you know. There used to be events - like they completely disappeared.

Similar to MCP participants, MCP-to-NPU participants saw a reduction in perceived stigma and greater validation of cannabis use. De-stigmatization was reported as a reason for staying NPU. On the other hand, some remained uncomfortable discussing their cannabis use with certain family members regardless of cannabis's legal status. George (male, non-Hispanic White, 30) described in depth varying comfort levels discussing his cannabis use with strangers versus different family members:

Back when Hollywood was open [pre-COVID 19] if I was on set or in a rehearsal or something, I would be very open about talking about it. Cause it's just not a big deal with most strangers. With family members I'm very careful about who I talk about it with. My mom and sister are very uncomfortable with it. My mom has since become more comfortable since it's been legalized recreationally in Washington where my family is from. I still kind of avoid the topic. I just avoid talking about it with most family members.

John (male, Hispanic, 27) reported that being more open about cannabis use with friends and family had an impact on his mental health:

I'd say it [mental health] is improved, like a little more relaxed because I was able to talk about this with my mom and we're able to like come to a consensus that, you know, I'm not breaking the law. I'm not hurting anybody and I'm happy so it's kind of a win for all of us.

Most NPU participants were very open regarding their cannabis use with friends and family, but some felt it was inappropriate to speak about use with coworkers. Notably, both participants who felt uncomfortable discussing their cannabis use reported that it was because either they identified as a "conservative" or their coworkers were "conservative." Melanie (female, Hispanic, 26) explains:

Because I'm conservative, you know, like - it's something that you're not going to be bragging about. You know, like I would rather brag about something better, you know, going to school [...] I'd just rather keep it away, because I don't want them to like just like put me in a category where it's completely not, you know, who I am.

Disincentives to renew a medical cannabis recommendation

This finding of greater acceptance of cannabis use during the post-legalization period described by most participants coincided with both an overall shift from MCP to NPU during the study as well as reports by participants that a medical cannabis recommendation was viewed as less valuable or necessary overtime. Nonetheless, a few MCP retained their medical cannabis recommendation for a variety of reasons as detailed below. Mary (female, non-Hispanic/Other race, 26) renewed her medical cannabis recommendation because she noticed people treated her with more respect compared to when she did not have a recommendation:

It [recommendation] made me feel like I'm not just like another pot head.

MCPs reported several drawbacks of renewing recommendation, including the cost and process of obtaining a recommendation, being included in a state database, and the inability to own a gun. Adam (male, Hispanic, 30) reported both positive and negative aspects of being MCP:

The negative is I can't register for a gun – it's sad that I thought about the negative first. The positive is that I'm able to have a valid reason [for using cannabis] because I was one of the early people [who have had] a recommendation since 2011.

Among MCP-to-NPU participants, few acknowledged any current benefits of having a recommendation while many reported that there was no need for a recommendation anymore. Reasons for transitioning to NPU included greater acceptance of cannabis use after legalization and the inconvenience of obtaining a medical recommendation. Moreover, almost all MCP-to-NPU participants reported no need to maintain or obtain a recommendation since they had access to the same cannabis products as MCP. Some explained that if full legalization of cannabis had not been enacted, they would have kept their recommendation as Connor (male, Hispanic, 26) reports:

I think had legalization and recreational marijuana not passed, I probably would have continued to be a medicinal patient. As a recreational user, I have access to the same things that I would have had medicinally. The only thing I really noticed is price, and the pretty steep taxes that we pay. I definitely loved the medicinal pricing.

Similarly, George (male, non-Hispanic White, 30) felt that he did not need a recommendation to purchase cannabis anymore. Moreover, the legitimacy of his medical cannabis use was already validated with his prior recommendation:

For me, it was easier because I didn't have to deal with getting a rec, cause I felt like if I was given a rec once, then I never really needed to validate my own self-medication of it again. So, when my rec expired, I didn't bother getting it back, especially after they legalized recreational shops. Then, it just didn't seem necessary to me anymore. So for me, it was just a matter of an increase in convenience and a better public perception, which made me feel more comfortable too.

Other disincentives to renewing a recommendation included factors related to inconvenience, such as the process of finding a physician, completing a health questionnaire and physical exam, as well as annual costs of renewing a recommendation. Carlos (male, Hispanic, 24) explains:

I had my weed card when I was 18 and then that expired and I was just kind of like, "I don't want to pay to renew it." Then I turned 21 and now I can just go anywhere now and get weed, so it's pretty dope. I don't have to go out of my way, go see a doctor [...]

It is important to note that frequency of cannabis use played a role in decisions not to renew a recommendation. Some ($n = 7$) MCP-to-NPU participants reduced or stopped cannabis use altogether, which impacted their decision to let their recommendation expire and attitudes towards renewing it in the future. Ashley (female, non-Hispanic White, 27) indicated that having a recommendation card was no longer essential:

When I did have my medical recommendation, I was smoking weed almost every single day [...] that's not a lifestyle that I'm wanting to pursue again [...] I don't think there is any point for me to buying large amounts of weed anymore. So, a rec just seems not essential.

