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Current Perspectives on Marijuana and
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Current Perspectives on Marijuana and Society

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Introduction

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This special issue of the Humboldt Journal of Social Relations visits one of the most polarizing policy debates in the US. In 2012, voters in Washington and Colorado passed initiatives that legalized the recreational use of marijuana. In fact, there were about 75,000 more votes cast in support of marijuana legalization in Colorado than were given to reelect President Obama. Yet according to a recent poll conducted by the Pew Research Center, Democrats are 22 percent more likely to support legalization than Republicans (Dimock, Carroll, & Motel, 2013). Clearly, these initiatives have galvanized public opinion further than earlier laws, such as California's Compassionate Use Act (Proposition 215) passed in 1996 and those in fourteen other states that legalized the medical use of marijuana at the state level. Although marijuana use and cultivation remain illegal at the federal level, the federal government has not, as of now, indicated that it will block implementation of the Washington and Colorado initiatives. In the absence of a clear federal response, the articles in this special issue become even more relevant to researchers and policy makers concerned with anticipating the myriad of impacts associated with the changing regulatory landscape.

The co-editors of this special issue are faculty members of the recently created Humboldt Institute for Interdisciplinary Marijuana Research (HIIMR). The need for a formal way to connect and focus the energy of academic researchers on the topic of marijuana became apparent when California's Proposition 19 (The Regulate, Control and Tax Cannabis Act of 2010) was on the ballot. That proposition would have legalized the non-medical cultivation, distribution and use of marijuana. At the time, important questions could only be answered through educated guesses because basic data on marijuana consumption and production were not readily available. No one knew exactly how much marijuana was produced in the state or how many people worked in the industry. There were other emerging areas of concern that lacked basic empirical data: the impacts of the marijuana industry on a region's economy, physical and social well-being, energy consumption, land use, water quality and resources, health and human services, and police, fire, and emergency services. Anecdotal data suggest major impacts, both deleterious and beneficial, of this underground economy on a regional basis; however, regulatory and economic decisions require data collected using scientific methods. Such data are critical for developing economical, effective, socially responsible, and efficient practices for addressing and mitigating the impacts of medicinal and recreational marijuana production and consumption. The HIIMR

takes an interdisciplinary approach to fill the gaps in data related to marijuana and to produce relevant applied academic research.

The eight papers selected for this edition reflect the commitment of HIIMR to provide policy makers and voters with crucial information to make informed decisions. The first group of papers focuses on individual experiences with, and attitudes towards, marijuana use. The second group of papers considers the political and structural forces that shape both policy and experiences within the marijuana policy reform and cultivation communities.

The first paper, “Inside the Gate: Insiders’ Perspectives on Marijuana as a Gateway Drug” by Rashi Shukla revisits the ongoing debate about marijuana as a “gateway” drug leading to the use of other illicit drugs, such as cocaine or heroin. Since marijuana use might increase if more states or the federal government move toward decriminalization and/or legalization, Shukla asks if we can expect to see more people using other illicit drugs. Interviews with marijuana users from a Midwestern city show that the “gateway” concept has been oversimplified. Rather than observing a “stage-like” progression of legal and illegal drug use, Shukla finds more variation in the sequencing of use.

Continuing with the focus on the sequencing of marijuana use relative to other substances, the next paper, “Patients and Caregivers Report Using Medical Marijuana to Decrease Prescription Narcotics Use” by David Peters, investigates the extent to which medical marijuana is used as a replacement for opiate addiction. Drawing on interviews with a convenience sample of medical marijuana users in Michigan, Peters finds that many users self-report substituting marijuana for prescription narcotic medicine to treat their illness. Among some users, marijuana appears to be a “reverse-gateway” drug that reduces opiate use, especially among patients who report bad side effects from prescription medicine. This notion of marijuana use as an “exit drug” (Reiman, 2013) is consistent with prior research (Swartz, 2010), but also highlights the need to reassess common—and taken for granted—assumptions about how the use of marijuana is regulated in everyday life.

The third paper, “Should Per Se Limits Be Imposed For Cannabis? Equating Cannabinoid Blood Concentrations With Actual Driver Impairment: Practical Limitations and Concerns” by Paul Armentano, critically evaluates the scientific research underlying laws regarding driving under the influence of marijuana. Many states are passing zero tolerance laws specifying legal limits for blood cannabinoid levels. Reviewing the literature, Armentano finds that, unlike for alcohol, it is difficult to infer motor function impairment from blood tests that check for past marijuana use. Armentano argues that field sobriety tests must be developed to more precisely determine impairment from marijuana use. This argument is compelling lest zero tolerance policies, which focus on past use rather than present impairment, seek to simply widen the net of social control.

The final paper in the “individual experiences” group shifts the focus somewhat to examine the social meaning of participation in marijuana cultivation. In “Small-Scale Marijuana Growing: Deviant Careers as Serious Leisure,” Craig Boylstein and Scott Maggard explore the career trajectories of indoor marijuana growers. Their ethnographic study of a closed social network of eight small-scale growers reveals that involvement is largely social rather than monetary. Boylstein and Maggard argue that the growers they interviewed are best understood as being involved in a leisure, rather than an economic, activity. This is a valuable insight into marijuana growing subcultures since it suggests more variability in the motivations for involvement. While not explicitly addressed in their analysis, the findings of

Boylstein and Maggard suggest that entry into and participation in marijuana cultivation is also a gendered activity; the involvement of the two women interviewed was largely peripheral to that of their male partners. This theme is taken up in two of the subsequent articles in this special issue.

The second group of papers, focused on political and structural forces, begins with Wendy Chapkis' reflection on the gendered dimensions of marijuana policy activism and the broader marijuana culture. In "The Trouble with Mary Jane's Gender," Chapkis identifies the narrow range of options for women to participate in marijuana politics and culture. Involvement in medical marijuana is seen as "something of a pink collar ghetto within the drug policy reform movement" as it fits with the gendered stereotype of women as caregivers. Within the broader cannabis culture, Chapkis finds that the dominant images of women—stiletto stoner, slacker schlubster, or hot pot babe—render most women invisible. Though being invisible to marijuana law enforcement efforts may have its advantages for individual women, Chapkis argues that a more "gender conscious drug policy reform movement is necessary."

Women are not just marginalized as consumers and activists; the next article suggests their participation in cultivation is also gendered. Karen August's paper "Women in the Marijuana Industry" is based on field research in rural Northern California where marijuana production is a very large part of the local community. August also conducted content analysis of *Craigslist* postings for marijuana trimmers. Drawing on her interviews with six men and three women, August finds that "women's work" in the marijuana industry generally mirrors the gendered organization of conventional occupations. Though they occupy many of the same roles as men, August notes that their experiences are very different. This was revealed in her analysis of job postings on *Craigslist* which show women trimmers are sexualized, both by growers and the women themselves.

Moving from cultivation to regulation, the author of the next article observes that regulating marijuana must acknowledge the complexities of the plant and its many uses. In "The Fallacy of a One Size Fits All Cannabis Policy," Amanda Reiman draws a distinction between the palliative and curative effects of marijuana. After reviewing the history of marijuana regulation and related uses of the plant, Reiman concludes that a dual regulatory approach may work best, with only some aspects of the plant approved by the Food and Drug Administration, and others being sold as herbal supplements.

The final article examines how very different models of dispensary regulation emerged in California following passage of the Compassionate Use Act in 1996. In "A Tale of Three Cities: Medical Marijuana, Activism, and Local Regulation in California," Thomas Heddleston looks at the development of marijuana dispensary regulation in three urban areas of California. The San Francisco Bay Area, San Diego, and Los Angeles pursued three regulatory models based largely on the political and legal realities in each jurisdiction. This detailed look at the history of reform in each city may help to predict which states will be the next to legalize marijuana use and may provide insight into how regulation will differ across the country and within states.

The dynamic marijuana regulatory landscape requires relevant empirical research to inform policy debate. Given marijuana's highly moralized political career (Himmelstein, 1983), the need for ongoing research in this area is even more pressing. The articles in this special issue make important contributions to this debate yet also highlight the need for ongoing research in this area.

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Inside the Gate: Insiders' Perspectives on Marijuana as a Gateway Drug

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Abstract

Marijuana is often referred to as a gateway drug due to its placement in the stage-like progression of drug use (Kandel, 2002; Zimmer & Morgan, 1997). This study examines the gateway drug concept from an insiders' perspective. Qualitative, semi-structured interviews were conducted with 51 current and former users of marijuana. Data were collected between 2000 and 2002. Data on drug histories and perceptions about marijuana as a gateway drug were analyzed. While 80.3% (n = 41) of participants initiated their drug use experiences with alcohol or tobacco, one-third (n = 15) used an illicit drug other than marijuana prior to initiating marijuana. The adults in this study varied with regard to their perceptions about whether or not they thought marijuana was a gateway drug. Forty-five percent (n = 23) expressed viewpoints characterized as mixed or conflicting, 35% (n = 18) did not support the idea that marijuana was a gateway drug, and 19.6% (n = 10) strongly supported the notion.

Keywords: marijuana, gateway, gateway drug, drug, decisions, decision-making

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There is an on-going debate about the notion that marijuana is a gateway drug. While marijuana is commonly referred to in discussions of gateway drugs (e.g., Golub & Johnson, 1994, 2002; Hall & Lynskey, 2005; Kandel, 1989, 2002; Rebellon & Van Gundy, 2006; Vaughn, Wallace, Perron, Copeland, & Howard, 2008), the importance of marijuana in the progression of drug use continues to be disputed. The academic literature is replete with studies aimed at elucidating the nature of the relationship between gateway drugs, including alcohol, tobacco and/or marijuana, and the subsequent use of other illicit substances (e.g., Golub & Johnson, 1994, 2002; Kandel, 1989, 2002; Tarter, Vanyukov, Kirisci, Reynolds, & Clark, 2006).

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Marijuana use is viewed as being important in the development of the drug career due to its placement in the stage-like progression of drug use (Kandel 2002; Zimmer & Morgan, 1997). Marijuana is typically the first *illicit drug* initiated (see Golub & Johnson, 1994; Kandel, 1975; Kandel & Faust, 1975; Kandel & Jessor, 2002; Yamaguchi & Kandel, 1984a, 1984b); it has been referred to as “the bridge in the sequence between licit and other illicit drugs” (Kandel & Jessor, 2002, p. 365). The considerable attention given to marijuana in political and academic arenas is in part fueled by its prevalence. In the US, marijuana is the most commonly used illicit drug (Johnston, O’Malley, & Bachman, 2002; National Institute on Drug Abuse [NIDA], 2009; Office of National Drug Control Policy [ONDCP], n.d.). Arrests for marijuana-related violations exceed, and continue to surpass arrests for other illicit drugs (see Federal Bureau of Investigation [FBI] 2007, 2008, 2009, 2010, 2011, 2012).

While the idea that marijuana is a gateway drug has been influential on federal drug control policy in the US (Choo, Roh, & Robinson, 2008), the issue is increasingly being challenged at both the state and international levels. In 2012, Colorado and Washington became the first US states to legalize the sale of marijuana and permit recreational use (Szalavitz, 2012). At the international level, Dutch policy distinguishes between soft drugs (e.g., cannabis) and hard drugs (e.g., cocaine, heroin, amphetamines, etc.); marijuana has been decriminalized and the retail sales of small quantities are tolerated (de Kort & Cramer, 1999). In an analysis of data from the Netherlands, Europe and the US, MacCoun (2011) found that “cocaine and amphetamine use are below what one would predict for the Netherlands” (MacCoun, 2011, p. 1902). MacCoun noted that “although hardly conclusive, these data are consistent with the notion that the [Dutch] coffeeshop system might ‘weaken the gateway’” (p. 1902). In the United Kingdom, the controversies regarding marijuana became evident when cannabis was reclassified from a Class C drug to a Class B drug in 2008 (Home Office, 2009). The reclassification was significant because Class B drugs are considered more harmful than Class C drugs and have higher penalties (i.e., a maximum of five years in prison versus two years) for possession (Home Office, n.d.). In response to public outrage, officials have called for the reclassification of cannabis to Class C (HM Government, 2008).

The gateway concept remains problematic. Not only is the concept vague (Kandel, 2002), but drug use trajectories vary. Research has shown that individuals tend to initiate drug use with licit substances such as alcohol or tobacco (see Donovan & Jessor, 1983; Kandel, 1975; Kandel & Faust, 1975; Kandel, Yamaguchi, & Chen, 1992; Yamaguchi & Kandel, 1984a, 1984b). However, once marijuana is initiated, progression to other illicit substances is not inevitable (Golub & Johnson, 1994; Kandel, 1989; Yamaguchi & Kandel, 1984b). Finally, not all illicit drug users use marijuana prior to initiating other illicit drugs. The problematic nature of the marijuana gateway hypothesis was noted by Zimmer and Morgan (1997):

Marijuana does not cause people to use hard drugs. What the gateway theory presents as a causal explanation is a statistical association between common and uncommon drugs, an association that changes over time as different drugs increase and decrease in prevalence (p. 32)...In the end, the gateway theory is

¹The terms *cannabis* and *marijuana* are used interchangeably

²MacCoun (2011) notes that “heroin is too rarely reported in the surveys to permit a similar estimate” (p. 1902).

not a theory at all. It is a description of the typical sequence in which multiple-drug users initiate the use of high-prevalence and low-prevalence drugs. (p. 37)

There is a need to develop a more grounded understanding of the role of marijuana in the drug career. The present study examines the topic of marijuana as a gateway drug from the insiders' perspective. This paper seeks to answer the following questions: What are current and former marijuana users' thoughts and perceptions about marijuana as a gateway drug? How do their perceptions about the gateway concept compare to their own drug initiation experiences? The views of those with illicit drug use experiences represent an untapped source for insightful information on the potential significance of marijuana in the drug career.

Literature

Much of the evidence in support of marijuana's critical role in the progression of drug use comes from research on the stage-like progression of drug use (Kandel, 1975; Kandel & Faust, 1975; Yamaguchi & Kandel, 1984a, 1984b). Four typical stages of drug use have been recognized: the use of one or more legal drugs (i.e., alcohol or tobacco), followed by the use of marijuana, other illicit drug use (Esbensen & Elliott, 1994; Kandel, 1975, 1978; Kandel & Faust, 1975; Kandel & Yamaguchi, 1993; Welte & Barnes, 1985), and later prescription drug use (Kandel et al., 1992; Kandel & Yamaguchi, 1993; Yamaguchi & Kandel, 1984b;).

The initiation of licit substances typically precedes involvement with marijuana. The link between licit drug use (e.g., alcohol and tobacco) and illicit drug use is one of the most consistent findings in the literature (Donovan & Jessor, 1983; Kandel 1975, 1989; Kandel & Faust, 1975; Kandel & Yamaguchi, 1993; Kandel et al., 1992; Miller, 1994; Yamaguchi & Kandel, 1984a, 1984b). Studies have found that the majority of individuals begin their drug use experiences with alcohol and/or tobacco. This pattern has been identified through cross-sectional (Adler & Kandel, 1981; Kandel & Yamaguchi, 1993) and longitudinal (Kandel 1978; Kandel & Faust, 1975; Kandel & Logan, 1984) studies within the U.S. and abroad (Adler & Kandel, 1981). Involvement with licit substances often precedes marijuana use and may play an important role in drug progression (see Donovan & Jessor, 1983). While a number of studies support this typical sequencing of initiation, issues with the notion that marijuana is a gateway drug remain. These are briefly discussed.

