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Responsible and controlled use: Older cannabis users and harm reduction

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Abstract

Background—Cannabis use is becoming more accepted in mainstream society. In this paper, we use Zinberg's classic theoretical framework of *drug, set, and setting* to elucidate how older adult cannabis users managed health, social and legal risks in a context of normalized cannabis use.

Methods—We present selected findings from our qualitative study of Baby Boomer (born 1946–1964) cannabis users in the San Francisco Bay Area. Data collection consisted of a recorded, in-depth life history interview followed by a questionnaire and health survey. Qualitative interviews were analyzed to discover the factors of cannabis harm reduction from the users' perspectives.

Results—Interviewees made harm reduction choices based on preferred cannabis derivatives and routes of administration, as well as why, when, where, and with whom to use. Most interviewees minimized cannabis-related harms so they could maintain social functioning in their everyday lives. Responsible and controlled use was described as moderation of quantity and frequency of cannabis used, using in appropriate settings, and respect for non-users. Users contributed to the normalization of cannabis use through normification.

Conclusion—Participants followed rituals or cultural practices, characterized by sanctions that helped define "normal" or "acceptable" cannabis use. Users contributed to cannabis normalization through their harm reduction methods. These cultural practices may prove to be more effective than formal legal prohibitions in reducing cannabis-related harms. Findings also suggest that users with access to a regulated market (medical cannabis dispensaries) were better equipped to practice harm reduction. More research is needed on both cannabis culture and alternative routes of administration as harm reduction methods.

Keywords

Cannabis; marijuana; older drug users; risk; harm reduction; normalization

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Background

Researchers point to a “normalization” of cannabis use, characterized by the drug’s prevalence, availability, and accommodating attitudes of non-using peers (Aldridge, Measham, & Williams, 2011; Duff, 2003; Hathaway, 2004; Hathaway, Comeau, & Erickson, 2011; Parker, Williams, & Aldridge, 2002). As suggested by opinion polls and public forums, an increase in cultural acceptance and support for legislative reform are other indicators that cannabis use is moving from the margins to the mainstream (Parker, 2005). Normalization has provided insight into the role of drug use in contemporary British youth culture (Parker, Aldridge, & Measham, 1998) but it can also be used to help understand a growing trend of drug use among older adults. Current rates of illicit drug use among U.S. adults aged 50 to 64 have increased in the past decade from 3.4 percent in 2002 to 7.2 percent in 2012, with cannabis as the most common (SAMHSA, 2013). Some studies indicate most users “age out” of cannabis consumption, either greatly reducing or discontinuing use before age 30 (Hall & Pacula, 2003; von Sydow et al., 2001). Others find that cannabis has become part of mainstream culture for youth and otherwise conforming adults who do not abandon its use when more mature roles and responsibilities are assumed (Hathaway, 1997; Hathaway, 2004; Hathaway et al., 2011; Pearson, 2001; Williams & Parker, 2001). As cannabis use is normalized in society, it becomes more important to understand how to reduce both short- and long-term harms associated with its use.

Harm reduction is a set of strategies that aim to minimize problems associated with drug use, while recognizing that for some users abstinence may be neither a realistic, nor a desirable goal. We explore the proposition that if people are thoughtful, well-prepared, and aware of the means and best settings for using a particular drug, then the risks associated with its use can be minimized (Dalgarno & Shewan, 2005). We use a taxonomy of drug-related harms categorized as health, social and legal risks (MacCoun, Reuter, & Schelling, 1996) focusing on users' reported use outcomes. We consider cannabis’ illicit status and the enforcement of formal control policies as a source of harm. We add “stigmatization” as its own source of harm in order to delineate between legal and social risks. We also incorporate Norman Zinberg’s (1984) classic theory of *drug, set, and setting*.

Drugs affect individuals differently; many factors play a role in individuals’ experiences. In the model, *drug* refers to the drug’s actions or pharmacological aspects of the experience. We extend the definition to include the different derivatives of cannabis (flowers, edibles, concentrates), as well as routes of administration (smoking, eating, vaporizing). The various cannabis “delivery systems” (derivatives and routes of administration) have their own set of reported benefits and drawbacks (Murphy et al., 2015). Some harm reduction techniques related to smoke inhalation include: using cannabis strains with a high THC[1] content, refraining from using cannabis with tobacco or other dried herbs, using cannabis that is free of contaminants and adulterants, omission of the Valsalva maneuver[2] and prolonged breath holding, and the use of alternative delivery systems such as pipes, vaporizers, and oral

[1]Tetrahydrocannabinol, the main psychoactive cannabinoid in cannabis.
[2]A technique used to enhance THC absorption in the lungs, performed by moderately forceful attempted exhalation against a closed airway. It is usually done by closing one’s mouth and pinching the nose shut while pressing out as if blowing up a balloon.

preparations (Grotenhermen, 2001). However, Gieringer (2001) found that the use of water pipes produced a higher ratio of tars per cannabinoids than joints because water also filters out THC. Water pipes may be counterproductive in reducing tars from cannabis smoking because the reduced THC content could motivate users to smoke more cannabis than they would with other routes of administration. While there has been limited research on vaporizing cannabis, studies indicate vaporization is a safe and effective mode of THC delivery (Abrams et al., 2007; Earleywine & Barnwell, 2007; Gieringer, 2001; Gieringer, St Laurent, & Goodrich, 2004; Van Dam & Earleywine 2010). Research suggests that vaporizing as an alternative to smoking can produce meaningful improvements in respiratory function, such as reduced coughing, wheezing, shortness of breath, tightness of chest and phlegm (Earleywine & Barnwell, 2007; Van Dam & Earleywine, 2010). Cannabis users who vaporize perceive harm reduction benefits such as reduced throat and lung problems, and reduced odour (Malouff, Rooke, & Copeland, 2014). Use of alternative delivery systems constitute practical harm reduction techniques that give users control over the *drug*.