All of the NPU participants, like the MCP-to-NPU group, similarly reported no need to obtain a medical cannabis recommendation. For instance, when asked of any circumstances under which he would obtain a recommendation, Luke (male, Black, 32) shared “only, if I, like, move to a state that required it [recommendation].”

Reduced legal concerns

Medical cannabis recommendations were previously viewed by some participants as a protection against legal troubles while driving with or using cannabis. Sam (male, non-Hispanic White, 30) noted that even after recreational cannabis legalization, having a recommendation provided him with an extra layer of security and was a benefit to remaining MCP:

I guess it's nice to feel like, if I were to get pulled over or get caught with [cannabis], I would have some – I don't know - some extra reason to have it [cannabis].

For MCP-to-NPU participants, the reduced legal concerns surrounding use of cannabis made renewing or obtaining a recommendation less necessary. Prior to legalization, Taylor (female, non-Hispanic Black, 28), who worked in the cannabis industry, would always carry her card on her for job and legal protection. After cannabis became legal, she described feeling comfortable without possessing a recommendation for legal protection – even when visiting indoor cannabis lounges:

I didn't have to worry about going [to a cannabis lounge] and having [cannabis], fearful of being arrested.

Similarly, NPU participants reported overall reduced legal concerns that made renewing a recommendation less useful. However, one participant expressed fears of potential legal repercussions given her undocumented status when asked about obtaining a medical cannabis recommendation. Melanie (female, Hispanic, 26) shared:

I didn't get it because my status as well, you know, I don't want to – well, right now I'm in the process, actually, applying to be a resident and I don't want to be judged.

Increased Price of Cannabis

Lower prices on cannabis products available to MCPs at dispensaries impacted decisions to remain MCP. All MCP participants noted price and tax differences for buying cannabis at dispensaries as MCP compared to being NPU. Unlike NPUs, MCPs received a tax benefit, increased quantity allowance, patient discounts, and reported these benefits as a reason for renewing their recommendations. Sam (male, non-Hispanic White, 30) explains renewing his medical cannabis recommendation based upon reduced costs:

I like the discounts I get at the dispensary I go to because I have a medical marijuana card. [...] The [positives of renewing a rec] are that it allows me to access more affordable prices. It [recommendation] allows me to get into certain dispensaries that I couldn't, because they're only available to medical marijuana patients.

MCP-to-NPU and NPU found that the price of cannabis sold in dispensaries had increased during the post-legalization period. Interestingly, when participants were probed for possible reasons or hypothetical benefits of renewing a recommendation, a majority mentioned a financial motivation of lower taxes resulting in cheaper cannabis. While many reported that cheaper

cannabis was preferred, behaviors and responses showed that it was not motivating enough to renew a recommendation, as George (male, non-Hispanic White, 30) explained:

Briefly, I kind of considered whether or not it would provide like a cost benefit, because you can purchase with fewer taxes from a dispensary that's only medicinal or even dispensaries that are medicinal and recreational. The medicinal price will be lower cause it doesn't have the same taxes. But, I just never settled on deciding to do that. I didn't think it was worth the hassle.

Similarly, NPU users were impacted by price increases, but it was not a motivating factor to obtain a recommendation in the future. Melanie (female, Hispanic, 26) discussed how the increase in taxes has led to her decreased cannabis use.

That's why like there's sometimes where I consider stop smoking because it's just pricey. And I can do it, you know, so I have that mindset. So it's like, "Oh, I'll just stop for a little bit so my tolerance could go down" and like that. Save myself some money.

Black-Market Sources

As described above, nearly all participants noted an increase in the price of cannabis in the post-legalization period, which impacted decisions as whether to renew a recommendation or not, and more. For instance, even though Adam (male, Hispanic, 30) had a medical cannabis recommendation, he noted a price difference between legal dispensaries and black-market sources, which was a driving force for him to buy from black-market sources:

I have been driven to the black market. Legalization has been horrible. There are sessions that are held in secret locations...where people come together and literally buy black market products...And I would rather go to these free events and pay \$35 to these local L.A. growers than to pay \$80 to this corporate monster that has formed in California.

Similarly, a majority of MCP-to-NPU participants indicated utilizing other sources, such as black-market and friends, rather than purchasing directly from legal dispensaries. Some, like Kayla (female, non-Hispanic Black, 28), mentioned that price was a factor in deciding between a legal dispensary and a black-market source, and whether to continue using cannabis at all:

Well, they [legal dispensaries] add tax onto it now, and I'm not a big fan of that. Um, so it's, it's really affecting me. [...] I just feel like the tax is a bit much, and it kind of deters me from using marijuana, because – yeah, again, the amount of money that you have to spend to be able to obtain enough medicine is – to me it's not worth it.