Progression from marijuana to other illicit drugs is not inevitable. While marijuana use tends to precede involvement with other illicit drug use (Gergen, Gergen, & Morse, 1972; Kandel, 1978; Kandel & Faust, 1975; Kandel & Yamaguchi, 1993; Kandel et al., 1992; Yamaguchi & Kandel 1984a, 1984b), the majority of marijuana users do not progress on to other illicit drug use (Gergen et al., 1972; Zimmer & Morgan, 1997). According to one estimate, for every 100 people who reported having tried marijuana, only 28 ever tried cocaine, with even fewer progressing to more regular cocaine use (see Zimmer & Morgan, 1997). It is important to note however, that such estimates of drug use are limited due to their reliance on self-report data (see Mosher, Miethe, & Hart, 2011).

In research on the issue, Kandel (1989) clearly distinguishes between the concept of *stages* and the gateway or stepping stone (see Baumrind, 1983; Cohen, 1972; O'Donnell & Clayton, 1982) hypotheses. Arguing that stages are conceptually different, Kandel (1989, 2002) emphasizes that stages are hierarchical. Not all users must progress through them; progression is not inevitable. Different factors influence transitions between the different

stages of drug use (Kandel, 1978). Stages are facilitative. Only a subsample of users progress at any given stage. Those at highest risk for progression at any particular stage are those who have reached the preceding stage (Kandel, 1989).

Variations in sequencing of drug initiation have been identified in studies of diverse samples, providing evidence of the limited generalizability of typical stages of progression. With atypical progression, marijuana may be initiated before licit substances, after other illicit drugs, or not at all. Variations have been identified in studies of homeless youth (Ginzler, Cochran, Domenech-Rodríguez, Cauce, & Whitbeck (2003), serious drug users (Mackesy-Amiti, Fendrich & Goldstein, 1997) high-risk African-American youths (Vaughn et al., 2008), and international groups (Blaze-Temple, & Lo, 1992; Yen, Yang, Ko, & Yen, 2005). This growing body of research on the variability of sequencing raises further questions about the validity of the gateway hypothesis.

The supposition that patterns of drug initiation sequencing can serve as indicators of causality is problematic. Causality is difficult, if not impossible, to establish scientifically (Cook & Campbell, 1979). The challenges associated with establishing causality are exacerbated in studies on human behaviors such as drug use. Multiple factors, including individual decision-making, influence behaviors. In a commentary on the issue, Kandel, Yamaguchi and Klein (2006) discussed the difficulties involved in testing the gateway hypothesis. Potential connections between involvement with one substance (i.e., drug) and another may be spurious. As noted by Kandel (2002), “showing that there is a causal sequence of initiation is not the same as showing there is a causal link in the use of different drugs” (p. 7).

Finally, alternative explanations for observed associations (Miller, 1994; Morral et al., 2002) and other interpretations of the gateway influence exist (see Choo et al., 2008; Hall & Lynskey 2005; Lynskey, Vink, & Boomsma, 2006). Unique individual risk factors (Choo et al., 2008) and shared environmental factors (Lessem et al., 2006) may influence the likelihood of progression from marijuana to other illicit drug use. In their analysis of household and arrestee samples, Golub and Johnson (2002) summarized the problem inherent in the assumption that gateway drug use somehow causes hard-drug use and related problems by noting the following: “(1) extremely few members of the general population become persistent daily hard-drug-using criminal offenders; and (2) an increasing percentage of daily hard-drug-using criminal offenders did not follow the gateway sequence of substance use progression” (p. 5).

Much remains to be learned about patterns of drug initiation and the possible linkages between early substance use experiences and later ones. A greater understanding of the role of marijuana in the drug career is needed. This study describes the sequencing of drug initiation among a sample of current and former marijuana users and examines their thoughts and perceptions about marijuana as a gateway drug. This research contributes to the growing body of literature by presenting data from an insider’s perspective.

Methods

The data presented here were originally collected as part of a larger study of marijuana use and decision-making (see Shukla, 2003). Institutional Review Board (IRB) approval for this research project was obtained from Rutgers University while the author was a doctoral student.

Qualitative data were collected through semi-structured, retrospective interviews. Data were gathered in Oklahoma City and the surrounding area between 2000 and 2002. In the present study, both induction and deduction were used. A deductive approach was taken in the early stages of the research, with the rational choice perspective (Clarke & Cornish, 1985, 2001; Cornish & Clarke, 1986) serving as the theoretical framework that guided initial questions. An inductive approach was utilized during data analysis so that foci, coding and analyses were grounded in and emerged from the data.

A purposeful (Schwandt, 1997) theoretical (Glaser & Strauss, 1986) sampling strategy was employed in this study. The initial sampling strategy included individuals with a diverse range of perceptions about and experiences with marijuana use including current users, ex-users, and non-users (i.e., persons who had never used marijuana). In the earliest stages of the research, the inclusion criteria were very broad; participants were only screened out if they did not meet the minimum age requirement (i.e., 18). After four interviews with non-users of marijuana, the sampling strategy was revised to exclude non-users from the sample because of the limited information being provided on the topic of study. Theoretical sampling was used to enhance the diversity of the sample in terms of involvement with marijuana use. This was done throughout the study as data were collected by asking informants and study participants if they knew of persons with specific patterns of marijuana use not yet included in the study. The diverse patterns of involvement were based on patterns identified in the literature and conversations with participants. When a specific gap was identified, a description of the type of marijuana user that had not yet been identified was discussed with key informants and study participants to help identify additional participants.

The final sample consisted of 51 current and former marijuana users who were 18 years of age or older. A snowball sampling strategy (Biernacki & Waldorf, 1981) was used to identify study participants. Sampling chains were initiated from a few, key informants. Due to the hidden nature of the population, no sampling frame was utilized. The majority of these adults were identified from a limited number of sampling chains (see Shukla, 2003). While this resulted in a potential sample bias, the data from the sample is appropriate for the exploratory nature of this research. Data from the 51 study participants, including 29 current marijuana users and 22 ex-users of marijuana, are presented here. The sample consists of 27 males and 24 females. Eighty percent of the sample is Caucasian. Participants ranged in age from 18 to 52 years old, with a mean age of 31.52. Thirty-six participants (70.5%) had some college or higher, and 33 (64.7%) reported no previous contact with the criminal justice system. Each subject was given a pseudonym.

In the original study, participants were asked approximately 100 open-ended questions on their involvement with marijuana use, backgrounds, and drug-related decisions. A more structured qualitative approach was utilized to allow for the gathering of data on key topics of interest. While respondents were provided with opportunities throughout the interview to introduce their own topics when responding to questions, each respondent was asked the same general set of questions. The more structured in-depth interview was designed specifically to allow for the gathering of data that could be compared between respondents.

The data presented here are based on responses to specific questions about individual drug histories (e.g., age of initiation, sequence of drug initiation) and marijuana as a gateway drug. Drug history data were collected for the following: alcohol, tobacco, marijuana,

inhalants, hallucinogens, cocaine, other illicit drug use including PCP, heroin, opium, and the non-medical use of prescription pills. Any drug use (i.e., experimental or regular) was counted in the drug history data. The data were collected retrospectively and are subject to the limitations of self-report data (see Harrison, 1995). The adults in this study varied in the extent to which they remembered specific details about their drug experiences.

Data on thoughts and perceptions about marijuana as a gateway drug are based on interview data bits provided in answer to the question, “Do you think marijuana is a gateway drug?” and follow-up questions aimed at probing for clarification on the topic. The specific wording of questions and follow-up probes varied due to the conversational nature of the interviews. Individuals were encouraged to provide information on their own thoughts, perceptions, and experiences. Probes were used primarily to obtain more in-depth information from research participants. In general, the probes included questions about whether or not individuals thought their involvement with marijuana made it easier to try and/or access other drugs as well as their thoughts on potential connections or linkages between their early drug use experiences and later ones. Due to the exploratory nature of the study, participants were not provided with a specific definition for the term “gateway drug.”

Data were managed using the following software programs: Word, Excel, and AskSam. Data were analyzed thematically using the compare and contrast method. Initial coding focused on categorizing responses to the main gateway question; responses were coded as “yes,” “no,” and “conflicted.” Axial codes (Strauss & Corbin, 1998) were then generated to develop a more in-depth understanding of the themes within the data.

Drug histories.

The drug histories of the adults in this study are provided to place their experiences into a broader context. By design, all of the adults in this sample had histories of marijuana use. An overwhelming majority of the adults in this study ($n = 50$, 98%) had histories of drug use that included the use of illicit drugs other than marijuana. Fifty-five percent ($n = 22$) reported past use of inhalants, 78% ($n = 40$) reported past use of cocaine or methamphetamines, 76% ($n = 39$) reported past use of hallucinogens, and 78% ($n = 40$) reported past use of prescription pills for non-medical reasons. At the time of the interview, five individuals reported current cocaine use, five reported current prescription pill use (i.e., for non-medical reasons), two reported current use of hallucinogens, and one reported current heroin use. In the majority of these situations, the frequency of the individual’s drug use had decreased significantly from previous times in their lives. A few persons indicated that while they were currently non-users of a drug (e.g., pills, hallucinogens, inhalants, crank), they might use the substance in the future.

Results

Drug initiation sequencing.

Information on the mean age of initiation and patterns of initiation sequencing are presented to develop a better understanding of the drug experiences of the individuals in this study. The majority of drug initiation experiences occurred during adolescence and early

adulthood (see Table 1). Aggregate data on average age of initiation supports the fact that the sequencing of initiation in this sample is similar to typical sequences identified in research on the stage-like progression of drug use. Drugs were typically initiated in the following sequence: alcohol, tobacco, marijuana, inhalants, non-medical use of prescription pills, hallucinogens, and other illicit drug use (e.g., cocaine, heroin). However, within-individual variations in initiation sequencing existed.

Table 1

Mean Age of Drug Use Initiation

Drug Type	Mean Age of Initiation
Alcohol	13.61
Tobacco	13.80
Marijuana	15.24
Inhalants	16.08
Hallucinogens	18.40
Other Illicit Drugs	19.73
Non-Medical Use of Prescription Pills	18.11

Note: This table has been reprinted from the dissertation (Shukla, 2003).

While 41 individuals (80.3%) initiated their drug use experiences with alcohol and/or tobacco (i.e., licit substances), variations existed. Five individuals (9%) reported that they had used marijuana the very first time they ever tried drugs. Of these, three had initiated their drug use experiences with marijuana only and two with marijuana and alcohol at the same time. Mark, a 33 year-old marijuana user, - recalls his first drug-using experience, “I would have to say marijuana, over cigarettes and alcohol, it was the first, first drug, no, I was smoking pot before I was smoking cigarettes.” Five individuals reported initiating other illicit substances prior to initiating alcohol, tobacco, or marijuana; of these, four initiated their drug use experiences with inhalants and one with cocaine. Zacharias, a 29-year-old ex-user of marijuana, describes the sequence in which he initiated drugs:

Tobacco first, alcohol, and then all these things at the same time [referring to Valium, Quaaludes, Rohypnol, Dilaudid] and marijuana, and then probably hallucinogens next, and then the inhalants, and then hard drugs [referring to speed, methamphetamine and heroin]...well it all overlaps.

While Zacharias experiences some difficulties clearly separating out the specific sequences of

his early drug use experiences, the placement of marijuana in his drug career was not unique. Heather, an 18-year-old female marijuana user similarly described the sequence in which she initiated substances, albeit more specifically:

First to last? Cigarettes, that was first, I know that. Actually, I think I can, cigarettes, alcohol, coke, marijuana and meth. It was probably cigarettes first, I know that, and then alcohol, and then the first time I tried coke was probably then, next, and then marijuana and then the crystal meth.

With regard to the placement of marijuana in drug initiation sequencing more specifically, 33 (64.7%) individuals indicated that they had used marijuana before the initiation of any other illicit drug use. Fifteen (29.4%) participants however, reported that their initiation of an illicit drug other than marijuana had preceded their involvement with marijuana. In all but one of these cases only one other illicit drug (e.g., an inhalant, cocaine, pills) preceded the use of marijuana. Only one individual reported experimenting with several illicit substances prior to her initiation of marijuana. Stacy, a 21-year-old marijuana user described her sequence of initiation:

Uh huh (yea). LSD was first. LSD was first, and then cocaine, no, I'm sorry, alcohol, I'm sorry, alcohol was first, and then the valiums and xanaxes, the pills, was second, and then the LSD, then the cocaine, then the mescaline, I'm tryin' to, then, the mar-, then the marijuana, no, no, no, I'm sorry, then the ecstasy, and then the marijuana, and then the crank, and then the mushrooms.

Of the remaining individuals, one reported no other illicit drug use, one reported using marijuana with opium the first time he tried it, and one individual could not accurately remember the sequence of his illicit drug experiences. When asked about his sequence of initiation he stated, “they’re all kind of right around there in the same time...they all just kind of came into play at once. [Q: And no specific order for the hard drugs?] No, not really. They all just, all kind of hit at once.”

The distinction between legal and illegal substances was minimized by some participants and yet, viewed as significant for others. Sam, a 48-year-old male ex-user of marijuana, discussed how his substance use experiences were connected, “It’s just like the first cigarette, leads to the first beer, leads to the first joint. It’s a, it’s kind of a *step*. Each one of ‘em’s a *step*.” Others shared similar sentiments as well. When discussing her drug use progression, Kathryn, a 29-year-old marijuana user stated, “I think alcohol is a gateway drug more than anything else. Because I have never heard of someone smoking pot before they drank alcohol. I don’t think of marijuana as a gateway drug, I think of alcohol as being a gateway drug.”

Perspectives on marijuana as a gateway drug.

Individual perspectives on marijuana as a gateway drug were mixed and multi-

dimensional. All study participants provided some insight into the inter-connections between involvement with marijuana and other drug use experiences. Reports on perceptions about marijuana as a gateway drug were varied. Of the 51 adults, 10 (19.6%) strongly supported the idea that marijuana is a gateway drug. This group included five current and five ex-users of marijuana. Eighteen adults (35%) did not believe that marijuana is a gateway drug. This group included 12 current and six ex-users of marijuana. Twenty-three (45%) adults, including 13 current and 10 ex-users of marijuana, reported having mixed viewpoints regarding marijuana as a gateway drug.

When discussing their thoughts and perspectives, individuals often compared and contrasted what they had learned or heard about gateway drugs from others (e.g., drug prevention programs, parents etc.) to what they understood based on their own experiences and the experiences of others within their lives. The following categorizations of responses are grounded in and emerged from the data. Responses often included multi-dimensional considerations on the role of marijuana in the drug career. Individuals discussed weighing numerous factors when making decisions about drug use. This has been described elsewhere (see Shukla & Kelley, 2007). The responses demonstrated the complexity inherent in understanding possible linkages between the various substance use experiences.

Some individuals supported the idea that marijuana was a gateway even when it contradicted their own experiences. Justin, a 21-year-old ex-user of marijuana, demonstrates:

[Do you think marijuana is a gateway drug?] Yea, sure, just as much as any other drug. [Does it make you want to try other drugs?] I mean, I could see how it could, for someone that's, I mean, I don't know if that was the way it was for me, but I can see how someone could smoke pot, and get high, and get bored with it kind of easily, and move on to other drugs.