Set refers to psychological variables, such as personality characteristics, past experiences, and expectations that users bring to the experience, including individuals' motivations for using cannabis. *Setting* refers to the physical and social context in which cannabis use takes place, and how these change over time. The physical setting comprises places, people, and things present during use. The social component encompasses the immediate social situation and "the set of other people present" (Jansen, 1997), or the broader beliefs and values of the user's social group, which establishes the social and cultural milieu at that particular place and time (Moore, 1993; Zinberg, 1984). The social context of cannabis use includes broader (macro) social and political contexts in which individuals use cannabis. Zinberg (1984) argues that the development of sanctions (values and rules of conduct) and rituals (patterns of behaviour) bring the use of drugs under control.

Social sanctions define whether and how a particular drug should be used, and can be informal or formal (laws and policies). Rituals, developed to support sanctions for cannabis use, include methods of procuring and administering the drug, selection of the physical and social setting for use, activities undertaken after use, and ways of preventing problematic effects (Zinberg, 1984). Analysts have observed that users employ methods to negotiate problematic situations by defining where, when, and with whom cannabis use is "normal" (Hammersley, Jenkins, & Reid, 2001; Pearson, 2001). Boundaries are set so over-frequent or dependent use, and use of "harder" drugs (e.g. cocaine, heroin) remain unacceptable (Hathaway, 2004). Williams and Parker (2001) describe a style of recreational drug use that considers "reasoned choices" related to health risks, getting caught, and managing school and/or work performance, suggesting that users employ a "hierarchy of risk" to draw distinctions. A sense of normalcy is preserved by avoiding attributions and behaviours seen as risky (Hathaway, 2004; Hathaway et al., 2011; Peretti-Watel, 2003).

Despite shifting public attitudes towards "normalization," cannabis use continues to carry stigma (Bottorff et al., 2013; Duff et al., 2012; Hammersley et al., 2001; Hathaway, 2004; Hathaway, Comeau, & Erickson, 2011; Peretti-Watel, 2003). Goffman (1963) defined stigma as "the phenomenon whereby an individual with an attribute which is deeply

discredited by his or her society, is rejected as a result of the attribute" (p. 21). Illicit drug users are among the most stigmatized groups (Ahern, Stuber, & Galea, 2007; Corrigan, Kubwabara, & O'Shaughnessy 2009). Users attempt to neutralize stigma or justify use through "techniques of risk denial" such as scapegoating "hard drug" users, emphasizing their ability for self-control, or comparing the risks of cannabis to other substances (Peretti-Watel, 2003).

Even those who use cannabis medicinally are not left unscathed. Bottorff and colleagues (2013) explain that individuals using "cannabis for therapeutic purposes (CTP)" must also cope with stigma. Other studies found that while cannabis use was not considered a high priority offense, a fear of potential arrest remained (Hathaway et al., 2011; Johnson et al., 2008). However, fear of formal punishment was considered a less direct threat to users than the prospect of disclosure, status loss, or social stigma (Johnson et al., 2008). This suggests that it is important to distinguish legal risks from stigmatization when considering cannabis-related harms.

In this paper, we examine the interplay of *drug, set, and setting* in the harm reduction methods of older adult cannabis users. While most studies focus on one dimension of cannabis-related harm, our study design allows us to explore a range of health, legal, and social risks. Past research on cannabis use has been limited primarily to adolescents and young adults, although older adults are occasionally included. We focus strictly on adults born in the Baby Boom generation (1946–1964), a population that is unique because many have experienced the shift in cannabis use from being associated with a deviant subculture to becoming a more normalized part of society, representing a significant change in *set and setting*. Since the concept of normalization was initially applied to understand drug use by young Britons, there has been a gap in the literature that examines implications of normalization among older adult drug users in the U.S. Furthermore, critical examination of the relevance of normalization to harm reduction has rarely been explicitly presented (Erickson & Hathaway, 2010). Increased understanding of the experiences of older cannabis users may illuminate the future use patterns and use consequences for young adults who continue to use cannabis into older adulthood. In-depth understanding of older adult cannabis users' harm reduction beliefs and practices will strengthen educational messages and support public health initiatives.

Methods

Data for this paper are derived from a National Institute on Drug Abuse (R01 DA033841) funded study of Baby Boomers who use cannabis. We aimed for a deeper understanding of Baby Boomers' cannabis use patterns, attitudes and perceptions, health and social consequences, and the impact of context on all of the above. Data collection consisted of an audio-recorded, in-depth life history interview, followed by a questionnaire and health survey.

We identified and recruited 97 participants in the San Francisco Bay Area with the help of eight key informants who had participated in previous studies and referred potential participants to project staff. We also posted recruitment advertisements on Craigslist[3]. We

employed chain-referral sampling by asking participants who completed the interview to refer up to three of their friends who were cannabis users. We limited referrals to three in order to ensure our penetration into various social worlds. Participants were pre-screened to help determine eligibility for enrolment into the study sample. To be included, participants self-identified as current users, born between 1946 and 1964, and had used cannabis a minimum of 24 times in the prior six-month period. Medical cannabis patients were included in the sample, but since this was not a study of medicinal cannabis per se, they also must have used for other purposes (relaxation, partying) and met the minimum number of times used in that manner. We excluded potential participants who self-reported problems with or treatment for alcohol or other drugs in the year prior to the interview to ensure participants were primary cannabis users.

Results

The sample (N = 97) included 62 men and 35 women. The ages ranged from 48 to 68 (median 58). Seventy-one interviewees (73%) were white, 18 (19%) African American, four (4%) of mixed ethnicity, two (2%) Asian, one (1%) Pacific Islander, and one (1%) Native American. Three (3%) study participants were also Latino (one white, two mixed ethnicity). Thirty-three (34%) had a medical cannabis recommendation or card, while 64 (66%) did not. We present direct quotes from select participants who were chosen because their statements were emblematic of the sample's beliefs and experiences.