NPU participants reported similar price discrepancies that led them to black-market sources. One NPU participant, Luke (male, Non-Hispanic Black, 32), shared that he chooses not to go to a dispensary but rather purchases from "the people that sell to the dispensary."

Discussion

Given the relative recency of cannabis legalization for recreational use in California, this is the first study exploring the impact of this new policy on the participation of young adult cannabis users in a medical cannabis program. Overall, the reaction to legalization from all three groups - MCP, MCP-to-NPU and NPU - was mostly positive due to greater acceptance of cannabis use from the

public, family, friends, and co-workers. This supports previous findings of cannabis users in Canada who strongly favored legalization due to reduction in stigma (Osborne and Fogel, 2017). Destigmatized and normalized use of cannabis after legalization was felt as increased acceptance of cannabis use from friends and family, and due to reduced legal concerns. In all three groups, a majority reported no longer feeling the need to hide cannabis use from most family members or friends after legalization. This finding supports previous research that cannabis users are uneasy about stigma and negative stereotypes, and that legalization reduced social stigma and decreased negative pressure from family members about their cannabis use (Amroussia et al., 2020; Athey et al., 2017; Osborne & Fogel, 2017). However, normalized use was not always considered an improvement since wider acceptance of cannabis contributed to a declining medical cannabis community and culture due to fewer cannabis-related events according to one participant. For MCP-to-NPUs, destigmatized cannabis use was a contributing factor for staying NPU; some in this group felt their medical use had been validated and maintained their patient identity without having a recommendation. Among MCP-to-NPU and NPU participants, being open about their cannabis use with friends, family and co-workers often depended on family dynamics and past openness about drug use, including how participants expected others to perceive their cannabis use, which aligns with prior research (Satterlund et al., 2015).

Legalization impacted the decision to renew or obtain a medical cannabis recommendation among all three groups. Despite all groups reporting overall destigmatization of cannabis use, among MCPs, one of the reasons for renewing recommendation was the perception of greater respect one gets as a patient as opposed to being a recreational user. Moreover, the added legal protection provided by a medical cannabis recommendation was a motivating factor for renewal among MCPs and potential reasons for renewal and obtaining recommendation in the future among MCP-to-NPUs and NPUs. After medical cannabis became legal in California, debate and uncertainty continued over the legality of the state medical cannabis laws versus federal criminalization of cannabis use subjected MCPs to further stigmatization (Satterlund et al., 2015). Moreover, in Nevada post-legalization, young adults continued to be confused over the boundaries of legal recreational cannabis use (Amroussia et al., 2020). Our results support findings from previous studies that MCP status can be protective against stigma, as well as perceived legal protection from the equivocating legal status of cannabis in the U.S. (Athey et al., 2017; Satterlund et al., 2015). As cannabis remains a Schedule I drug, some MCPs renewed their recommendation for this increased respect, legitimacy of their medical use, and legal protection (Athey et al., 2017; Brennan, 2020).

Recreational cannabis legalization can have an important social justice benefit; for example, laws legalizing cannabis in the state of Washington were written to address racial and ethnic disparities in cannabis enforcement and sentencing (Jensen and Roussel, 2016). Interestingly, some MCPs in our sample still had legal concerns around cannabis use, whereby legal protection provided by a medical cannabis recommendation was cited as a reason to renew, which could be due to the continuing legal debate of state versus federal cannabis laws (Satterlund et al., 2015). MCP-to-NPUs and NPUs, on the other hand, reported reduced legal concerns was a reason to stay NPU and not renew or obtain a recommendation. The social justice benefit was cited by one Black-identifying MCP-to-NPU participant, who previously used her medical cannabis recommendation as a legal protection in case of an interaction with law enforcement but found that it was no longer needed after legalization. These findings support the perspectives of Canadian recreational cannabis users, who likewise felt they didn't have to "worry about the law" or would not be "treated like a criminal" after legalization (Osborne and Fogel, 2017, p. 21). Additionally, our qualitative subsample predominately self-identified as Hispanic/Latinx, a marginalized group who has historically faced disproportionate cannabis-related policing and arrests (Golub, Johnson,

Dunlap, 2007). These perspectives on the social justice benefit are crucial in the growing literature of the impact of cannabis legalization on racial inequalities.