While Justin seemed to understand why some people might be enticed to try other illicit drugs after trying marijuana, he was unsure about whether or not this had been the case in his own experience. It was not uncommon for individuals who believed marijuana was a gateway drug to discuss other substances, such as alcohol and tobacco, as gateway drugs as well. Carla, a 35-year-old ex-user of marijuana, talked about the various types of gateway drugs she encountered:

I don't think it's [marijuana] any more of a gateway drug than cigarettes are for alcohol and alcohol is for pot, and it's just you've got this degree of, of dangerousness, in terms of the drug itself and in terms of the consequences legally, and I just think you take one risk, you like it, you continue to escalate your risk until you get to a point in which the risks outweigh the costs, and people just have different stopping points, so I think pot, alcohol is a gateway to pot, and not everybody jumps that gate because the legal issue is enough of a deterrent, and then you go from pot to cocaine, and it's like, it's the same thing.

Two main themes describing the potential link between marijuana use and the subsequent use of other illicit drugs emerged from the data. These included: crossing the line, and the availability and access to other illicit drugs. Theo, a 37-year-old ex-user of marijuana, discussed the importance of crossing the line between licit and illicit substances:

I think that, um, marijuana has more of a, a...it's more acceptable to people, as an illegal drug, than the other drugs are, but I believe, if you make the decision to do that (marijuana), it's easier to make the decision to do other things (other illicit drugs), and, you know, true of anything else in your life too, once you cross over a certain line, it makes things easier.

Michael, a 19-year-old marijuana user, further expanded on why he thought it might be easier to try other illicit drugs after using marijuana:

I guess it made it easier, because once you tried that, you're pretty much involved in the drug world. If you try marijuana, then it's pretty much easy to get anything else. If you wanted to try hard enough, it's easy, it's easy enough to get it (other illicit drugs). [It becomes easier to get other drugs once you get marijuana?] Yeah, because usually the people who will sell you marijuana, either know people, or will sell them themselves, harder stuff, because marijuana's just something they use for the smaller money, you know, the other stuff, is a lot stronger, and it's a lot more money, so that's what they try to sell more of.

Data from the 18 adults (35%) who did not perceive marijuana as a gateway drug shed light on the complexity inherent in understanding factors that influence drug use experiences. Andrea, a 36-year-old marijuana user challenged the idea that using marijuana makes people want to try other illicit drugs without the presence of other contributing factors:

No. No, it (marijuana) doesn't make me want to do something else (other illicit drugs). I don't do it and think, 'Oh, this isn't cutting it for me, I'd better try heroin.' I don't know, I think that if you look at the people who use, of course you're going to find people who abuse marijuana, and then go on to use other drugs, but I can't remember what the statistic is, it's just an incredibly small proportion, nowhere near significant. And I suppose there are people who would take the view that, well, if even one out of a hundred people uses marijuana and then goes on to use heroin or coke or something like that, then that's enough of an indication of a gateway, but that doesn't cut it for me. But it's also, if you look at the people who use marijuana and then go on to use other drugs, or who use marijuana and other drugs, they have, you know, certain background characteristics, certain social-psychological variables that are related to that, to their drug use, and it doesn't have anything to do with marijuana. If it hadn't been marijuana, it was going to be cigarettes,

or alcohol, or LSD. Their lives are just, they have something else going on.

Her perspective was shared by others as well. Matthew, a 47-year-old with a history of heavy involvement with illicit drugs similarly expressed his belief that the gateway concept was invalid:

That's propaganda by William Randolph Hearst and his buddies. [So you don't think marijuana use leads to other drug use?] No, I think the propaganda leads to other drugs. [Do you think that if you find someone that has marijuana, you can find other illicit drugs?] Yeah, but I think I can find somebody that has cocaine, and they can probably get marijuana, you know. It's, you know, it's not a gateway drug on its own. Gateway is a term coined by the Establishment. It's only a gateway drug because they call it a gateway drug.

Kevin, a 35-year-old marijuana user, expanded why he did not believe marijuana was a gateway drug, using his own experiences as an example:

No, gateway to other drugs? No, because the marijuana itself didn't lead me to other drugs. It really didn't, no, because a lot of times, I discovered the other drugs, that's on your list there, (referring to interview instrument) completely separated from the people I knew that smoked marijuana. And a lot of people I knew that smoked marijuana, frowned on those other drugs.

The adults in this study discussed the fact that many different factors influenced their drug use experiences. This is illustrated by the comments from Kyle, a 39-year-old marijuana user:

Well, that's difficult to answer, um, I feel like the, the easy answer, the surface answer, would be yes, but I think that it's an over-simplification of how human beings create their realities, and that, to say, just with a broad statement, that marijuana is a gateway drug, I don't, I don't really agree with that.

Andrew, a 30-year-old self-described social marijuana user, expanded on the complexity of the issue:

I don't buy the gateway drug. I think no, I think you run the gateway, circle of friends. I really believe your circle of friends are your gateways, because you start running around, you know you see kids, inner-city, urban black kids whatever, Hispanic kids smoking pot on the street, well they're also drinking a lot of beer, they're also smoking a lot of pot, you know, their lifestyle is the gateway. It's not the drug that's a gateway, it's the lifestyle, that's the gateway.

In his situation, Andrew attributed his lack of progression to other illicit drug use to the types of peers he associated with as an adolescent.

Several themes emerged from the data obtained from those who disagreed with the marijuana gateway hypothesis. These themes included the following: that alcohol or other drugs were more of a gateway than marijuana, that the different drug use experiences involved separate decision-making processes, and that the link between the use of marijuana and other illicit drugs is overstated because different drugs have different groups of users. The limitations of overly-simplistic explanations for drug experiences represented a consistent theme throughout the responses from these individuals.

The difficulties inherent in understanding the diverse factors that influence drug experiences were evident from the responses of the 23 (45%) adults who discussed being conflicted or uncertain about whether or not they viewed marijuana a gateway drug. Individuals expressed conflicting viewpoints, often discussing opinions that simultaneously supported and disagreed with the gateway concept. The importance of the illegality of marijuana was a common theme discussed by these adults. T.J., a 50-year-old marijuana user, explains:

I don't think it (marijuana) causes anybody to use harder drugs, but I think, I mean I definitely, if you use marijuana, you've shown a willingness to cross a line that other people won't cross. [What is the line?] I guess the illegality of it, yeah.

Talia, a 31-year-old marijuana user, reiterated the belief that other contributing factors must be taken into account when explaining involvement with illicit drug use, stating:

I'm sure it is for some people. Again, for the people who I consider have addictive personalities, I think it's probably a gateway drug. But I've seen so many people that, all they ever did was smoke marijuana and they never touched anything else. So, I, as far as marijuana itself, um, on its own merits, no, I don't think it is. I think it has to do with the person.

David, a 32-year-old ex-user of marijuana, expressed uncertainty about his thoughts:

I want to say no, but, um, I'm, I'm not sure my path refutes that. [Did trying marijuana make it easier to try other drugs? How is it connected to other drug use?] I think, probably, you've made this small step, the biggest step is going from, I guess, legal to illegal, other illegals, not such a big step, so I can see it in that respect.

While David talked about the importance of illegality, he remained adamant that not all illicit drugs could be considered to be the same, stating: "Even though there are levels, like crack, in my world, crack is taboo, you know."

Individuals talked about their different drug use experiences as separate from one another. They often discussed their decisions to use different types of drugs as distinct from one another. When asked whether her marijuana use made her want to try LSD later on, Gretchen, a 27-year-old ex-user of marijuana, said,

I think they're separate because they're so, those two drugs are so different, you know, the effects of them are so different, and marijuana's to make you relax, and LSD's just the opposite, you know, so. [So you don't know if it's a gateway drug or not?] It's hard to say. It was probably, well you know, once you use something illegal it's probably easier to switch to other illegal, you know.

Brenda, an 18-year-old marijuana user, discussed the importance of differences between different types of illicit drugs when explaining why she thought marijuana was a gateway drug:

Well, once you smoke, that (marijuana), and you get used to smoking that, it's more like smoking cigarettes, you know, and then you need to go on to something bigger, or, it just makes you feel more comfortable, once you've smoked marijuana, if somebody comes up and offers you coke (cocaine), it's going to be easier for you to take coke, once you've smoked marijuana, than if you've never smoked marijuana before. [Why is that? It is related to the illegality?] Yeah, there's like a line, coke, and everything other than marijuana, is like real, real, real illegal, will never be legal, is not legal, anywhere, you know, marijuana is like, some places it's legal, some places it's not, you know, for some reasons it's legal, for some reasons it's not, and so, its...

These responses demonstrate the complexity inherent in understanding the links between different illicit drug use experiences. Major themes that were discussed included: the belief that any drug use leads to other drug use, the view that marijuana may be a gateway for some people but was not for me, and the significance of the failure of drug education efforts and drug policies to distinguish between different types of illicit drugs.

Discussion

Understanding potential connections between marijuana use and other illicit drug use is both challenging and important. Despite the vast literature on gateway drugs, much remains to be known. The data presented here sheds light on the topic of marijuana as a gateway drug by providing insight from those who have experienced marijuana and other illicit drugs. While the initiation sequences for some of the adults follows the stage-like progression identified in the literature, variations in sequencing existed. The majority of adults in this study initiated their drug experiences with alcohol and/or tobacco. Most of them initiated their involvement with illicit drugs with marijuana. However, one-third of the adults in this study reported the use of other illicit drugs prior to marijuana. The data on thoughts and perceptions regarding

the gateway hypothesis lends support to the idea that this concept is oversimplified; perceptions about the idea that marijuana is a gateway drug were mixed. While some individuals clearly supported the idea that marijuana is a gateway drug, others did not. Still others presented viewpoints expressive of conflict and uncertainty. The data presented here demonstrates the types of insight that can be gained from understanding involvement with drugs from an insider's perspective. It is evident that various types of factors and considerations that influence drug behaviors. In reality, purported linkages between the use of one drug and another are complex.

The drug histories of these adults present an interesting picture of how involvement with illicit drug use changes over time. In the later stages of the drug use career (i.e., in adulthood), only some individuals continued to use illicit drugs other than marijuana. It is possible that relationship between marijuana use and other illicit drug use may be different in the later stages of the drug use career than posited by the gateway concept. Some of the adults in this study strongly supported the belief that marijuana is a gateway drug. Indeed, it may be for some. More research into the specific personal factors that may lead marijuana to function as a gateway for some but not others is needed. The majority of the adults in this study expressed uncertainty about the gateway hypothesis. As their responses demonstrated the issue is multi-faceted and personal experiences can vary between one individual and the next. These data demonstrate the utility of taking an insider's perspective into account in explanations of drug use. The significance of the legal/illegal distinction was a common theme that was discussed. Individuals talked about the importance of crossing the line, or demonstrating a willingness to try an illegal drug as being important to explaining other illicit drug use experiences. They spoke about the significance of acquiring access to illicit drugs as another factor.

It is important to note that the findings from this study are limited. The drug history data is based on self-reports of the individuals interviewed and is subject to the limitations of self-report data. The findings are based on a small sample of adults from Oklahoma who were identified through snowball sampling techniques. The sample may be biased due to the sampling strategy utilized. The findings are further limited because of the fact that some of the individuals in this study were involved with marijuana use at the time of their interview. Their viewpoints may be biased. While the findings from this study are not generalizable, generalizability was not the goal. Rather, the purpose of this research was exploratory. The findings presented here illuminate the types of information that can be gleaned from examining involvement with drug use from an insiders' perspective. In general, the data from the adults in this study indicate that the gateway hypothesis fails to account for the multitude of factors, including individual decision-making and choice that increasingly influence drug experiences over time (McIntosh, MacDonald & McKeganey, 2006; Shukla & Kelley, 2007).

This study demonstrates the value of taking an insiders' perspective into account. Individuals discussed the different types of factors that influenced their drug experiences, further challenging attempts to identify simplistic associations or causal linkage between the use of one substance and another. The findings provide insight into complexity of inter-connections between substance use experiences. These data represent a starting point to better understand connections between the use of certain substances and subsequent ones. The value of examining such questions with a qualitative approach is demonstrated.

It is evident that much can be gained through the examination of illicit drug use from the perspective of those involved. The divergent, often conflicting perspectives demonstrate the challenges that exist in understanding complex human behavior such as involvement in illicit drug use. The variations in perspectives and experiences reiterate the limitations inherent in overly-simplistic explanations of illicit drug use.

While the gateway hypothesis is useful for describing possible linkages between early substances that are used and later ones, it is problematic for a number of reasons. Variations in patterns of initiation and progression, and changes in drug involvement in later stages of the drug use career are likely to be overlooked by those promoting the validity of the gateway hypothesis. In the present study, the majority of individuals tried illicit drugs other than marijuana. While some continued to use other illicit substances in adulthood (i.e., at the time of the interview), a number of them only continued to use legal drugs (i.e., alcohol and/or tobacco) and marijuana. More research on the role of marijuana in the later stages of the drug career is needed. Future studies need to continue to examine the relationship between different forms of illicit drug use. Drug research can only be strengthened by continuing to take into account the experiences and perspectives of those involved. Given that marijuana policy is changing, continues to capture national attention, and remains controversial internationally, it is clear that more research is needed.

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Patients and Caregivers Report Using Medical Marijuana to Decrease Prescription Narcotics Use

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Abstract

In depth qualitative interview data were collected from medical marijuana patients and knowledgeable producers in Michigan about their perceptions and observations on the medical use of marijuana. Patients consistently reported using marijuana to substitute or wean off prescription drugs. All patients and producers who were taking opiate pain killers claimed they reduced overall drug use, especially opiates, by using medical marijuana. Patients and caregivers also claimed medical marijuana was preferred over opiates, eased withdrawal from opiates, and in some cases was perceived as more effective at relieving pain.

Keywords: drugs, marijuana, marihuana, medical marijuana, addiction, opiates, gateway effect

Introduction

Using a convenience and snowball sample of 28 medical marijuana patients and producers in Michigan, qualitative interview data were collected about lifetime drug use patterns, perceptions about the long and short term effects of marijuana, how marijuana has impacted lives, and the use of marijuana as medicine. A consistent theme was the claim that marijuana reduced or eliminated the use of prescription painkillers, in particular orally administered opiates. This claim by patients is at odds with many previous studies on marijuana use and abuse (Golub & Johnson, 1994). There are numerous studies on the “Gateway Hypothesis” that the use of marijuana leads to use of “hard” drugs like heroin and cocaine but very limited research on the potentially beneficial effects of marijuana. The “Gateway Hypothesis” is the centerpiece of the campaign against marijuana (DEA, 2011).

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However, proving the gateway hypothesis has been problematic. There is no question that the use of marijuana is associated with later use of more dangerous drugs for some individuals, but it is also possible that those predisposed to use marijuana are already predisposed to use other drugs. Some studies find support for a general causal model that marijuana use leads to use of “hard” drugs (Fergusson, 1997; Fergusson, 2006; Chase and Donovan, 1980) while others dispute the methodology and interpretation of these findings (Kandel et al, 2006). One of the more convincing recent studies used a meta-analysis of longitudinal, animal, epidemiological and twin studies to determine causality of the gateway effect claims (Hall & Degenhardt, 2009). Hall and Degenhardt (2009) showed that pre-existing traits, along with social and peer influences from early and/or heavy entry into the drug culture are the primary influences in later abuse of other illicit drugs. They concluded that regular cannabis use may have pharmacological effects on brain function that increase the likelihood of using other drugs. However, this “minor” effect is a “secondary concern” in human subjects.