Health risks

One aspect of how users controlled their experience and limited cannabis-related harms is how they used the *drug*. Study participants learned which cannabis derivative and route of administration were likely to produce the intended effects while posing the least dangerous health risks.

Moderation—For some interviewees, harm reduction methods included the user's *set* in the form of self-control. Moderation was characterized by limiting the frequency and/or quantity of cannabis use. Some claimed to moderate how much they used in one sitting, as well as the amount of smoke they inhaled in one "puff" or "toke." Jacob[4], a 59-year-old lawyer, took smaller hits to reduce coughing. He noted that misinformation affected his *set* and what long-term health-risks he should expect:

> [S]ometimes I cough while I'm smoking if I take too big of a hit. I've been trying not to inhale as much… smoke a little bit less, take smaller hits…'cause I am concerned about long-term lung or respiratory issues or I don't know if it affects my heart or whatever. I don't know enough about it. I know what the studies say, but I know they've been wrong before.

Pete, a 56-year-old cannabis dealer, reported he began to "think more of health" as he aged, and did not want or need to smoke as much. He suggested that the higher potency of today's cannabis eliminated the need to smoke roaches (end of burned joints) which he believed had

[3]Craigslist is a classified advertisements website.
[4]We use pseudonyms for study participants to protect confidentiality and anonymity.

more tar. Many interviewees agreed that the potency of cannabis had risen since they first started smoking. They felt having access to more potent cannabis made it easier to limit consumption since they did not need to use as much to get the desired effect.

Respiratory issues—While some interviewees considered lung damage a long-term risk of using cannabis, they did not report any cases of severe respiratory problems. However, coughing and increased phlegm were the most frequently cited health harms. When asked which delivery system they used most often, the majority of interviewees said they smoked and were most familiar with joints, often referring to them as the "old-fashioned" way of smoking.

Some interviewees voiced concerns about inhaling the chemicals from rolling papers and minimized risks by using thinner papers, avoiding flavoured papers, or avoiding joints altogether. Alternative routes of administration included pipes, water pipes, vaporizers, and edibles. Many interviewees believed water pipes offered "filtration," therefore reducing the amount of harmful carcinogens and tars inhaled. Fred, a 60-year-old asset manager, preferred a water pipe because it cooled and filtered the smoke: "*But, wanting to protect my lungs to some extent…that's why I like a water pipe….it's taking out the heat, it's taking out some of the large particles, and enough of the THC gets through that you still get stoned*." Other participants doubted that the filtration of the smoke actually helped.

Interviewees who vaporized reported reduced respiratory problems and odour. Jennifer, a 55-year-old sculptor, used a vaporizer for its harm reduction benefits despite feeling that it was not as "immediate" as smoking. She even encouraged her husband to vaporize: "*It's not as effective but it's softer on my throat….It's a slower high….My husband is also a chronic user….And he has a lot of breathing problems too. I'm trying to get him to smoke less and vape more*." Some individuals reported increased coughing from vaporizing. Kenneth, a 51-year-old industrial painter, recalled thinking he was going to "cough up a lung" when he used a vape. The cost of vaporizers was also cited as a deterrent for some participants. Internet retailers advertise vaporizers ranging from 70 USD for portable units, to upwards of 500 USD for the "Volcano." However, most participants, even those who did not vaporize, believed using vaporizers was a harm reduction method.

Some interviewees reported using cannabis concentrates to smoke less cannabis, or to replace flowers altogether. These products can be smoked, combined with cannabis in joints and other smoking devices, or vaporized. Dave, a 60-year-old who assembled electronics, considered using concentrates to be less harmful than smoking cannabis: "*[T]he thing with the oils is it's so pure, you don't get any of that-…'Cause you're burning a leaf, and a leaf's gonna have all kinds of impurities. And it's gonna have stuff that hurts your throat, and makes you cough*…" Some interviewees, like Bobby, a 55-year-old at-risk youth program counsellor, reported risks in using concentrates, most notably the residual butane from the extraction process:

> So in oil I always want to test it, any of those clubs that test it, I go by word of mouth and then texture….[S]ome stuff, if it's gooey with a lot of oxygen in it, I don't want that. I want something that's solid all the way through….There's two

> types of ways to make it…hot process and the cold process. The hot process puts a lot of butane in it. I don't want to be smoking something with a lot of butane in there.

Bobby evaluated concentrates before making a purchase as a harm reduction method.

Overdose management—Some interviewees reported smoking too much cannabis and feeling dysphoric. In these situations, users suggested sleeping off the high, eating food, or drinking something like coffee or orange juice. It was more common for participants to report edible overdose, including sleepiness, nausea, heart palpitations, anxiety, paranoia, and hallucinations. A harm reduction method was to learn the dosage necessary to get the expected effect, either through experimentation or procuring labelled edibles.

Homemade edibles have varying levels of potency if the ratio of ingredients is not properly measured. Since edibles in medical cannabis dispensaries are labelled with the ingredients, the dosage, and brand names, users get a consistent product. Steve, a 63-year-old lawyer, explained that access to medical cannabis dispensaries afforded him better management of edibles*: "I buy the same thing every time. So I have the dosage down.…But when I didn't, I ate a little bit too much. And it's like, practically glued to a chair.…The thing with the edibles, now they're labelling them more.…But back when I started, they didn't.…I ate a half a brownie. Which was much too much…So I learned, don't eat this much*." Interviewees found it harder to regulate the dosage of edibles because the onset of effects is not as immediate as smoking or vaporizing. Participants recommended a waiting period from 30 minutes to two hours for edibles to take effect.