All three groups acknowledged the inconvenience of finding a physician and completing the annual exam and questionnaire and expense of annual fees in obtaining and renewing a medical cannabis recommendation. The inconvenience factor of getting a medical cannabis recommendation has been documented in the literature; for example, most self-reported medical cannabis users in a rheumatology study after legalization in Canada similarly purchased cannabis through nonmedical sources (i.e., friends and the black market), ostensibly due to the cumbersome process of obtaining a recommendation and lower costs of cannabis (Fitzcharles, Rampakakis, Sampalis, Shir, Cohen, 2020). For MCPs, the benefit of lower cannabis products' cost outweighed the inconvenience of renewing their recommendation. For MCP-to-NPU and NPU users, the inconvenience and cost of a medical cannabis recommendation were more salient compared to lower cost of cannabis products for MCPs.

Additionally, legalization impacted cannabis price and subsequent sourcing of cannabis. Cannabis prices were predicted to drop below black-market prices after legalization, leading to a reduction in black-market purchases; in reality, prices have been rising steadily in California with reports of a thriving black market (Dills et al., 2021; Hall & Lynskey, 2016; Romero, 2019). Prior to legalization, MCPs typically purchased cannabis from dispensaries or delivery services but supplemented from other sources, while NPUs purchased cannabis diverted from dispensaries, private sellers, and other sources (Reed et al., 2020). After legalization, the resultant price discrepancy between legal dispensaries and black-market sources led all three groups to pursue black-market sources. This was true for MCPs as well despite receiving a discount in legal medical cannabis dispensaries with a recommendation. This supports reports that cannabis users are increasingly utilizing black-market sources due to lower price compared to legal recreational and even medical cannabis dispensaries (Romero, 2019). For some MCP-to-NPUs, price increases were impacting the decision to continue using cannabis at all. Our findings are in contrast to results of a study evaluating patterns of cannabis use and cannabis sourcing among youth after legalization in Canada, which reported youth purchasing cannabis more from legal government sources than black-market sources (Hawke and Henderson, 2021). Also, this study found few other changes in patterns of cannabis use, including similar rates of use before and after legalization, which contrasts with our findings that legalization and associated increased costs may have reduced frequency of use for some. This discrepancy between our findings and the Canadian study may be attributable to our study taking place in a large metropolitan area, where it may be easier to access cannabis via black-market sources.

Finally, our overall findings reflect a dynamic of multiple levels of influences as found in the socio-ecological model (Macintyre & Ellayway, 2000; Von Korff, Koepsell, Curry, Diehr, 1992) whereby policy level events, such as legalizing cannabis for recreational use, impact attitudes and behaviors at the individual level. Structural level changes expressed through laws legalizing recreational cannabis impacted the community level, resulting in a changing landscape of access to cannabis via the opening of recreational cannabis dispensaries and price difference between products sold from these dispensaries compared to black-market sources. Furthermore, increased access to cannabis and changes prices at the community level impacted the individual level whereby shifts in attitudes towards recreational cannabis use influenced the decision-making process about staying or becoming MCP and perceived stigma towards cannabis use.

Limitations

This study has several limitations. The interviews were conducted with young adults living in the Los Angeles area, and may not be generalizable to older adults or people living in other cities or states due

to different regulations in recreational cannabis laws and their implementation. For example, it is plausible that black-market cannabis is easier to obtain in a large metropolitan area such as Los Angeles compared suburban or rural areas; this may have influenced the number of participants switching from MCP to NPU. Additionally, changes in staff interviewers and the transition from face-to-face to Zoom interviews in wave 4 due to COVID-19 pandemic could have impacted the rapport between interviewers and study participants, including the possibility of a social desirability bias, where participants could have understated the frequency of accessing black-market sources.

Future Directions

As legalizing cannabis for recreational use gains nationwide popularity, these results reveal that it is important to consider the impact of this policy on cannabis use broadly and as it relates to participation in a medical cannabis program by young adults who report the highest rates of cannabis use compared to other age groups. Additional research is needed on stigma cannabis users face after legalization since some MCPs felt they were still respected more with a cannabis recommendation. Given the high number of MCPs and NPUs turning to black-market sources, additional research is needed to ensure that policies do not have negative unintended outcomes, such as cannabis legalization leading to more people purchasing low quality or contaminated cannabis products from unregulated sources.

Conclusion

Legalizing cannabis for recreational use in California impacted young adult cannabis users in several domains: attitudes towards being a patient, destigmatized cannabis use, perceived impact on cannabis price, and preferred cannabis sources. After legalization, MCPs chose to renew their recommendation due to increased respect of being a patient, increased legal protection, and lower cost of cannabis for MCPs. Those who transitioned from MCP-to-NPU found there was no need to renew their recommendation due to increased acceptance of cannabis use and reduced legal concerns. Despite the reported higher price of cannabis for NPUs, this was not a motivating enough factor for MCP-to-NPUs and NPUs to renew or obtain a recommendation. However, price increase led all three groups to pursue cannabis from cheaper black-market sources which may be an unintended consequence of legalization that needs further attention from policy makers and the cannabis industry.

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