The claim that marijuana use decreases the use of other drugs was called the “Reverse-Gateway Hypothesis” in a telephone conference with this author, several Michigan medical marijuana certifying physicians, and several lawyers specializing in the new area of medical marijuana law and was later affirmed in a personal communication. Dr. Townsend, an activist and medical marijuana certifying physician in Michigan claimed the “overwhelming majority” of his patients seek marijuana in order to decrease their prescription use, especially opiates (R. Townsend, M.D., personal communication, August 10, 2011).

The aim of this paper is to present the patient perspective and perceptions about the effect of medical marijuana use on prescription drugs use. A nonrandom sample of patients and producers was used and all patients who had experience with opiates expressed the view that medical marijuana is not a “Gateway Drug” but a “Reverse-Gateway Drug” that permits a decrease in opiate utilization.

Review of the Literature

Almost all marijuana research in humans has used synthetic THC delivered orally, in pill form. There is one study on the use of smoked marijuana to improve Multiple Sclerosis (MS) symptoms. Using an ex-post-facto survey methodology, 97% of MS patients reported that smoked marijuana improved their condition (Consrue, 1997). Despite the growing evidence, no blinded, randomized clinical study using smoked marijuana has ever been approved in the United States for problems associated with Multiple Sclerosis. Grant, Atkinson, & Gouaux (2012) provide a recent review on the accumulating anecdotal reports on the potential medical benefits of marijuana which includes claims of relief from chronic pain, nausea, muscle spasms, neuropathy, relief from glaucoma, and stimulation of appetite, among others.

Lenza (2007) focused on the issue of using marijuana to decrease alcohol intake, suggesting that chronic alcoholics may use marijuana to substitute for alcohol. Another very early study used synthetic THC with a group of psychiatric patients that happened to include some alcoholics in the acute phase of recovery and found improvement in alcohol withdrawal symptoms in 85% of the cases (Thompson and Proctor, 1953). One writer to the

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American Journal of Psychiatry claimed he had clinical experience suggesting marijuana is a viable treatment for alcoholism (Scher, 1971). He also claimed that marijuana and alcohol are “mutually exclusive agents” arguing that greater use of marijuana is associated with less alcohol use. No other studies on whether marijuana may be associated with *decreased* alcohol intake have been identified.

There is a growing body of research showing marijuana may reduce the negative side effects of various symptoms and signs associated with narcotics use and withdrawal, especially nausea (Todaro, 2012) and headaches (Robbins et al., 2009). Support for the proposition that greater use of marijuana is associated with less use of drugs, such as alcohol, may be important because it opens the possibility that marijuana use may also decrease utilization of other drugs.

The central claim of this paper is that medical marijuana patients consistently report that greater consumption of marijuana is associated with less consumption of opiates. The claim that marijuana is used to substitute for narcotics and other drugs has been recently supported by a survey of over 400 dispensary patients in California which found 41% of patients report substituting marijuana for alcohol and 68% report substituting marijuana for prescription drugs (Lucas et al., 2012). The present study is the first report of interview data in support of these findings.

Rationale and gaps in the literature.

There is little research about the medical marijuana population nationwide and no published research about the Michigan population. Since marijuana remains a Schedule 1 drug under United States federal law, there has been no clinical research approved in the United States using the potent marijuana available to medical marijuana patients, and very few randomized controlled studies in the entire world on the effects of marijuana. In fact, more than 95% of the studies purporting to investigate marijuana are not studies of natural smoked marijuana but of synthetic, oral pharmaceuticals such as Nabilone, Dronabinol, or Levonantradol (Armentano, 2011; Earleywine, 2002). There is almost no research on the impact of marijuana use on prescription medications or the hypothesis that marijuana might reduce prescription opiate intake. More research is warranted on the population of medical marijuana patients and on the perceived positive and negative effects of medical marijuana.

This study was only made possible by passage of the Michigan Medical Marijuana Act by the people of Michigan in open defiance of federal law. The Proposal 1 ballot initiative was passed in November 2008 by 63% of the electorate. Proposal 1 lets patients use medical marijuana when a doctor certifies the patient has a "serious and debilitating medical condition...[such as]... Cancer, glaucoma, positive status for human immunodeficiency virus, acquired immune deficiency syndrome, hepatitis C, amyotrophic lateral sclerosis, Crohn's disease, agitation of Alzheimer's disease, nail patella, or the treatment of these conditions... [and which]...produces 1 or more of the following: cathechia or wasting syndrome; severe and chronic pain; severe nausea; seizures...epilepsy; or severe and persistent muscle spasms, including but not limited to those characteristic of multiple sclerosis" (Mich. Compiled Laws §333.26423, 2008).

Methods

The Wayne State University Human Investigations Committee (HIC) approved the study design that included in-depth, recorded interviews of medical marijuana patients. A total of 28 medical marijuana patients were interviewed for this study; 19 were “regular” patients and 9 were also producers or “Caregivers” under Michigan law. All Caregivers were also card-holding patients. A total of 7 participants were obtained by posting flyers at medical marijuana dispensaries, compassion clubs and other areas where medical marijuana patients were known to gather. Additional contacts were requested at the conclusion of each interview and the remaining 21 participants were recruited using a partially purposive snowball methodology.

Sample characteristics and partial purposive sampling.

Although the interview population was a convenience sample, partial purposive sampling was used because the goal was to find the views and perspective of the “regular” medical marijuana patient. The intent of this study was not to provide evidence for the efficacy and utility of medical marijuana by interviewing the sickest cancer and Multiple Sclerosis patients. This category would be expected to be most supportive of the use of medical marijuana but they also represent a small minority (<5%) of the medical marijuana patient population (LAR, 2012).

There was a very strong tendency for medical marijuana patients, particularly activists with a financial incentive in the medical marijuana industry, to provide leads initially to the most serious patient cases. This was strongly resisted with sources and participants were repeatedly told we were looking for “the common and regular” medical marijuana patient. Therefore, only two cancer patients and one Multiple Sclerosis (MS) patient were interviewed. Many potential leads were deliberately passed up in order to have a sample that was roughly representative of the patient population on qualifying condition and on gender.

Table 1: Interview Recruitment Sources

Number	Interviews	Method of Recruitment
n=7	1-3, 7, 8, 20-21	Flyers (not purposive)
n=7	6, 11, 16, 17, 19, 23, 24	Personal contact with the PI during the course of the research (purposive)
n=14	4, 5, 9, 10, 12-15, 18 22, 25, 26, 27, 28	Snowball (purposive)

The sample interviewed was certainly not probabilistic but was approximately proportional and balanced by known medical conditions and by gender.

Table 2: Interviewees by Medical Condition

<u>Medical Condition</u>	<u>Number Interviewed</u>
-Severe Pain/Post-Surgical Trauma	6 (21%)
-Cancer	2 (7%)
-Multiple Sclerosis	1 (3%)
-Minor Back, neck or muscle pain	2 (7%)
-Arthritis	6 (21%)
-Minor Headaches	1 (3%)
-Severe Headaches (Cluster/Migraine)	2 (7%)
-Minor Knee pain	3 (11%)
-Severe Knee or Hip Pain	3 (11%)
-Other	2 (7%)

Similarly, the actual population of patients is approximately 30% female (LAR, 2012) and the sample consisted of 36% females (10 of 28). Significantly more females volunteered to be interviewed than males and over half of the female interviews were passed up in an attempt to interview a population that was more representative of the actual patient population.

Interview types.

There were two categories of interviewees:

1. Producers and Activists (“Caregivers”): (n=9).
2. Regular Patients: (n=19).

Some interviews (n=9) were with patients who were also individuals classified as “Caregivers” under Michigan law. The Caregiver interviewees were producers and activists in the medical marijuana community. Proposal 1 under Michigan law lets each patient designate a “Caregiver” who may grow, purchase, or otherwise obtain marijuana for his or her patient and legally receive remuneration from the patient. A caregiver may assist up to five patients under section 8 of the Act (Mich Compiled Laws §333.26428, 2008). However, section 4 of the Act states that “A (i.e. “any”) registered primary caregiver may receive compensation for assisting a (i.e. “any”) registered qualifying patient” (Mich. Compiled Laws §333.26424, 2008). Thus many of the “Caregivers” helped more than the five patients to whom they were connected through the Michigan medical marijuana caregiver registry. Furthermore, many of the “Caregivers” were leaders in the community as political lobbyists, owners and employees of medical marijuana dispensaries, and other financially invested activists and producers. These

interviews took approximately two hours and included the personal observations about the categories and types of patients they had observed.

Most of the interviews (n=19) were with “regular patients.” A “regular” patient was an individual with his or her certification card from the State of Michigan but did not have any significant contacts with the medical marijuana industry as growers, sellers, employees, owners, or activists. They were only patients and consumers of medical marijuana. These interviews took approximately one hour.

Table 3: Caregiver Interviewees by Medical Marijuana Experience

“How many patients have you personally observed or advised about the use of medical marijuana?”

<u>Number of Caregivers</u>	<u>Number of patients claimed to have advised about medical marijuana</u>
Total n=9	
1	A few dozen
4	Lots...too many to count
2	Hundreds
2	Thousands

The Caregivers interviewed were not representative of the population of medical marijuana patients as they were mostly highly educated producers, leaders, and activists in the medical marijuana community. Only two Caregiver interviewees did not have a college degree and both of these were young females recently graduated from high school who intended to go to college.

Table 4: Interviewees by Education

<u>Interviewee Characteristics</u>	<u>High School</u>	<u>College</u>	<u>M a s t e r s</u>
Patient Interviews (n=19)	10 (53%)	7 (37%)	2 (10%)
Caregiver Interviews (n=9)	2 (22%)	4 (44%)	3 (33%)

Interviewees previous experience with marijuana.

Twenty-six of 28 respondents (both Patient interviewees and Caregiver interviewees) reported using marijuana since long before they developed their qualifying condition. Two others were born with their qualifying medical condition and began using marijuana before age

15.

This convenience sample is too small to provide a meaningful average (mean) age of entry into the use of marijuana and this was certainly not the purpose of this study. However, other measures of central tendency were interesting: Both the median and mode of entry into the use of marijuana was age 15, suggesting a larger sample of interviewee patients might demonstrate a normal distribution around this age. Four respondents reported first using marijuana at age 9, two at age 10, and one, who grew up in a “hippy” commune reported age 6. All but two claimed they had been smoking regularly on a daily or weekly basis since their initiation. Over half claimed they started smoking marijuana at age 18. Only one first tried marijuana at age 25 and one claimed she was in her 60’s the first time she used marijuana. Seven were unclear on the age they began, did not wish to divulge this information, or were not directly asked the question after revealing they had been smoking since long before they developed their qualifying condition.

Interview locations.

Interviews took place at locations of the patient’s choosing. Approximately 1/4 of the interviews were in a public location such as the library (n=2) or a restaurant (n=4). The majority of the interviews took place in the participants home (n=16) while the rest (n=6) took place at a medical marijuana center. Six of the interviews were tandem or dual interviews with two married couples and a long-time intimate couple. In these interviews, both members of the dyad were medical marijuana patients and both were interviewed at the same time.

Results

Interview results are reported in two sections. Results from “Patients” are reported in section one while results from “Caregivers” (Producers and Activists) are reported in section two. Eleven of 19 patients and 8 of 9 caregiver interviewees had experience with opiates. All of the patients and caregivers who had experience with prescription opiates made sweeping claims that they personally reduced opiate consumption and/or had personally observed patients reducing opiate consumption as a result of using medical marijuana. Many provided personal, specific and detailed examples of patients using medical marijuana to substitute for other drugs, particularly prescription opiates. The only patients who did not claim they substituted marijuana for opiates were patients who were not taking opiates.

Patient results.

Some patients reported completely eliminating prescription opiates by substituting medical marijuana. Several patients claimed they had been able to completely stop taking narcotics by substituting marijuana. A male in his 40’s with dual hip-replacements and severe arthritis described months of his life taking Darvon, Oxycodone, and sublingual Codeine. He mentioned several times that he was only able to completely stop these drugs because of marijuana. Many patients were almost unable to contain their glee when they reflected on their drug use before and after they had access to medical marijuana. One was post-surgery after he “broke” his back at work. The interviewees verbal medical history was consistent with low

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back herniated discs and lower right side peripheral neuropathy:

Interviewer: Are there other drugs that you are not on now that you might be if you didn't have marijuana?

Respondent: Yes I no longer take, the... frankly I want to jump up and dance because of that you know I took those pain pills and all those other pills for so long but no more Tramadol [a prescription opiate pill] for me! I don't have to see the doctor at the prescription mill for any pills so no...no antidepressants no pain medications, no Tramadol, just marijuana (Male, 50's, College Graduate, post-surgical lumbar pain).

Four of 11 patients who claimed experience taking opiates stated they were able to completely eliminate "the pills" by using medical marijuana. Seven of 11 patients reported they were able to reduce the number of pills they took by substituting marijuana but did not completely eliminate the use of opiates. These were usually patients whose condition was more serious and life altering.

Respondent: I used to be on probably about 20 different pills, and I am down to I think 7 or 8. I have reduced them by 2/3 (Female, 30's, High School Graduate, Multiple Sclerosis).

Patients frequently provided specific and detailed quantitative information about their reduction in opiate use when they used medical marijuana. One described significant low back pain that included a post-surgical back injury with a morphine pump and a history of taking "handfuls" of narcotic pain medications: "I was taking 20 pills a day, almost 20 pills a day and now I am down to 12." (Male, 40's, College Graduate, severe post-surgical lumbar trauma).

Both cancer patients interviewed were Stage IV, with severe pain and mental distress, and spent some time describing their experiences with prescription narcotics. Both were terminal and both viewed medical marijuana as their last option for pain management. Both talked extensively about the importance of being able to reduce their narcotics intake in the final months and years of life and complained about the amount of narcotics they were prescribed. Both cancer patients claimed they were able to significantly reduce their narcotics use by substituting marijuana:

Respondent: When I use the oil and smoke I... realize...it is two hours past the time when I would've normally taken my Fentanyl. I have two 100 mg patches Fentanyl that I use at a time. As well as 40 or 50 mg of Oxycodone immediate release on top of that.

Interviewer: Were you able to decrease any of your treatments since you started using medical marijuana?

Respondent: Well that I have been able to do, yes absolutely. Like I said before, (I am) less dependent on those pills...which makes me happy. But as far as changing any protocol like at the cancer center then no. (Female, 50's, College Degree, Cancer).

Results were consistent across several medical conditions. Whether the medical condition was trauma, cancer, Multiple Sclerosis, arthritis, or some other condition, whenever the patient had a history of prescription narcotics utilization (n=11 of 19 patients) they all made nearly the same claim they had been able to reduce or eliminate narcotic pills by using medical marijuana. Caregivers reported that medical marijuana is routinely substituted for prescription narcotics.

In addition to nineteen patients, nine caregivers (producers and activists) were also interviewed. This group was also asked about their observations on the use of marijuana in order to reduce opiates.

One of the nine caregiver interviewees (Interview 19) disagreed with all the other patients and caregivers interviewed that medical marijuana regularly was used to decrease opiate use.