Using the wrong strain—Another aspect of the *drug* are the different strains of cannabis. *Leafly.com* catalogues over 800 varieties of cannabis by individual effects, flavours, and medical uses. Indica strains produce a body-effect, like muscle relaxation, and were referred to by some participants as the "couch-lock" kind. Sativa strains produce a mind-effect, comparable to stimulation. Hybrid strains produced by cross-breeding have both indica and sativa properties. While a few participants denied any preferences or noticeable differences by stating "weed is weed," many described varying effects even if they were unaware of strain types. Other interviewees were able to name favourite strains (e.g. "OG Kush," "Granddaddy Purple"). By understanding what outcomes to expect, some interviewees were able to control the *drug* by choosing the appropriate strain. Sharon, a 50 year-old caregiver, preferred sativas but her physician suggested she use indicas because it was better for her high blood pressure. Alexandra, a 59-year-old executive assistant, had an experience with indica which led her to favour sativas:

> [Y]ou have to kind of modify what you're taking…in order to get the experience that you want….I think it was the indica I was using as well. And I didn't care for that at all…it's like you're underwater, and someone just asked you to run….it just dulled and slowed down the whole moment for me…you have to really pay attention to what you're having. And you know, decide.

Steve the lawyer preferred indicas: "*I go to the club and look for heavy indicas….I don't do stimulants…So when I smoke a strong sativa, I get jittery….you keep smoking and smoking wondering when you're gonna relax!*"

Medical cannabis patients had more knowledge about alternative delivery systems. They enjoyed unrestricted access to a wider selection of concentrates and strains, and more information about cannabis than non-patients. Steve shared that some dispensaries provided cannabis literature, which he found to be educational: "*I pick up the magazines at the dispensaries…They'll have different buds and description of each one!…I'll say I do it more for education than just light reading. You learn!*" Dispensaries label cannabis by type and strain. Some dispensaries send their cannabis samples to labs that test for potency, and for contaminants. These types of regulations can give users the necessary information and confidence to control their cannabis use. Tiffany, a disabled 54-year-old, revealed that she took whatever was available because her access was limited to unregulated sources: "*I'm embarrassed to say that I don't really know- I guess I need to think about getting my card and stuff. A little scared to talk about that…[I]n general, if you don't have alotta connections, you just kinda take what you can get, you know?*" A medical cannabis recommendation would give her access to information and different varieties of cannabis.

Managing the *drug* also involves managing the *setting* most appropriate for specific types of cannabis, like only smoking indicas at night, and sativas during the day. Gary, a 50-year-old chef, understood that indicas were better used at home because they made him tired, whereas sativas were more suitable for use in public: "*[L]ike the sativa, it chills me out. The indica makes me tired. I just wanna eat, and sleep….Watch movies, or somethin'….I smoke my indica majority when I'm home…[W]hen I'm gettin' ready to go out…I smoke my sativa. Like, I have energy man…[I]t don't make me like, 'Oh man, I'm fucked [emphasized] up.'*" Users were cognizant of the range of effects of different cannabis strains and were selective about when and where they used specific strains.

Mental health—Some participants experienced increased feelings of depression, anxiety, and paranoia when smoking. They noted that they would avoid smoking while depressed, because they feared cannabis would exacerbate depression. Anxiety and paranoia were often reported to be caused by feeling stigmatized and/or legal risks, which were typically consequences of being high in uncomfortable *settings*. If smoking in public, some participants avoided heavily populated areas so they could be discreet. When asked if he ever became paranoid after smoking cannabis, Samuel, a 62-year-old restaurant owner, explained:

> Well, maybe when I first started out. You know, that whole people looking at you? …"Can they tell?" Not anymore…What are you gonna do about it? I really don't care anymore…But again, I don't really do it in a place where I need to be concerned about it anyway…It's not like I'm gonna smoke a joint and go to work and hope nobody sees me…If I did that, I'm sure I'd be paranoid as hell.

Most interviewees avoided anxiety and paranoia by smoking at home in private, and never in the company of strangers.

Dependence and withdrawal—Five participants reported feeling like they had lost control of their cannabis use at some point in their lives. Some users made sure to take a break from cannabis use to lower tolerance and avoid withdrawal symptoms. Ernie, a 57-year-old retired warehouse manager, explained: "*There were times when I would go a little crazy, a little daily for a while, and then I'll just quit. A lot of times, I'd get the munchies and unfortunately that's a side effect. I'd gain weight so I just stop…move on, come back some other time….just to like clear out my system….Plus, like I said it lowers my tolerance so it doesn't take as much to use*." Reported withdrawal symptoms included irritation, sleeplessness, loss of appetite, and an increase in pain if using for pain management. The majority of participants claimed that withdrawal symptoms were manageable, and they could resist using cannabis. In order to reduce risks of addiction or dependence, participants described managing *set and setting* by regulating their motivations, and when and where to use. Rick, a 65-year-old IT manager, shared that he made the mistake of wanting to be high for every experience when he was young:

> Do marijuana for enjoyment…don't get so hooked on it, that you need to do it to see a movie- just go to the movie. You don't really need to be high when you do everything …That's a mistake that we made when we were younger. I think we got into the routine of always wanting to be high, to enhance everything…You don't need to enhance everything, just be there.

Silas, a 57-year-old musician, emphasized how his motivations to use cannabis resulted in feeling more relaxed, meditative, and smarter, compared to peers who used in a seemingly uncontrolled manner: "*Some of my friends don't think about meditating with it. They party with it. Some of my friends get really stupid with it…. it's not the substance, it's how you handle it.*" While most users found pleasure in cannabis use and enjoyed the "high," others described using cannabis for relaxation, as a sleep-aide, to stimulate appetite and creativity, to enhance other activities, and to self-medicate for anxiety, depression, stress, and pain. The management of *set and setting* played an important role in older cannabis users' minimization of dependence.

Legal risks

Arrest—Most interviewees had at least a cursory idea of cannabis-related laws, and the majority suggested that policies have relaxed since they were younger. However, "legal risks" were the most frequently reported even though less than a fifth of participants had actually been arrested for cannabis-related charges. Many were not confident of their understanding of specific restrictions and consequences due to the variations in state, county, and city laws. Participants' perceptions of the punitive consequences for possession of under an ounce ranged from an infraction to a federal offense.