Interviewer: (of the “thousands” of people you have talked with about medical marijuana) How many people have you personally witnessed able to reduce or discontinue medications, pharmaceuticals, because they started using medical marijuana?

Respondent: Personally about 10 (Male, 20’s, High School Degree, Medical Marijuana Dispensary Operator, Chronic Pain).

He thought this percentage of patients was very low because the narcotics addiction was so powerful that “once they are hooked it is really hard to stop.” The other eight caregiver interviewees all claimed that medical marijuana was used to decrease opiate use.

Interview 1 worked in a medical marijuana dispensary in Northeastern Michigan. She and her parents were both caregivers who worked at the facility. The woman in her early 20’s suffered from severe fibromyalgia and Scheuermann’s disease (mid-back kyphotic or “hunchback” changes that are often very painful). She described an extensive medical history and extreme and disabling pain that caused her to miss a significant amount of high school. She talked for some time about her medications that included “huge amounts” of Vicodin, and several other narcotics, anti-depressants, Flexeril, and non-steroidal anti-inflammatory medications. Both her personal experience and her experiences working with the patient population were broader than the limited hypothesis that marijuana might be useful to “decrease” narcotics intake:

Interviewer: Have you been able to decrease other treatments since you started using medical marijuana?

Respondent: I use nothing but medical marijuana.

Interviewer: You don’t use any narcotics?

Respondent: Nope. Nothing. (Female, early 20’s, high school graduate, fibromyalgia, medical marijuana dispensary employee).

The young woman’s observations about the patient population matched her personal medical history:

Respondent: People will...are coming to us mostly because they don’t want to be on any more pills or so many, you know. I mean I started (using medical marijuana) because I didn’t want to be on those pills. (Female, early 20’s, High School

Graduate, fibromyalgia, medical marijuana dispensary employee).

“Wanting to get off those pills” became one of the most common themes in the interviews which stood out prominently with the phrase repeated verbatim in nearly half of the interviews.

The second caregiver interview had the least experience in the medical marijuana industry of all the interviews classified as “Caregiver” interviews. She only worked in a dispensary for six months but her limited experience set the tone for later interviews:

Interviewer: Can you be more specific what did you see. What have you heard?

Respondent: I saw everybody coming in there for it (medical marijuana), and just like especially the old people it really touched me because they come in complaining mostly about Vicodin, and how they put me on this and that, and it was killing me. Lots of older people would come in and tell me about how medical marijuana saved their life by letting them get off that stuff (Female, late teens, High School Graduate, knee pain, medical marijuana dispensary employee).

Both groups of interviewees, Patients and Caregivers, used very similar language such as “saving their life” or “lets me live my life” or “lets me function in my life” in describing how medical marijuana is used to substitute for narcotic pills. Interview 11 was a Master’s level college instructor who reported:

Respondent: I may have personally processed 400 doctor certifications. I am the one the person talks to the longest...doing their case prep (for the doctor’s office)...And through these hundreds of patient encounters I would say about 90%...of them have already been taking doctor prescribed narcotic and opiate pharmaceuticals and they, the side effects of these are so onerous and debilitating themselves they are not able to function in their normal capacity and they are seeking to get off the zombie effect of the pharmaceuticals. That is where medical marijuana really works well (Male, 50’s, Master’s Degree, back pain, medical marijuana delivery service provider and medical office consultant).

Interviewee 16 agreed almost verbatim with Interviewee 11 and he had accessed a much larger group that included “several thousand” sit-down interviews and discussions with patients specifically about their medical condition. Interviewee 16 is a prominent political activist, the president of a statewide medical marijuana advocacy group, a caregiver, and a “budtender” with the largest medical marijuana facility in Michigan. All the interviewees (except 19 described at the beginning of this section) were budtenders, meaning they hand the cannabis samples to patients and advise them about the properties and expected effects of the available types of medical marijuana in light of the patient’s qualifying medical condition.

A tandem interview with two managers of a Michigan medical marijuana center contained similar and even broader claims. Each had talked with and advised “hundreds” to “thousands” of patients and were so eager to tell the story the interviewer could barely complete the questions:

Interviewer: Have either of you ever heard mentioned in your presence that maybe somebody was able to reduce pain killers and or narcotic drugs...

Female: (interrupting) all the time..

- Interviewer: as a result of their marijuana use.
- Female: All the time.
- Male: yes, all the time.
-Crosstalk....
- Female: Yes, yes, more people than I could list. We have people come in here – well, all the time - everyday - and talk about that... yes, of course.
- Interviewer: Do you think that the majority of people who come in here and you talk with here claim they are able to reduce the meds, the narcotics they're taking.....
- Male: Yes
- Interviewer: because it is probably really only a few people who....
- Male: No!
- Female: No!
-Crosstalk....
- Female: So many people, so many people, you know text us, they thank us, this is something we hear all the time. It is not a small thing....
-Crosstalk....
- Interviewer: go ahead.
- Male: I see, I mean yah, I see people myself firsthand come in and more times than not they're not happy when they come in....and every single one of them will tell you hey, I went from taking 10 pills a day to taking 2 pills a day. With fewer pills it's still a better quality life because of the medical marijuana (Male and Female, 30's-40's, College Graduates, chronic radiating pain and headaches, medical marijuana dispensary owners and operators).

Every single Caregiver interview transcript includes consistent and numerous claims that at least some patients were using marijuana to decrease prescription opiate utilization.

Caregiver interviews.

Every Caregiver that was interviewed gave specific examples and articulated personal observations about patients using medical marijuana to decrease prescription drugs use, particularly opiates. Every patient that was interviewed (including the eight Caregiver interviewees) with experience taking narcotics claimed they reduced or eliminated their prescription opiates because they substituted medical marijuana.

Why did patients prefer marijuana to opiates?

Opiates caused very unpleasant side effects. Most patients described unpleasant side effects from taking opiates.

- Female: He simply can't take [Vicodin] without getting sick.

Interviewer: Now when you say you get sick, do you throw up?

Male: Yeah, what happens is I get a severe headache, and I start feeling... I don't know, like fuzzy in my head, like there's cotton all over inside my head and then it starts making me feel like... motion sickness is the best way I can describe it, and then I just started getting sick and trying to throw up and throw up and throw up (Male and Female, 40's-50's, married couple, College Graduates, chronic pain).

All of the interviewees claimed that medical marijuana did not have any of the negative side effects associated with narcotics. Another very unpleasant side effect that was reported in up to 1/3 of the interviews was that high doses of opiates caused them to be in a haze and not be present in their own lives. Several referred to feeling like they were "going crazy":

Respondent: Marijuana doesn't put me off in some world where I don't know where my kids are and I don't know what's going on with the world.

Interviewer: And Oxycodone does?

Respondent: Yeah it does that. I don't like [to] take it. They gave it to me and I gave it back to them because... you take this, I don't want this. I can't even remember having a conversation with my own husband or my own child. This is bad stuff, you take this I don't want it. I gave it back to them, because I refuse to take it. Give me a joint, give me a bowl, do whatever, because I can smoke a bowl and then have a conversation with my husband, or my kid, and I can still remember that conversation. Because, I'm sorry, I would rather do that than to take one of those pills. They make you go crazy! It just puts you off in a world that you don't even know that you're in, and that's scary (Female, 40's, High School Graduate, torn rotator cuff).

Several of the patients with experience taking high doses of opiates reported detailed, graphic, and apparently valid fears about their mental health if they could not find an alternative to "the pills":

Respondent: They sent me home with bottles and bottles of the pills, OxyContin and I was taking them the OxyContin was making me well I don't want to say miserable because I was not miserable by any means I was off in lala land but I wasn't living. I wanted a solution where I could have the release... When it came to my final decision when I decided to try medical marijuana was when I asked my dog to make me lunch one day (Female, 60's, Master's Degree, Cancer).

Patients also complained about several other side effects of opiates, including the fear that opiate drug use was putting their children in danger, causing them to sleep all the time, or causing them to miss out on life. Medical marijuana was perceived to be more effective at relieving pain than some opiates but not the more powerful narcotics. All patients and caregivers who had experience taking narcotics (n= 19 of 28) in this small sample thought medical marijuana was more effective at relieving pain than codeine. This is consistent with earlier work (Campbell et al., 2001). Two patients and three caregivers appeared to claim that marijuana relieved pain better than Vicodin which has not been previously reported. All agreed that marijuana was not as effective at relieving pain as stronger narcotics such as Morphine or Oxycontin. However, marijuana was still preferred over the opiate.

There was some difficulty separating out the two issues of the adverse side effects of opiates and the pain relieving effects of opiates during the course of the interviews. Although it was clear that patients preferred marijuana over Vicodin, it was not always clear whether marijuana was preferred because it was more effective at relieving pain than Vicodin or whether marijuana was preferred because it was not associated with the adverse side effects of Vicodin.

One patient attempted to explain this issue by describing the difference between narcotics and marijuana, concluding that Oxycontin was more effective at relieving pain, but the side effects of opiates made them less desirable:

Interviewee: [Smoking marijuana]... makes my life better than when using narcotics. Narcotics keep my back from hurting, sure, but the pot, you know with the medical marijuana my health and...you know it helps me forget about the fact that I'm in pain. Narcotics... you know I don't have the nausea like that and I physically feel better.

Interviewer: I want to get very specific about what it does for your pain. It doesn't work as well as Percodan, am I right?

Interviewee: well yeah, you know that, that is that medications job. It is the thing that they do... is to kill the pain...and mess your head up a little bit. You know, obviously their main purpose of life is essentially to dull pain and they do a very good job [of] that, however, it is a Catch-22. You can be pain free but you'll feel like garbage with the nausea and the side effects from the narcotics that come with it (Male, 20's, College Student and Marine, Back Pain).

Almost every patient interviewed complained about “that sick nausea feeling” caused by taking opiates.

Several participants refused to take opiate pills because they believed marijuana was a “natural” remedy different than synthetic pills. Of the eight patients and one caregiver (out of a total of 28) who had no experience taking opiates, seven claimed they never started taking opiates because they used medical marijuana.

Interviewer: What about other treatments, have you been given drugs?

Respondent: I choose not to take them...I personally... I have personal beliefs... I don't like to take chemicalized pills, you know what I mean?

Interviewer: OK, you don't have a problem taking medical marijuana though.

Respondent: No.

Interviewer: How is medical marijuana different than the...

Respondent: Well it is grown. It is an actual plant, so for me it is just a natural way to treat this (Female, 30's, High School Graduate, Chronic Pain).

Most patients had been smoking marijuana from the early teenage years and most expressed a strong dislike for opiates. Most of the patients who had never started taking opiates explained this by using some version of the “natural remedy” claim:

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Respondent: I was against smoking marijuana for a long time for recreational use, and then the whole medical marijuana thing started to come around and so I gave it a try and I was like wow it really does help. And now I have a whole other different lifestyle now, I don't do any chemicals, nothing like that, it's all natural, every thing natural, and I feel a lot better just as a person.

Interviewer: Can you go into that a little bit more? What do you mean you live a whole different life style?

Respondent: I don't... I mean anything unnatural I don't do to my body. I don't take any prescription pills (Female, 20's, High School graduate, knee pain, worked in medical marijuana center).

Conclusion

Marijuana vs. opiates.

Medical marijuana patients and caregivers who volunteered to be interviewed for this study did not like opiates. They complained about the nausea caused by opiates, the "sick feeling" caused by opiates, fear of putting their loved ones in danger due to opiate intoxication, and fear of "going crazy." Consistent with previous work, medical marijuana was thought by patients to be more effective than codeine but less effective than stronger narcotics like Oxycodone or Morphine. Some patients reported they preferred medical marijuana over Vicodin but it was not clear if this was due to the lack of side effects from medical marijuana or from superior analgesia. Medical marijuana patients who did not have experience taking opiates often actively avoided taking them even when prescribed because they preferred the "all natural" remedy of medical marijuana.

Limitations.

This study uses in-depth interviews of a small, nonrandom sample of twenty-eight Michigan medical marijuana patients and caregivers. The sample was not probabilistic and participants were obviously over-represented by volunteers with strong, often very articulate beliefs in the efficacy of medical marijuana. No African Americans and only one Hispanic were interviewed. Four African American interviews were scheduled but unfortunately none were completed. The medical marijuana law was strongly opposed by the State Attorney General and several local prosecutors and a number of prominent patient prosecutions occurred during the time this research was ongoing which may explain the high rate of last minute cancellations among prospective interviews, particularly minority candidate interviews. However, the rate of last-minute cancellations was very high among all groups. This sample included approximately 80 interviews scheduled over a two year period with only 28 completed and recorded. After the first few interviews there were so many volunteers that cancellations were generally not followed up. This sample does roughly approximate both the gender ratios found in the medical marijuana population and the types of qualifying conditions in the population (LAR, 2012) but this was certainly not a random sample of patients in Michigan. Appropriate caution should be exercised in interpreting these results and generalizing them to the population of medical marijuana patients and caregivers in Michigan.

Based on the tone of the interviews, and conditions reported by the State of Michigan (LAR, 2012) it is believed the sample included those with more defensible medical conditions than the general population of patients. If patients had a question about whether their medical condition rose to the level of “serious or debilitating” (Mich. Compiled Laws §333.26424, 2008) required under Michigan law it is assumed they did not volunteer to be interviewed for this convenience sample.

The results from the caregiver interviews contain excerpts from highly educated professionals and individuals with considerable specialized knowledge of the patient population. However, they also had a pecuniary interest in the medical marijuana industry. Obviously they were not an unbiased group and were in a position where they would be more likely to support the idea of beneficial effects from the use of marijuana. Therefore, their results deserve particular and skeptical scrutiny. Many were tireless advocates for the cause of medical marijuana and could only be described as “true believers.”

Recommendations.

This study presents a very unique set of data: The actual words, beliefs, and thoughts of a sample of medical marijuana patients and caregivers in the State of Michigan. This is the first reported study on the medical marijuana population in Michigan. Qualitative results allow the formation of testable hypotheses. Based on the data provided by this research we hypothesize and recommend that:

1. Some medical marijuana users may be using marijuana as a substitute or replacement for opiates. Therefore, medical marijuana may be useful for some individuals undergoing treatment for opiate addiction. Clinical research using medical marijuana to treat opiate addicted patients is warranted.
2. Medical marijuana may be more effective than some types of narcotics by providing analgesia without the side effects associated with opiates. Randomized clinical trials need to be performed to provide evidence or falsification of these hypotheses.

The results from this qualitative study do not provide evidence or proof for these hypotheses but they do raise the question and provide ample justification for further research. Research is needed on the possibility that medical marijuana might aid the treatment of persistent opiate addiction. Comparative clinical trials with opiates and medical marijuana are needed although considerable cultural biases within the drug treatment community and federal regulations will need to be overcome to pursue such research. One specific recommendation given the well-established dangers of the respective substances would be comparing methadone maintenance therapy with medical marijuana in heroin addicted patients. Future work should also compare narcotics addiction recidivism rate among those in traditional drug treatment programs and those in traditional drug treatment programs who are also using medical marijuana. Surveys and interviews of larger and more statistically representative patient samples that focus on medical marijuana patients who are current or former opiate addicts should also be pursued.