A major difference between medical cannabis patients and non-patients in our sample was that interviewees with doctors' recommendations reported little to no worry about legal harms. A medical cannabis recommendation reduced the anxiety and paranoia that arose from use in public settings. Some reported they felt justified in their overall use of cannabis since their medicinal motivations were legitimized by a doctor. When asked if he ever worried about being exposed as a user, Kenneth replied: "*Um not since I got my card 'cause*

it's legal….that was one of the best things in the world was getting my card….[N]ow I can go out, right in front of a cop- not that I want to- and smoke pot if I want….[T]he whole world was kind of lifted off my shoulders." It was common for users without a doctor's recommendation to avoid legal risks by not carrying cannabis in public, or only taking enough to consume. Non-recommended users acknowledged that a recommendation would provide legal protections. Yet, some described deterrents for seeking a medical recommendation, such as "fear of being identified as a smoker," being fired from their jobs, or other privacy and work-related concerns.

Safe access—Regulatory controls in medical cannabis dispensaries, such as proper labelling of strains and potency, helped users make informed decisions about the type of cannabis to use for desired effects, while minimizing harms. Those without a doctor's recommendation did not have access to a regulated market, so they were relegated to cannabis sources that lacked quality controls. Buying cannabis on the street or from unregulated sources posed health risks such as getting product contaminated with extraneous chemicals, mould, mites, or other drugs. They also risked being robbed. One interviewee experienced a traumatic assault during an underground market transaction, which prompted him to obtain a medical cannabis recommendation. Without other options, users were forced to risk arrest when buying from unregulated sources.

Some interviewees revealed that even though they had considered applying for a doctor's recommendation, they did not want their "name going onto a list," or were worried about the implications it would have for their careers. Some interviewees expressed desires for medical cannabis because it was considered to be a safer, natural alternative to pharmaceutical drugs. They were wary of their doctors' support for prescription medications. Chelsea, a 54-year-old caregiver, shared: *"I don't like taking a whole bunch of pills….That's what my doctor do. "Here, take these, take these." …[T]here has to be some type of effect for all those pills going into my body at some point in my life…so if I can find a natural remedy that will work, that will wear off and don't have all these other chemicals and stuff in it. I'm all for it."* Ryan, a 67-year-old artist, struggled with different doctors who rejected his requests for medical cannabis. He tried to persuade his primary care physician by citing cannabis research: "*[My doctor] doesn't believe in it….She said things to me that make me know that she's prejudiced…[S]he made disparaging remarks about marijuana and cancer, and smoking….And I told her about Doctor Abrams*[5]*, which actually, she didn't say anymore after that*." This dynamic can damage the necessary trust in a doctor-patient relationship, where both parties work together to find the best health solutions. Instead, as Ryan claimed, patients risk being "at the mercy" of their health care providers. Lisa, a 59-year-old office worker, shared that she did not disclose her cannabis use to her doctor in fear of being "interrogated" and "judged." A quarter of participants did not disclose their cannabis use to health care providers for privacy concerns, to avoid judgment and shame, or it simply did not come up in discussion.

[5]*Donald Abrams, M.D. is a professor of clinical medicine at the University of California, San Francisco (UCSF) and chief of the Hematology-Oncology Division at San Francisco General Hospital and Trauma Centre (SFGH). Dr. Abrams received a number of grants from the Centre for Medicinal Cannabis Research and completed a placebo-controlled trial of cannabis in patients with HIV-related painful peripheral neuropathy as well as an investigation of vaporization as a smokeless delivery system. Dr. Abrams was a consultant for this project.*

Social risks

Stigmatization—While the majority of interviewees acknowledged that shifting laws and public attitudes indicated a greater acceptance of cannabis use, many felt it was still stigmatized. Nearly half of interviewees wanted to prevent disclosure of their cannabis use to professional colleagues and/or family members in order to avoid judgment and disappointment, or for concerns regarding professional risks and privacy. When asked what precautions they took to avoid discovery of their cannabis use, the top mentions were to smoke privately at home, cover up evidence by washing hands, using eye drops, brushing teeth and chewing gum, and to not talk about cannabis use in front of certain people. Interviewees provided other examples of how they used the *drug* based on their evaluation of the legal and social harms inherent to specific *settings*. Some reported eating edibles as an odourless alternative in settings where smoking was inappropriate (e.g. airport). Interviewees engaged in other practices to reduce exposure, including blowing smoke out the window and burning incense to mask the smell. Brenda, a 50-year-old case manager for supportive housing, enjoyed using a "vapour pen" because it was discreet.

Interviewees chose to use in places where they were least likely to be exposed or to offend others such as at home, at friends' homes, and outdoors. The majority primarily smoked alone or with their spouse or partner. Social use with peers was less common, and many were cautious about smoking with strangers. Carl, a 58-year-old apartment building concierge, explained how he avoided disclosure by controlling *set and setting*: "*[I]n many ways, it affects you socially….you would rather hang around somebody who's like-minded, or at least tolerated it…I've lived places where people don't smoke, and then I have to go somewhere else….and then you gotta worry about them seeing you all high and stuff, and you gotta pretend you're drunk.*" Darren, a 48-year-old administrative assistant, described the legal and social risks of using cannabis in public settings:

> Some people are really, "Oh, you know, cool. Weed, man!" And some people just give you a dirty look about it. It's just 'cause they don't wanna smell it, and I realize that. And you know, it's kinda rude sometimes….so I guess bad environments for it is, kind of like snooty areas…it's mainly white, upper-class….they give you dirty looks….And maybe they'll call the cops on you.

Many participants agreed that cannabis use had become more accepted. Susan, a 57-year-old call centre manager, explained that the medical cannabis system seemed to contribute to the normalization of use in general:

> [Cannabis use has] gotten much more open, I think…I went to my hairdresser and I was talking to him…about getting high with my daughter. And it was just like normal…if last year or a couple years ago I'd said, "Yeah, my daughter and I got high," they'd be taking down my number to give to the police or something…I think it's kind of like, it's okay now….They've realized that, hey, a lot of old people, a lot of sick people use it, maybe there's something to it, you know?