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Should Per Se Limits Be Imposed For Cannabis? Equating Cannabinoid Blood Concentrations with Actual Driver Impairment: Practical Limitations and Concerns

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Abstract

Fourteen US states have amended their longstanding, effect-based DUI drug laws to *per se* or zero tolerant *per se* statutes in regard to cannabis. Other states are considering enacting similar legislation. Under these amended traffic safety laws, it is a criminal violation for one to operate a motor vehicle with trace levels of cannabinoids or their metabolites in his or her blood or urine. Opponents of *per se* cannabinoid limits argue that neither the presence of cannabinoids nor their metabolites are appropriate or consistent predictors of behavioral or psychomotor impairment. They further argue that the imposition of such *per se* limits may result in the criminal conviction of individuals who may have previously consumed cannabis at some unspecified point in time, but were no longer under its influence. As more states enact statutory changes allowing for the legal use of cannabis under certain circumstances, there is a growing need to re-examine the appropriateness of these proposed *per se* standards for cannabinoids and their metabolites because the imposition of such limits may, in some instances, inadvertently criminalize behavior that poses no threat to traffic safety, such as the state-sanctioned private consumption of cannabis by adults.

Keywords: marijuana, cannabis, cannabinoids, driving, psychomotor skills, *per se*, medical marijuana, impairment, carboxy THC, THC

Introduction

Since 1996, 18 states and the District of Columbia have enacted legislation regulating the physician-authorized use of cannabis by patients diagnosed with specific qualifying diagnoses (NORMLa, n.d.). In November 2012, voters in two states – Colorado and Washington – decided in favor of ballot initiatives legalizing the private consumption of cannabis by those over the age of 21. These two latter state laws took effect in December 2012. Separate statewide legislative proposals to allow for the limited therapeutic use of cannabis and/or the substance's social consumption by adults are pending in the various state legislatures and are increasingly gaining support among the public (Silver, 2011).

The ongoing political debate regarding the legal status of cannabis for adults, along with the recent relaxation of cannabis laws in certain jurisdictions in the United States, has coincided with renewed concerns among politicians, law enforcement personnel, and some members of the public regarding the substance's potential impact on driving performance and accident risk. These concerns have provoked some state legislatures to amend their traffic safety laws in regard to cannabis.

Presently, the criminal laws in all 50 states prohibit the operation of a motor vehicle by a person who is proven to be under the influence of cannabis. These types of traffic safety laws are referred to as “effect-based DUI laws” because they mandate prosecutors establish that a motorist recently ingested cannabis and that doing so prohibited him or her from safely operating a motor vehicle. (In other words, the state must prove that a subject's psychomotor impairment was a direct effect of the substance consumed.)

Recently, however, some states have begun to enact additional *per se* or zero tolerant *per se* statutes to their criminal traffic safety codes specific to cannabis. These *per se* laws create a new traffic safety violation based solely on whether or not specific quantities of cannabinoids or their inert metabolites are present in a subject's blood or urine above a specific, state-imposed threshold. By definition, a zero tolerance *per se* limit for cannabinoids means that the presence of any amount of cannabinoids in the body above zero is a traffic safety violation. Under such statutes, prosecutors do not need to establish in court that the presence of these compounds caused a subject's psychomotor impairment (or even that a subject was, in fact, impaired). As a matter of law, the only issue before the court is whether or not a defendant engaged in the act of driving with a detectable level of cannabinoids or cannabinoid metabolites in his or her bodily fluids. Proof that the defendant was behaviorally impaired is not required under the law for a prosecutor to gain a criminal conviction.

The imposition of *per se* traffic safety laws is not an altogether new legal development. Notably, *per se* blood alcohol limits already exist and are legally enforced in all 50 states. That is because a scientific consensus exists regarding the presence of specific blood alcohol levels and impairment of performance. However, until recently, such *per se* standards were not imposed upon other psychoactive substances, such as illicit drugs or prescription pharmaceuticals, despite the fact the ingestion of these substances may adversely impact psychomotor performance.

In recent years, lawmakers in several states have expanded *per se* limits to include cannabinoids. To date, *per se* or zero tolerant *per se* laws exist for cannabis in 14 states. Prosecutors in four of these states (Nevada, Ohio, Pennsylvania, and Washington) enforce *per*

se levels for THC and/or its 'metabolites, while the other 10 states (Arizona, Delaware, Georgia, Illinois, Indiana, Iowa, Michigan, Rhode Island, Utah, and Wisconsin) impose zero tolerant *per se* thresholds (NORMLb, n.d.). The 2012 National Drug Control Strategy Report called for the imposition of zero tolerant *per se* standards for cannabis in every state, including in those states that allow for its legal consumption (Executive Office of the President, 2012).

This federal recommendation has elicited significant debate. At present there is limited and, at times, conflicting research available regarding the complex relationship between cannabis intoxication, driving behavior, and traffic accident risk (Grant et al., 2012). Further, cannabis' unique pharmacokinetics and its varying effects on human performance raise questions regarding whether the imposition of such a one-size-fits-all *per se* limit is applicable for cannabinoids or their metabolites. Finally, the changing legal status of cannabis under various states' laws also begs the question of whether the imposition of these statutes may be scientifically validated or whether they are legally justifiable, particularly in those jurisdictions that allow for the substance's legal use in private.

To clarify this ongoing political and public safety debate, the following paper reviews the pharmacokinetics of cannabinoids and assesses whether the available science substantiates the presumption that psychomotor impairment may be consistently inferred from the presence of THC or its metabolites in a single blood sample and, thus, whether the enactment of legal *per se* limits for cannabis are appropriate.

Cannabinoid Pharmacokinetics

Cannabis possesses a distinctive absorption pattern following ingestion. The term pharmacokinetics refers to the process by which a drug is absorbed, distributed, metabolized, and eliminated by the body. The term cannabinoids refer to the biologically active (though, depending on the specific cannabinoid in question, not necessarily psychoactive) constituents in cannabis. Cannabinoids possess relatively unconventional pharmacokinetics, particularly compared to alcohol (Chesher et al., 2002).

Delta-9-tetrahydrocannabinol (THC) is the primary psychoactive constituent in cannabis. Maximum levels of THC are typically present in the blood in human subjects within three to ten minutes following cannabis inhalation (Grotenhermen, 2003). However, unlike in the case of alcohol, these peak THC/blood levels do not typically correspond with a subject's maximum levels of behavioral impairment. In a clinical setting, it has been documented that subjects exhibit "little psychomotor impairment" during the initial fifteen minutes immediately following cannabis inhalation, despite maximum concentrations of THC occurring in the participants' blood during this time period (Schwope et al., 2012). This phenomenon is defined as "counter-clockwise hysteresis," meaning that the effects of the psychoactive substance lag behind observed, maximal drug concentrations. This phenomenon is contrary to the pharmacokinetic profile of alcohol, whereby as peak blood alcohol levels positively correspond with a subject's peak level of drug-impaired performance.

¹The *per se* limits in these states are as follows: Nevada: 2ng/ml THC in blood or 15 ng/ml of carboxy THC in blood or urine; Ohio: 2ng/ml THC in blood or 35 ng/ml of carboxy THC in blood or urine; Pennsylvania: 1ng/ml THC in blood or 1 ng/ml carboxy THC in blood or urine; Washington: 5ng/ml THC in blood.

Cannabis' maximum influence on performance typically manifests in subjects some 20 to 40 minutes following inhalation (Sewell et al., 2009), during a time period when the subject's THC/blood levels are rapidly falling. The substance's influence on behavior then diminishes relatively rapidly some 60 minutes (National Highway Traffic Safety Administration, 2003) to 2.5 hours (Sewell et al., 2009) after inhalation. During this period of time, subjects' blood/THC levels continue to decline. Because of this relatively confined duration of drug effect, it has been suggested that cannabis consumers who wish to avoid driving impaired wait a minimum of 3 to 4 hours after dosing before attempting to operate a motor vehicle (Fischer et al., 2011).

In addition to THC, blood analyses for cannabinoids also typically screen for the additional presence of two distinct THC metabolites: hydroxy THC and carboxy THC (THC-COOH). Hydroxy THC is psychoactive and is considered to be at least equipotent to THC (National Highway Traffic Safety Administration, n.d.). It is present in blood at low levels almost immediately following cannabis inhalation. Peak concentrations of hydroxy THC in blood are typically present some 20 to 30 minutes following inhalation (Huestis et al., 1992). This metabolite possesses a relatively short detection period in blood, typically not exceeding six hours (National Highway Traffic Safety Administration, 1999), though the detection of hydroxy THC at trace levels for longer periods of time has been reported (Huestis et al., 1992). Because of this fairly short detection window, it may be argued that the presence of hydroxy THC, particularly when present in substantial quantities, may be an indicator of recent cannabis ingestion and, possibly, behavioral impairment.

The more commonly detected cannabis metabolite in blood screens is carboxy THC. Unlike hydroxy THC, carboxy THC is not psychoactive (National Highway Traffic Safety Administration, 1999). Contrary to hydroxy THC, carboxy THC typically remains present in blood plasma for several days in occasional users and weeks in more chronic consumers (Musshoff et al., 2006). It is also readily detectable in urine for extensive periods of time, such as several months, in formerly heavy consumers of cannabis (Musshoff et al., 2006). Because this metabolite is non-psychotropic and possesses a relatively long half-life in both blood and urine, it has been concluded, "[Q]uantitation of THC-COOH can neither accurately predict the time of last cannabis use nor suggest any relationship between urine drug concentrations and psychomotor performance" (Musshoff et al., 2006, p. 159)." Ramaekers and colleagues similarly state, "[P]ast use of cannabis as determined by the presence of THC-COOH in drivers does not (increase crash risk)" (Ramaekers et al., 2004, p. 116). The website of the National Highway Transportation Safety Association (NHTSA) also affirms, "It is ... impossible to predict specific effects based on THC-COOH (blood) concentrations" (National Highway Traffic Safety Administration, n.d.). Consequently, *per se* and zero tolerant *per se* laws that define a traffic safety violation solely based upon the presence of this commonly identified metabolite lack scientific validity and risk inappropriately convicting non-impaired individuals simply because they previously consumed cannabis several days or even weeks earlier.

THC Absorption Patterns: Variances Between Naive and Experienced Users

As previously acknowledged, peak concentrations of THC in blood are typically present in subjects prior to their cessation of smoking or immediately thereafter (National Highway Traffic Safety Administration, n.d.). These maximum concentrations decline rapidly after inhalation, often falling below 5ng/ml in non-chronic users within 1 to 4 hours (Huestis et al.,

1992, Musshoff et al., 2006, National Highway Traffic Safety Administration, n.d.). Subjects' consumption of higher potency THC will result in slightly higher THC blood concentrations for more persistent lengths of time (Huestis et al., 1992). Concentrations of THC in the blood of infrequent cannabis consumers generally fall below limits of quantitation within 8 to 12 hours following inhalation (Huestis et al., 1992, National Highway Traffic Safety Administration, n.d.).

The oral ingestion of THC results in a different pharmacokinetic profile. Following oral ingestion, THC/blood concentrations rise slowly over time, resulting in maximal concentrations some 60 to 120 minutes after dosing (Grotenhermen, 2003). The onset of drug effects is also significantly delayed. THC/blood concentrations then decline slowly over a period of several hours. Unlike the case with cannabis inhalation, counter-clockwise hysteresis is less apparent following the oral ingestion of cannabis.

Following consumption, THC accumulates rapidly in body fat, where it is stored in various tissues and then slowly redistributed to the blood. While occasional consumers of cannabis will likely test negative for the presence of THC in blood within 12 hours following inhalation, THC's lipid solubility may cause some chronic users – such as those legally authorized under state law to consume cannabis therapeutically for the treatment of a chronic medical condition – to potentially test positive for residual concentrations of THC even after several days of abstinence² (Karschner et al., 2009), long after any behavioral influence of the substance has worn off³ (Skopp et al., 2008). Chronic consumers may also experience intermittent spikes (Karschner et al., 2009, Musshoff et al., 2006) in THC/blood levels in the absence of new use during this terminal elimination phase. The potential presence of residual, low levels of THC in the blood, combined with the possibility of periodic increases in THC/blood levels absent concomitant use, arguably confounds the ability of toxicologists or prosecutors to interpret whether the presence of THC in the blood in a single sample is evidence of new cannabis consumption by an occasional consumer or, instead, is indicative of past consumption by a more frequent cannabis user. (Toennes et al., 2008).

Because cannabinoids' pharmacokinetic profile may be influenced by the subjects' prior pattern of use, as well as by the specific route of cannabis administration, rather than solely by the single use of cannabis itself, the website of the US National Highway Traffic Safety Administration (n.d.) acknowledges, "It is difficult to establish a relationship between a person's THC blood or plasma concentration and performance impairing effects." Nonetheless, under the cannabis-specific *per se* and zero tolerant *per se* standards now imposed in 14 US states, the detection of virtually any concentration of THC or its metabolites will result in a criminal conviction, regardless of whether the defendant has recently consumed cannabis or whether the state can establish that a person was behaviorally impaired by cannabis. In those states that now allow for the legal use of cannabis by specific segments of the population under statute, it is arguable that the traffic safety laws – in order to be equitable and impartial – should

²A study by Karschner et al. (2009) of 25 frequent, long-term cannabis users residing in a clinical research unit reported, "On day 7, six full days after entering the unit, six participants still displayed detectable THC concentrations (in whole blood)" (p. 1).

³A study by Skopp et al. (2008) concluded THC's extended presence was not accompanied by the presence of cognitive or behavioral impairment. Investigators concluded: "[D]etection of psychoactive cannabinoids seems possible over a time period of more than 24-48 hours after abstaining from cannabis smoking. ... Impairment could not be assessed ... in any subject at the time of blood sampling" (pp. 161, 163).

mandate sufficient evidence of a subject's cannabis use immediately prior to driving as well as objective evidence of behavioral impairment as a legal requirement. Such requirements would assure that the traffic safety laws are not inadvertently punishing unimpaired individuals who have engaged in the legally protected behavior of having consumed cannabis in private.

Inferring Psychomotor Impairment from a Single THC Blood Sample: Additional Limitations

Cannabinoids' influence on psychomotor skills is complex and, at this time, not well understood. While it is well established that alcohol consumption increases accident risk, evidence of cannabis' culpability in on-road driving accidents and injury is far less robust (Armentano, 2013). Some studies identify an association between the presence of THC in the blood of drivers and an increased risk of motor vehicle crashes (Paula et al., 2012, Asbridge et al., 2012, Laumon et al., 2005,) while others do not (Sewell et al., 2009, Chesher et al., 2002). It has been suggested by Sewell (2009) and others (Ronen et al., 2008) that subjects under the influence of cannabis are hyperaware of their perceived impairment and attempt to compensate for it accordingly by driving more cautiously, such as by engaging in fewer lane changes, driving more slowly, and leaving greater headway between their car and the vehicle in front of them. One recent meta-analysis (Elvik, 2012) assessing the risk of road accident associated with drivers' use of licit and illicit drugs concluded that although cannabis consumption was nominally associated with greater accident risk, this risk was comparable to that associated with motorists' consumption of penicillin or anti-histamines – neither of which are subject to *per se* limits. By contrast, studies are fairly consistent in their conclusion that the combined ingestion of cannabis and alcohol, even at low doses, poses an additive adverse impact on psychomotor performance (Ramaekers et al., 2004) and is associated with an increased crash risk (Paula et al., 2012).