While participants acknowledged an ongoing normalization process, they described having to navigate settings of both normalized and stigmatized cannabis use.

Identity management—Some users managed their identities by selective disclosure; others disassociated themselves from the "pothead" stereotype. Kenneth explained that since he displayed self-control by not smoking at work, he considered himself a "functional stoner." He did not feel like he should be "lumped into the categories" with "bad pot smokers," because he was able to perform in his work role. Interviewees described distinct settings where cannabis was either normalized or stigmatized. Jennifer the sculptor revealed that cannabis use was accepted like "drinking water" in the artist community, but it might be questioned by others. Participants perceived communities such as political and religious groups to be more disapproving of cannabis. Victor, a 59-year-old who sells cannabis to dispensaries, explained how he avoided stigmatization by filtering his associates. He also legitimized his use by comparing the effects of cannabis to alcohol:

> [P]eople that didn't get high were squares….[W]e didn't have anything in common…[I]t marshalled me- my peer group…because the people that didn't get high were so adamant and judgmental about their non-usage….And like the superiority kinda thing…"Y'all are dope addicts and shit, whereas me, I'm a clean American. I drink and shit, but you know, I'm better than you because I drink. You use dope"…[A]ll the time I'm thinking, "Shit, I'm better than you. You drinking, you're out here fuckin' stumbling and falling down and throwing up and shit. I ain't doin' none of that shit. But you're better than me?"…[T]he net effect that it had was most of the people that I maintained friendships with were one of two kinds. They were people who got high or people who were non-judgmental.

In response to stigma, some interviewees attempted to justify their use by obtaining a medical cannabis recommendation, emphasizing self-control, or comparing cannabis to other drugs.

Personal relationships—For some, cannabis use negatively affected intimate relationships. One method of reducing the risk of rejection was being straight-forward with potential partners, but hiding use from partners also occurred. Fred thought it was best to be honest with potential partners: "*At what point can I just live my life, and not worry about what other people think of me?*" He resented the fact that he used to smoke in the car to avoid exposure, as if he were "some sort of criminal." Fred described his transition from hiding cannabis use to becoming an advocate:

> It's getting more accepted now…it used to be that I would never let anybody know that I was stoned…So you'd kinda hide it. Which meant having breath mints, and not looking people in the eye…I got a marijuana card…so I'm technically legal now for the first time in my life…And, it has really relaxed me about being paranoid …Like, I'm more honest about it…I'm actually becoming an advocate now…[I]t's like the gay revolution…[Y]ou were gay and you were in the closet… And nowadays, people can just come out and go, "I'm gay." It's like, "Great!" I feel like that's kinda happening to people that smoke pot.

A medical cannabis card gave Fred the legitimization he needed to advocate for his cannabis use.

Social etiquette—Secrecy has as much to do with respect for non-users as it does with avoiding law-enforcement and social disapproval (Hathaway, 2004; Erickson, 1989; Johnson et al., 2008). Many interviewees reported not wanting to be "rude" or "bleed into other people's space." Travis, a 56-year-old gas and electric meter technician explained: "*I feel smokin' weed is a personal choice. I don't wanna impose this choice on anybody*." Likewise, Silas shared that moderating his use was respectful to friends, employers, himself, and society in general:

> I think when you're young, you don't care. You just smoke it up….as I got a little older, I started thinkin', "Not for breakfast, come on." You know, and stopping pot for breakfast led to, "Yeah, but I get a lot more done during the day if I wait 'til the afternoon"….I just don't feel like it's fair to anybody if I walk around wasted all day….Even myself….it's not fair to my employer, it's not fair to my friends…I just take my little treat at home, at night.

Part of the process of maturation was to become a more responsible, conscientious, and considerate cannabis user.

Energy-drain—A commonly reported negative consequence of cannabis use is that it can make you tired. Participants mentioned social risks that can result from this energy-drain, such as having trouble reading, being counter-productive to work/school, and affecting motivation to complete tasks and goals. Rick's harm reduction method for avoiding energy-drain was related to *set*, where he emphasized self-control and moderation:

> [O]ne of the detriments to marijuana is the fact that it does make you a bit lethargic….why put yourself in that situation? So I generally moderate my usage to a certain level. So I smoke maybe two or three times….each time I do about four or five hits. So I'm not the guy with the giant bong that you see on YouTube….that's completely outta their minds….That was fun when I was a kid….[Y]ou grow up after a while.

Participants determined which *setting* was most appropriate so as to not interfere with normal daily functioning. Many were careful only to smoke at night, or when they were free of responsibilities. Some relied on controlled use to make sure they fulfilled their obligations.

Discussion

Based on indicators of normalization (Aldridge et al., 2011), participants generally agreed that cannabis use is becoming a normalized part of society. In the Bay Area, cultural acceptability of cannabis use is rooted in its history as a center for the Beat Generation of the 1950s and the social and cultural movements during the 1960s and 1970s. The first public medical cannabis dispensary in the U.S. was established in San Francisco years before medical cannabis was legalized statewide in 1996 (Feldman & Mandel, 1998). Given this background, the location of our study provided an opportunity to study older adult cannabis users in a normalized context. Most participants had a steady supply of cannabis, and the medical cannabis system increased access, availability, and a broader selection of cannabis products. Interviewees also described increasingly tolerant attitudes of cannabis by non-

users. Most participants intended to continue using cannabis in the future. There is also evidence of cultural accommodation of cannabis in recent film, TV, and popular music. In the U.S., an increasing number of states approving medical access, and the legalization of recreational cannabis use for adults in Colorado, Washington, Oregon, Alaska, and Washington, DC represents significant shifts towards more tolerant policies.