To further assess the potential role that cannabis consumption may or may not play in on-road accidents, a limited number of papers have evaluated whether there exists a concentration-dependent relationship between the presence of specific amounts of THC in a driver's blood and an elevated risk of accident. A 2004 multi-center case-control study of 3398 fatally-injured drivers reported: "Drivers with THC in their blood had a significantly higher likelihood of being culpable than drug-free drivers. For drivers with blood THC concentrations of 5 ng/ml or higher the odds ratio was greater and more statistically significant" (Drummer et al., 2004, p. 239). A double-blind, placebo-controlled study by Stough et al. (2006) evaluating the performance of 80 participants following the inhalation of either cannabis cigarettes or placebo reported that psychomotor impairment appeared to occur in subjects with THC/blood levels above 3.1 ng/ml but not in subjects with THC/blood levels below this threshold. It concluded, "As a result, in cases where only blood samples are available from drivers, low THC levels may not give rise to concern about driver impairment" (Monograph, p. 1, Key Findings). A cross-sectional assessment by Khiabani and colleagues of blood samples from Norwegian drivers suspected of driving under the influence of non-alcoholic drugs similarly reported, "Drivers with blood THC concentrations above 3 ng/ml had an increased risk for THC concentrations in blood above 2 ng/ml (Paula et al., 2012). By contrast, other studies – including a series of trials commissioned by the United States government during which subjects inhaled cannabis while driving in high intensity urban traffic – have reported no consistent

association between elevated THC concentrations in blood and significant psychomotor being judged impaired compared to drivers with lower concentration ranges” (Khiabani et al., 2006, p. 111). Most recently, a population-based case-control study of European motorists by Paula and colleagues reported a significantly increased risk of accident among drivers with impairment (National Highway Traffic Safety Administration 1993). Specifically, the National Highway Traffic Safety Administration (1993), concluded:

One of the program's objectives was to determine whether it is possible to predict driving impairment by plasma concentrations of THC and/or its metabolite, THC-COOH, in single samples. The answer is very clear: it is not. Plasma of drivers showing substantial impairment in these studies contained both high and low THC concentrations; and drivers with high plasma concentrations showed substantial, but also no impairment, and even some improvement. (p. 107)

At this time, the literature attempting to associate dose-dependent blood THC concentrations with psychomotor impairment or accident risk remains limited and inconclusive. Among the available studies, most employ different methodologies and yield divergent results. Moreover, among the experts who have evaluated this potential relationship, there is no consensus as to what specific blood THC thresholds, if any, may be designated as evidence of impairment⁴ (National Highway Traffic Safety Administration, 2003). A review of this literature identifies a fairly wide range of estimates, with some papers suggesting an association between THC blood concentrations and crash risk at levels as low as 1ng/ml in blood (Ramaekers et al., 2009) while others suggest that an elevated risk does not occur until THC blood concentrations exceed 10ng/ml (Grotenhermen et al., 2005). Other papers have suggested that THC concentrations in blood between 3.5 to 5ng/ml (Grotenhermen et al., 2007) or between 4 and 6ng/ml (Ramaekers, 2006) may offer “a reasonable separation of unimpaired drivers from impaired drivers” (Ramaekers 2006, p. 66). A review by Sewell et al. (2009) acknowledged, “Case-control studies are inconsistent, but suggest that while low concentrations of THC do not increase the rate of accidents, and may even decrease them, serum concentrations of THC higher than 5 ng/mL are associated with an increased risk of accidents” (p. 190).

The existence of these wide range of estimates make it apparent that experts have yet to achieve consensus regarding what, if any, specific concentrations of THC in blood may be considered as definitive predictors of psychomotor impairment. Further, variance in THC absorption patterns and in drug effects often differ significantly from person to person. Some subjects may exhibit behavioral impairment at low THC/blood levels while other subjects may exhibit limited or no behavioral impairment at relatively high THC/blood levels. This fact therefore makes it difficult, if not impossible, to apply proposed THC impairment levels equitably to individual subjects. Ramaekers et al. (2009) affirm, “It should be stressed however that the predictive validity of any *per se* limit is confined to the driving population at large, and not necessarily applicable to each and every driver as an individual” (p. 494).

⁴Statement of Gil Kerlikowske, “I’ll be dead — and so will lots of other people — from old age, before we know the impairment levels [for marijuana]” (Associated Press, 2012).

Attempting to establish a consistent relationship between THC blood concentrations and psychomotor impairment is additionally complicated by the fact that experienced cannabis consumers become tolerant to many of the substance's behavioral effects. A study by Schwoppe et al. (2012) reported, "No significant differences were observed for critical-tracking or divided-attention task performance in (a) cohort of heavy, chronic cannabis smokers" (p. 405). A separate review by Sewell et al. (2009) also affirmed that experienced cannabis consumers who drive on a set course show almost no functional impairment under the influence of marijuana. Separate experimental trials (D'Souza et al., 2008, Ramaekers et al., 2009, Hart et al., 2010, Ramaekersb, et al., 2010) further confirm that experienced cannabis consumers become tolerant to cannabis' behavioral effects. These findings "emphasize the importance of taking into account the drug-use histories of research participants and examining multiple measures when investigating marijuana-related effects on cognitive functioning" (Hart et al. 2010, p. 333). Most recently, a review by Grotenhermen et al. (2012) concluded that subjects "who take cannabinoids at a consistent dosage over an extensive period of time often develop tolerance to the impairment of psychomotor performance, so that they can drive vehicles safely" (p. 499). Nonetheless, *per se* cannabinoid standards, as presently enforced in 14 states, do not allow arbiters of the law to take into account any of these factors, including some subjects' behavioral tolerance to the drug. Nor does the imposition of such standards reflect the reality that there exists little if any scientific basis or support for such legal limits. As more states debate the merits of depenalizing cannabis consumption and/or enact laws legalizing and regulating this behavior, further discussion and criticism regarding the scientific merits and equity of these laws would appear warranted.

Conclusion

The sole presence of THC and/or its metabolites in blood, particularly at low levels, is an inconsistent and largely inappropriate indicator of psychomotor impairment in cannabis consuming subjects. While some studies have suggested that an elevated crash risk is associated with increased THC concentrations in blood, others have not. Experts have also failed to agree on what specific THC concentrations, if any, may be consistently linked with impairment.

Further complicating such calculations is that cannabinoids' absorption patterns and effects on performance vary widely from subject to subject, raising concerns that proposed estimates are unlikely to be consistently applicable to individual subjects. In particular, experienced cannabis consumers become tolerant to the substance's behavioral effects. They also retaining trace concentrations of THC in blood for extended periods of time well beyond the duration of impairment, in some cases several days following last use, while occasional users do not. THC's metabolites, in particular carboxy THC, may also be detectable in blood for several days, even in less frequent users, making them especially poor indicators of recent cannabis use or impaired performance. As a result, recently adopted statewide *per se* limits and zero tolerant *per se* thresholds in the United States criminally prohibiting the operation of a motor vehicle by persons with the trace presence of cannabinoids or cannabinoid metabolites in their blood or urine are not based upon scientific evidence or consensus. Further, the enforcement of these strict liability standards risks inappropriately convicting unimpaired subjects of traffic safety violations, including those persons who are consuming cannabis legally in accordance with other state statutes. As additional states consider amending their

cannabis consumption laws, lawmakers would be advised to consider alternative legislative approaches to address concerns over DUI cannabis behavior that do not rely on solely on the presence of THC or its metabolites in blood or urine as determinants of guilt in a court of law. Otherwise, the imposition of traffic safety laws may inadvertently become a criminal mechanism for law enforcement and prosecutors to punish those who have engage in legally protected behavior and who have not posed any actionable traffic safety threat.

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Small-Scale Marijuana Growing: Deviant Careers as Serious Leisure

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Abstract

Previous research on marijuana growers in the United States has primarily focused on those who have been incarcerated for the activity (Weisheit, 1990; 1998). These growers tend to produce large amounts of the product. It may be that large scale marijuana growers who have been arrested may differ in their reasons for growing, their style of growing and distributing and in how they view marijuana growing as an activity from different types of growers; namely small-scale, indoor hydroponic growers who grow primarily for personal use and enjoyment. Our study analyzes one social network of marijuana growers in central and northern Florida. Through intensive field observations and qualitative interviews with 8 people involved in this closed social network of marijuana growers, we discovered that the growers all followed a similar pattern of initial trial and error, learning new techniques from one another to improve their product, to finally maintaining techniques that enabled them to maximize taste, potency and yield. All of the growers in our sample were white middle class men (6) and women (2) with at least a college degree who had already or planned to enter white collar occupations (e.g., a teacher or business owner). Although profitable, the growers greatly downplayed the importance of making money as a reason for growing, describing the endeavor as a passionate activity they performed for enjoyment, to save their own money, and for the high regard they have of plants in general. Discontinuing the activity (thus exiting the deviant career) is often influenced by such contingencies as risk of detection, commitment to family, and conventional occupations. Future research is needed to compare and contrast different kinds of marijuana growers including those whose growing activities are legitimated by state law.

Keywords: qualitative; deviant career; marijuana; leisure

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Introduction

A majority of marijuana research is similar to research of other illicit drugs in that use and demand analysis tends to focus on arrest reports (King & Mauer, 2005; Ramchand, Pacula, & Iguchi, 2006; Reuter, Hirschfield & Davies, 2001), interviews with arrestees (Bouchard & Ouellet, 2011; Fagan, 1992; Golub & Johnson, 2004; Reuter & Haaga, 1989) or national survey data (Jacobson, 2004; Register & Williams, 1992). For this reason, much of what is known about illicit marijuana distribution relies on street-level (Fields, 1986; Sifaneck, Ream, Bardhi, Johnson, Randolph, & Dunlap, 2006; Turnbull, 2000), or large-scale dealers (Desroches, 2007; Weisheit, 1990; Weisheit, 1992; Wilkins & Casswell, 2003). The specific area where sociological research on marijuana cultivation and distribution is weakest is the deviant careers of marijuana growers who cultivate and distribute marijuana without ever being detected by law enforcement.

Illicit marijuana markets tend to be rooted in social networks of distribution among friends and relatives rather than being a market dominated by professional sellers who distribute to a wide variety of unknown, impersonal customers (Caulkins & Pacula, 2006). In fact, the 2001 National Household Survey on Drug Abuse [now the National Survey of Drug Use and Health] indicates that much of the illegal marijuana distribution and use in the United States (U.S.) occurs through small transactions that go undetected by law enforcement, with the vast majority of users spending less than \$50 per month on marijuana use, obtaining the drug from someone they know (Caulkins & Pacula, 2006). These friendship networks of marijuana exchanges have been vastly understudied in the U.S. More intrinsic sociological methodologies such as ethnographic research are essential in understanding illicit marijuana distribution.

Outside of the U.S., one study consisting of 192 interviews of adolescent marijuana users living in rural and urban England indicated that 78% of the users had given at least part of their marijuana to others (friends or relatives) for free (Coomber & Turnbull, 2007). Another study from Great Britain found that the vast majority of young drug users do not rely on street-level drug dealers, but rather on friendship and acquaintance chains and networks (Parker, 2000). These data from Great Britain match very closely to national survey reports from the U.S. where 90% of users in national surveys report last obtaining marijuana from a friend or relative and over half of those surveyed in the U.S. report their last marijuana transaction being obtained for free (Caulkins & Pacula, 2006). Combined, these data indicate illicit marijuana transactions typically do not extend into larger open, street-level drug markets.

Drugs as a Deviant Career

It has been suggested that careers in crime can be seen as “vocational” since participants in that particular criminal culture view their illegal behavior as their “calling” (Inciardi, 1975, p. 128). What distinguishes career criminals from non-career criminals is their level of commitment. As individuals begin to commit to the deviant norms of a particular subculture they begin to adopt the motivations, attitudes and behavioral patterns found within that social milieu. The overall life history of a deviant career has few defined sequences for mobility (Luckenbill and Best, 1981). Rather than a continual upward mobility, career pathways in deviant social worlds tend to take on a “zig-zag” nature (Meisenhelder, 1977). The shifts and oscillations (Adler, 1985) of a deviant career depend on a variety of social factors or contingencies (Luckenbill and Best, 1981). Contingencies may include the individual’s objectives, resources and opportunities within the deviant social world (see e.g., Dunlap,

Johnson & Manwar, 1994). There is also however, what has been referred to as “the pull of normality” (Meisenhelder, 1977); namely one’s level of attachment to conventional roles such as familial and work responsibilities. Whether or not an individual increases or decreases her commitment to a deviant career therefore, is predicated on the pushes and pulls of conventional and unconventional social roles. This relationship between deviant and conventional contingencies has been termed the “moral calculus” (Waldorf, Reinerman & Murphy, 1991) of drug use. The level of investment one has in his conventional career and self-identity will have a dramatic impact on his level of involvement in the drug subculture and whether or not an individual establishes a deviant drug career. In other words, people who are able to successfully mediate their conventional work and lifestyle with their continued drug use are more likely to continue participating in the drug subculture. There are also other kinds of contingencies that enable people to adopt a conventional career that arise from one’s previously deviant career (Brown, 1991). That is, one can officially drop out of a deviant career by entering a conventional occupation that is linked with it, such as becoming a drug rehabilitation counselor.

The level of commitment found in career drug users and dealers is gained through a process of socialization. As Becker (1963) states: “The individual learns, in short, to participate in a subculture organized around the particular deviant activity” (p. 31). The first step in this socialization process for marijuana (Becker, 1963), heroin (Faupel, 1991) and cocaine (Waldorf, Reinerman & Murphy, 1991) use is to learn the technique of getting high. It often takes several times for the individual to experience a high regardless of what drug is being used. That is, it takes interaction with more experienced users (typically friends or relatives) for novices to learn that using a particular drug is actually an enjoyable activity. If individuals do not associate drug use with a pleasurable experience, their use will cease and they will most likely not enter a deviant drug career.

Once the pleasure of using a particular drug is established, the new user must now find a drug supply (Becker, 1963). Drug use, now established as pleasurable, shifts to an issue of availability. Instability of supply is the major threat to regular use and therefore the major threat to establishing a deviant drug career. In order to enter a drug career and establish regular, systematic use, one must establish social connections with people who sell the drug in order to maintain a stable supply. While Becker (1963) outlines this process for marijuana users, the same can be said for all kinds of drug careers, such as cocaine users (Waldorf, Reinerman & Murphy, 1991), heroin users (Faupel, 1991), dorm room marijuana dealers (Mohamed & Fritsvold, 2010) and even high-end cocaine distributors (Adler, 1985).

Once the pleasure of using the drug is established and a supply is found, one must negotiate the meaning of his continued drug use into his everyday life. Techniques of neutralization are often used to establish the morality of use (Becker, 1963). For example, marijuana users (Becker, 1963), high-level cocaine and marijuana dealers (Adler, 1985), smaller-time dorm-room marijuana dealers (Mohamed & Fritsvold, 2010), lower level cocaine users and dealers (Waldorf, Reinerman & Murphy, 1991) and heroin users and small-scale dealers (Faupel, 1991) all use techniques of neutralization (Sykes and Matza, 1957) in accounting for, or justifying (Scott & Lyman, 1968) their illegal activities. The techniques of neutralization drug users and distributors typically employ involve denying injury and condemning the condemners (Adler, 1985; Becker, 1963). In this way, many career drug users and dealers are not completely rejecting conventional social norms but rather offering and

adhering to conventional norms that have been altered to some extent via techniques of neutralization (Becker, 1963). Once the conventional standards for illicit drug use have been neutralized, non-users become outsiders, users become insiders, and a social world centered on drug use and distribution may open up.