Normalization theory was initially focused on youth, but it is useful for comparison with older adult drug users. Parker, Aldridge, and Measham (1998) situate the normalization of cannabis use in the wider context of social change which transformed young people's experiences of growing up with "late modernity" (Giddens, 1991). They argue that rapid social changes in education and training, youth labor market and work patterns, housing and living arrangements, marriage and parenting decisions, and the nature of leisure (which must be increasingly purchased) have "conspired to make growing up today 'feel' far less secure and more uncertain for longer" (Parker et al., 1998: 151). Among other implications of a changing workforce and associated changes in the school to work transition, youth today have more time for leisure and shape their identities through leisure-time consumption, but with limited resources. In 2015, U.S. Baby Boomers also live in a world where "growing old" feels far less secure. With the prospect of a longer retirement period and no guarantees for retirement benefits or social security, they are left with limited funds and more leisure-time. Leisure and consumption replace work and production as main sources of identity formation (in the postmodern world), and "the relationship between consumption and identity formation is one compelling explanation for why drug use has become more common" (Duff 2003: 443).

Drug use can be viewed as "a complex and fluid interplay between structure and agency, which can be understood in terms of situated choice or structured action" (Measham & Shiner, 2009: 507). Choices regarding cannabis use - how, when, and why they use - are shaped by situational and structural life circumstances. From a life-course perspective, adolescence represents a time during which "the bonds that tie children to family and school have weakened, but are yet to be replaced by a new set of adult roles and responsibilities" (Measham & Shiner, 2009: 506), which gives youth more freedom to engage in drug use. Similarly, the constraining influences of work, parenthood, and marriage decrease as Baby Boomers age. As they approach retirement, their children become independent, some get divorced, work and other life circumstances change. As leisure-time increases, cannabis-related social risks decrease due to fewer responsibilities. Even with more freedom to use cannabis, many participants maintained stable, controlled use patterns that consisted of relatively low quantities of consumption. Interviewees emphasized self-control, characterized by moderated use. However, controlled use was not defined so much by specific references to "normal" frequencies and quantities of use, as it was by users' ability to maintain normal social functioning. Both interpretations of moderation were subjective (how much is too much?), but role expectations were easier to identify through culturally defined norms. So even though normalization is concerned with "recreational" drug use described as "the occasional use of certain substances in certain settings and in a controlled way" (Parker, 2005: 206), participants also portrayed frequent use patterns in the framework of self-control by indicating settings where they abstained.

The degree of self-control is influenced by users' identity and self-concept, which are formed by social roles (Boeri et al., 2006). Control is demonstrated to themselves and others by following cultural norms that define appropriate set and settings for cannabis use. Most participants displayed control and minimized risks in order to maintain social functioning in their roles as parents, partners, employees, and members of other groups (e.g. religious communities). Managing identity as "normal" and "responsible" social actors, and showing respect for non-users, encouraged controlled cannabis use. Controlled use also involved being conscientious about motives for use, and many participants explained how they had changed their approach from when they were younger. Winick (1962) coined the term "maturation," the observed termination of involvement with illicit drug use in adulthood. Drug use is conceptualized as a temporary phase, but our interviewees revealed that individuals can experience maturation even if they continue use in adulthood. Interviewees described maturation in that: they passed through a phase of heavier illicit drug use and a period in which their lifestyles were more immersed in peer-related drug use, and that patterns of cannabis use changed as life circumstances changed. Like Shukla's (2005) study, interviewees' cannabis use in adulthood differed in a number of ways from adolescent use patterns.

Hathaway and colleagues (2011) highlight important distinctions between Goffman's (1963) conceptualizations of *normalization* and *normification*. Deviants present themselves in *normification* by performing the expected (normative) behaviours that keep social interactions flowing (conforming presentation of self as ordinary). Harm reduction techniques related to identity and role management can be described as *normification* because users present themselves as normally functioning in their everyday lives (Goffman, 1963). When a cannabis-user decides not to use at work in order to maintain normal functioning, it can be considered a process of *normification* by the user. *Normalization* can only transpire when others accept the stigmatized individual and treat such a person as if they had no stigma (Goffman, 1963). Participants contributed to the *normalization* of cannabis use through *normificatio*n. Their narratives exemplify a life-long process of normalization (attempts to be accepted as non-stigmatized) through self-regulation and other harm reduction practices that made cannabis use more palatable by reducing risks and increasing positive use outcomes. Measham and Shiner (2009) describe normalization as "a contingent process that is negotiated by distinct social groups operating in bounded situations." Mostaghim and Hathaway (2013) argue that the "normalization process is facilitated by a fluid view of self in which the identity of user and non-user is not fixed, but rather more contingent on the situated context or social circumstances of marijuana use." Normalization is thus dependent on context, so that cannabis is accepted and even celebrated in some social contexts, while stigmatized in others. For example, some were wary of public attitudes outside of California. Even in San Francisco where cannabis use is generally accepted, there was a perception that certain people might not accept it. Participants offered contrasting stories of reactions to disclosure during interactions with health care professionals. Participants had to navigate settings of normalized and stigmatized cannabis use.

Similar to participants in Hathaway and colleagues' (2011) study, our participants constructed patterns of consumption as non-deviant or "normal" with specific references to acknowledged risks and problems experienced by people who misused cannabis. Such descriptions can be interpreted as techniques of risk denial, or justifications/neutralizations in response to stigma (Perretti-Watel, 2003). Scapegoating occurred when users attempted to draw a line between their own safe drug use, and the risky or deviant drug use of others. Many participants rejected the "pothead" or "stoner" stereotypes of being high all day, every day. They emphasized the distinction between their own controlled cannabis use and others' "abuse" of cannabis, alcohol, and other drugs. They accepted the reality of cannabis-related risks, but expressed confidence in their self-regulation. Finally, they compared the risks of using cannabis with what they perceived to be more harmful substances such as alcohol and pharmaceutical medications. These rationalizations enabled users to argue that conventional morality regarding drugs did not apply to cannabis, and to reorganize their moral notions to permit continued use.

Participants in our study managed health and social risks with relative ease, but the continued criminalization of cannabis use remained a source of serious potential harm. They considered arrest to be the biggest risk of using cannabis. While many described cannabis as being a low-priority police offense, they acknowledged the risk still existed without the legal protection of a doctor's recommendation. Medical cannabis users were more likely to recognize cannabis as normalized, versus non-medical users who still risked criminal designations and the stigma of criminal status and involvement in illicit markets. Medical users perceived use as legitimized by doctors, even when they used recreationally, and enjoyed access to more harm reduction tools and education than cannabis users without a recommendation. In some cases, the illicit status of cannabis interfered with interviewees' ability to choose what *drug* worked best for them. They were hesitant to seek medical cannabis, or their primary doctors refused to recommend cannabis as therapy. Some doctors refuse to write recommendations because they fear punitive action or simply do not believe in the therapeutic value of cannabis (Gieringer, 2003). Medical cannabis users existed in a regulated dispensary system where they could choose the correct delivery system, potency, strain, and effects that suited their needs. Users without legal-medical access had significantly less control over their cannabis supply, and may have been unaware of or could not access alternative delivery systems. Additionally, the existence of a legal-medical cannabis system provided some participants (medical patients/non-patients alike) with more rationalizations/justifications for using cannabis. Users with a doctor's recommendation were more likely to discuss the therapeutic value of cannabis, and its utility as an alternative medicine.

Cannabis use can no longer be described as marginal or deviant in the sense of denoting membership in a distinctive subculture (Mostaghim and Hathaway 2013). However, Sandberg (2012) argues that subculture, specifically contemporary cannabis culture, cannot be defined as "groups of people" but rather a "collection of symbols, rituals, and stories." He argues that any discussion of normalization should reflect how use is interpreted and understood by users. He states that even though some cannabis users acknowledged normalization, others regarded use as a symbolic marker of difference rather than something

normal (Sandberg, 2012). There was general agreement among our participants on the shifting attitudes towards normalization, but cannabis use was also described as being oppositional to aspects of the dominant culture. Medical cannabis use could be considered as oppositional to "mainstream" healthcare, which relies heavily on pharmaceuticals. Some participants were dismayed by their doctors' support for prescription drugs. They expressed concern with using pharmaceuticals and desired medical cannabis because it was a "natural, herbal remedy." Cannabis use can also be considered oppositional to dominant alcohol culture. Participants described cannabis use in contrast to the loss of control and negative outcomes that were commonly attributed to alcohol use. This perception is important for users and non-users because legalization campaigns, especially in Colorado, emphasize the importance of allowing responsible adults to choose cannabis as a safer alternative to alcohol. Related findings from this study suggest interviewees regarded cannabis as a safer alternative to alcohol, illicit drugs, and pharmaceuticals, and deserve further exploration. If cannabis use continues its process of normalization, it will become more important to understand the symbolic meaning of cannabis use, and how those factors influence perceptions of the drug, use patterns, and practices.

Conclusion

Harm reduction efforts are usually focused on high-risk groups, and non-problem users are neglected (Hammersley, 2005). Harm reduction strategies rarely consider interventions that are appropriate for sensible, continuing, controlled use that still may carry risks and long-term harms (Hathaway & Erickson, 2003). Our findings suggest that older adult cannabis users followed rituals or cultural norms, which were characterized by sanctions that helped define "normal" or "acceptable" cannabis use (Duff et al., 2012; Hathaway, 2004; Hathaway et al., 2011; Pearson, 2001; Reinarman & Cohen, 2007; Zinberg, 1984). Interviewees maintained social functioning in conventional roles and activities. Their choice to use cannabis, and subsequent practices used to minimize risks, depended on other life factors. Cannabis use was usually reserved for leisure-time, so that it "fit in" and did not interfere with other aspects of their lives. They regulated their set and settings in adherence to sanctions that emphasized "self-control" and "respect for non-users." They also managed disclosure to protect themselves against stigmatization. These informal rules are similar to the regulations, etiquette, and practices that have been identified in other studies of controlled cannabis users.

"Acknowledging a normalizing process and responding requires, at minimum, attention to and meaningful reflection on hierarchies of dangerousness employed by substance users" (Erickson and Hathaway, 2010:138). Treatment and prevention initiatives should consider how cannabis users perceive and manage risks. Despite media portrayals and government warnings about the deleterious effects cannabis can have on normal functioning, participants found the benefits far outweighed the risks. In fact, the majority reported that they could exercise self-control while experiencing minimal negative outcomes. Interviewees indicated that information about the benefits of cannabis, health risks, vaporizing, the effects of different types and strains, and applicable laws and regulations would be beneficial to them. Findings suggest that the use of water pipes, vaporizers, and edible cannabis as harm reduction methods requires further research.

Legal prohibitions have been ineffective and actually represent a source of harm for cannabis users, but the medical cannabis system's formal regulations increase safe access and support harm reduction through lab-testing, proper labelling, and education. These regulations reduce chances of using the wrong type of cannabis or overdosing, and could benefit non-medical cannabis users as well. Dalgarno and Shewan (2005) proposed that if users were thoughtful, well-prepared, and aware of the means and best settings for using cannabis, then the risks can be minimized and the benefits maximized. Our participants agree, which supports Duff and colleagues' (2012) claim that "a cultural practice of harm reduction, rather than formal legal prohibitions, is likely to be the most effective means of reducing the harms sometimes associated with cannabis use over the long run" (p. 282). Potential age, class, race, and gender differences, as well as the role of parenting in use patterns and harm reduction practices also deserve further investigation with a larger representative population-based sample.

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Highlights

- Alternative cannabis derivatives and routes of administration reduced health harms.
- Controlled use was moderated, setting appropriate, and respectful of non-users.
- Product lab-testing, proper labeling, and education supported harm reduction.
- Medical recommendations led to better informed decisions about use practices.
- Users contributed to the normalization of cannabis use through normification.