Having established a supply connection, the individual is now one part of a chain of users and sellers. As the individual associates with more users she often notices that 1) her own consistent drug use is getting expensive and 2) other users of the drug are seemingly always looking for a supply. Often selling an illegal drug starts out as an altruistic enterprise (see e.g., Mohamed & Fritsvold, 2010; Waldorf, Reinerman & Murphy, 1991) where the drug dealer is helping out her friends so that everyone within her social circle may consistently experience the pleasure of the drug. That is, if supply is at times uncertain for each person within a network of drug users, sharing and selling the product within the network can help individuals maintain consistent (perhaps daily) use. Sharing and selling within a drug network may be somewhat haphazard with different members selling one day and purchasing the next, or one member with an established connection to a higher-level distributor may purchase more than he needs and distribute amongst friends on a regular basis. In this way, drug selling on a smaller scale often starts out motivated by factors other than monetary gain (see e.g., Faupel, 1991; Mohamed & Fritsvold, 2010; Waldorf, Reinerman & Murphy, 1991) with sales generally remaining within a closed network of friends and associates. For higher-end distributors who smuggle drugs in from South America (Adler, 1985), this is not the case. They set up rather sophisticated, socially organized drug networks for the primary purpose of making money. These high-end distributors often sell to a few large bulk purchasers (for a discussion of deviant colleague networks, deviant peer networks and formal deviant organizations see Best and Luckenbill, 1980). That is, high-level drug distributors are often professionals. Lower-level dealers, however, frequently remain amateurs (see Stebbins, 1992) throughout their entire dealing careers, often maintaining conventional employment, selling drugs to friends and associates only so that they themselves can use for free or to supplement their legitimate income rather than participating in sales as their primary source of income (Mohamed & Fritsvold, 2010; Waldorf, Reinerman & Murphy, 1991).

It has been noted many times throughout the past several decades (see e.g. Luckenbill and Best, 1981; Mohamed & Fritsvold, 2010; Petersilia, 1980; Shover, 1983; Waldorf, Reinerman & Murphy, 1991) that deviant careers are not long lasting. This “aging out” of deviance however, is not simply a case of biological age as is perhaps a compressed athletic career (Gallmeier, 1987) in which someone that is 28 years old is referred to as a dinosaur. Aging out of deviance involves a process of “socially constructed and negotiated changes in perspectives which accompany aging,” (Shover, 1983, p. 210). For example, aging out of a deviant career may involve temporal contingencies such as shifts in personal life goals and aspirations as well as interpersonal contingencies such as ties to loved ones and conventional work that become more prominent in a person’s life as she ages. While some drug users and distributors will exit and re-enter the illicit drug market several times throughout their “career” (see e.g., Adler, 1985), this is not always the case. For example, in one study of marijuana distribution on college campuses (Mohamed & Fritsvold, 2010), virtually all of the sellers (some of whom also cultivated marijuana indoors) in their sample began distributing marijuana in college and then “matured out” of their deviant careers after graduation, choosing instead to focus on conventional work and family relationships and avoiding law-breaking activity altogether. A similar conclusion has also been drawn among lower-level cocaine users

and dealers (Waldorf, Reinerman & Murphy, 1991). That is, while there are consistent transitions in deviant drug careers like entering, continuing/progressing (steady and/or increased use; shift from user to user/seller; going from powder cocaine use to injection or freebase) and exiting (giving up the drug lifestyle), individual career transitions are guided by a series of contingencies and these contingencies themselves may shift in importance through time. Individuals may go from one career phase to another, such as buyer to seller, then a week later revert back to buyer. That is, the transitions in deviant careers may overlap and are often nonlinear in nature.

Marijuana Growing as a Deviant Career

Indoor marijuana cultivation and distribution as a deviant career may differ from heroin (Faupel, 1991) or cocaine (Adler, 1985; Waldorf, Reinerman & Murphy, 1991) dealing, primarily because distribution is secondary to the activity of cultivation. That is, rather than viewing distribution activities as “work” or a “necessary evil” to fund one’s own drug use, distribution may be seen as a way to share and display one’s final product, similar to craft artists (Stebbins, 1992). Indoor marijuana cultivation may resemble the career of a serious leisure activity (Stebbins, 2007) in which there is a beginning stage (interest in cultivation takes root); development stage (pursuit of the activity becomes routine and systematic); establishment stage (becoming experts in the activity but still resisting “going commercial”); and a maintenance stage (where one’s cultivation career is in “full bloom,” enjoying the activity to its utmost). Like other serious leisure activities (Stebbins, 2007), there may be a strong, continuous desire to upgrade horticultural equipment. Decline may also set in where cultivation seems less fulfilling than it once was, perhaps losing some of its excitement, offering diminishing returns. If one’s interest in cultivation declines, her dealing activities, as a byproduct, will likely also cease.

In this paper, we explore a closed social peer network of marijuana growers. Our main research objective is to gain insight into the nature of such grow networks (e.g., how they originate; how many growers interact on a regular basis; what is the nature of their interactions; how do they select their clientele) and to explore the social dynamics of a small-scale illicit marijuana growing career. In particular we examine the “career pathway” (beginning, middle and end of their growing activities; whether or not any growers experience re-entry into this deviant activity) these growers experience. Through the use of intensive ethnographic data collection we will be able to compare the deviant career of this particular network of marijuana growers to previous research that has explored large-scale cultivators and dealers (Weisheit, 1990; Weisheit, 1992; Weisheit, 1998) or those located on college campuses (Mohamed & Fritsvold, 2010).

Methodology

Getting In

Identifying and obtaining access to an intimate network of marijuana growers is a difficult process, which was aided by a long-term relationship where mutual trust between the authors and one of the participants was established and reestablished over the course of the study. Our access was the result of a 15-year relationship between one author and a person who was involved in marijuana cultivation and distribution. The author established a relationship with two coworkers (who were also siblings) at a retirement home, where they all worked as

cooks during college. He maintained loose contact with one of the brothers for many years, and when the idea surfaced to study the circle of marijuana growers that he was a part of, he agreed to initiate contact between both authors and another former employee who he had mentored in growing marijuana. Following this initial contact we relied on snowball sampling techniques (see e.g., Shukla, 2005) to expand our sample. In this way it can be said that one of the authors maintained a peripheral role within the social network of marijuana growers by which he was a part of this social world but did not partake in the members' core activities (Adler & Adler, 1987).

This ethnographic research combines direct observation and qualitative interviews obtained over the course of six years in order to describe the range of experiences and relationships that occur in an interconnected group of marijuana growers/distributors that were located in central Florida. Although it has been several years since some of the growers involved with the study have been active in the illicit drug market as distributors (many remain part of the purchasing community), our data collection includes observations and interviews of growers during their time of production as well as follow-up interviews with the growers as they decided to end their cultivation practices, thus effectively ending their role as drug distributors (at least for the time being). Our data include field observations and in-depth qualitative interviews with a community of hydroponic growers who reflected on how they began growing, their experiences at the peak production period of their cultivation activities and their reflections on their growing career, why they terminated their growing activities, and plans for the future. This extensive analysis of these growers offers insight into their past, current, and possible future roles in a marijuana career.

Sample

Study participants were recruited in the natural settings of use and distribution through face-to-face meetings at their home. Our snowball sample enabled us to meet others involved in the hydroponic growing community, including the general manager of a local hydroponic store and four other growers. Altogether, 8 people were interviewed, with six being men who were or had been intimately involved in growing and distributing marijuana throughout their community. The other two participants were women who lived with one of the six growers. While the women did not see themselves as distributors, they did help in the cultivation process (primarily during the cutting/manicuring stage) and benefited from the profit generated in the selling of some of the marijuana that was harvested. They lived in homes where marijuana was grown over the course of many harvests and many years, ultimately creating a shared world of marijuana cultivation, use and distribution between their partners and themselves.

All participants knew each other and interacted with each other socially to varying degrees. Some of the participants in our sample were close friends, while others were only connected through having the same growing mentor, with limited interaction beyond trying each other's products and at times sharing clones (cuttings from a fully grown "mother" plant, rooted in rock wool; enables growers to skip the germination [seedling] period) when needed. While all participants were part of a closed social network, some members had a higher degree of reachability; that is a smaller number of intermediaries that must be contacted in order to reach certain others in the network (Stebbins, 2007). All participants were white, self-reported as middle class, ranging in age from their mid-twenties to their early thirties. Their educational level ranged from college graduate to possessing a post-graduate degree. All but one of the growers was either in school and/or had a legal, mainstream occupation outside of their

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growing activities. Most growers lived in detached homes they either rented or owned. Two of the growers lived in an apartment. While often involved in the same social network of friends, each grower had a specific set of clientele he sold portions of his marijuana harvest to, thus establishing a well-run high level, closed marijuana distribution network where transactions occurred indoors among a web of friends and social acquaintances.

The growers in our sample ranged from growing between two to four full-sized plants using a hydroponic system set up inside of a bedroom closet (producing approximately \$20,000-\$30,000/yr) to using an entire bedroom or garage, producing between ten to twenty plants per harvest which could conceivably generate close to a couple hundred thousand dollars per year.

Procedure

A semi-structured qualitative interview guide was prepared (see e.g., Mullens, Young, Hamernik & Dunne, 2009; Rhoads, Burke, Fredette, & Shrier, 2012; Wengraf, 2001) in order to capture the participants' roles and experiences within marijuana drug markets starting from the time of first use through the time of the interview. These recorded, transcribed interviews often occurred several years after initial field observations of their growing process had begun. This amount of time was often necessary prior to a grower consenting to have his reflections and narratives about growing and distributing marijuana recorded and used for research purposes. While the field observations enabled us to capture the everyday lived experiences regarding cultivation techniques, strains of marijuana that were grown, and quantity of marijuana produced per harvest, the recorded interviews enabled us to capture and analyze specific interconnections and conventional contingencies such as marriage and family life and educational and employment achievements that influenced the participant's marijuana career.

An informed consent was created, read to each participant and his/her consent to be interviewed was recorded prior to the start of the formal, recorded interview. With strong rapport established between researcher and participant through extensive field observations, participants were quite comfortable with having the researcher in their home as well as being comfortable with the interview process. The interviews were roughly one and a half hours in length. The primary author interviewed three people in the sample (two men, one woman) while the secondary author interviewed the other five participants. The interviews, coupled with extensive field observations, also enabled the researchers to "cross-check" information, return to a grower for additional information if needed, and ultimately generated an internally valid understanding of this particular closed marijuana network. Following transcription, all interview tapes were destroyed. All transcribed interviews were analyzed using the qualitative software HyperResearch. The primary author conducted the initial coding of all interview texts. The authors met after each interview was coded, read through each interview together, discussing the ongoing textual analysis. That is, if additional codes were found by the secondary author they were added. If some codes were confusing, they were defined and clarified. Ultimately both authors began making theoretical connections among subsets of initial codes (secondary coding). The secondary coding that is presented in this manuscript was conducted by the primary author.

Results

Our findings indicate clear patterns regarding how marijuana growing is defined and

cognitively organized within this particular closed social network of marijuana growers. For example, while the amount of marijuana being grown ranged from two adult plants to about twenty, ranging in an approximate annual value between \$20,000 to well over \$100,000, every grower in the sample downplayed the significance of monetary gain as the reason he was growing marijuana. While the particular group of growers included in our sample downplayed the profit accumulated through marijuana cultivation, the researchers did meet a couple of other growers on the periphery of the community (people who requested clones or asked one of the growers for advice on increasing harvest yield) who began growing in the later stages of the data collection process and were more interested in growing to maximize profit. One such grower (Thom) specifically does not smoke marijuana and openly informed us that he began growing for the sole purpose of making as much money as possible from his harvest. Since he was not part of the original group of growers we began observing and since we had limited interaction with him late in the data collection process, he is not included in our sample. It is important to note, however, that our particular network of hydroponic growers, while likely similar to many indoor growers throughout the world (see, e.g., Decorte, 2010) is certainly not representative of all indoor hydroponic growers. What our results represent is one example of a closed social network of hydroponic growers located in a specific part of the U.S. where marijuana growing and use remains 100% illegal. All names included in the results have been changed.

Learning the Ropes: Beginning and Development Stages of Marijuana Growing

While the primary purpose of the research project was to understand why and how people started growing marijuana, our interview guide started out by asking questions regarding initial marijuana use. This was done primarily because previous literature on deviant drug careers indicates an association between use and distribution (Faupel, 1991; Mohamed & Fritsvold, 2010; Waldorf, Reinerman & Murphy, 1991). Most people in the sample at least tried marijuana by age 15 (with the noted exception of Sam who did not begin smoking until he was 21). A few participants first tried marijuana earlier in life (around age 12), but then experienced a 2-3 year hiatus due to limited access. Access to marijuana became easier for our participants during the final two to three years in high school, but even then two participants who had at least tried marijuana were not regular users throughout the latter half of high school. For example one person stated he was too involved in school activities at the time to smoke regularly and another had been forced to enter a rehabilitation program by his parents after experimenting with LSD and so experienced several years of non-use after his initial heavy usage as a teenager. Growing marijuana for profit typically began around the second or third year of college (age 20-21), usually at least a few years after consistent marijuana use had started (except for Sam, whose heavy use and initial growing occurred much closer together than others in our sample).

After discussing at what age and why they began using marijuana, participants were eventually asked about when and why they decided to begin growing marijuana. The initial growing process was often described as an experience in trial and error; a process which did not often yield a high-quality product:

Me and a friend bought a light from somebody and set it up and built a big box. We basically put some fans in it and the light and the weed

came out like shit. We ordered seeds from this place in Amsterdam and it came out pretty crappy. Some of it came out good. We didn't really know how to do it. It was too hot in there but it was, you know that's how it started. (Sam)

Being users of the product, Sam and his college roommate Angus wanted to attempt to produce it on their own, thus saving some money. This is similar to why many people in the lower rungs of the illicit drug distribution chain begin selling; so they can offset their own costs of drug use. The experience may be seen as an act of casual leisure in which Sam and his roommate “dabbled” in the growing process (Stebbins, 2007). While only dabblers at this stage, the initial experience still worked out well enough that they decided to continue growing after their first harvest. Techniques were adjusted (learning the ropes), the growing operation expanded, and more friends became involved in the growing process. At this point, Sam has progressed from the beginning stage of his growing career to the development stage (Stebbins, 2007).

After that my friend and his new roommate started doing part of it at their house. The vegetative (early stage of growing) then we would do flowering at our house and it kept expanding. That was scary because we had to drive boxes full of pot plants like 5 miles across town. (Sam)

Sam is a grower who at the time of the interview was in his early 30s living in a house that had a garage full of marijuana with multiple lights operated via mechanical arms (continuously moving the lights across all of the plants), with all aspects of the growing process set by an automatic timer. At the time of the interview his cultivation career was in full bloom and he was enjoying growing, trading and using marijuana to its utmost. He did not start out that way, however. Sam went through several stages of learning the cultivation process in order to create a fairly large (by far the largest in our sample), expertly operated hydroponic grow room. During his first attempt to grow marijuana, he did not master temperature control. On the second attempt he began to develop and refine cultivation techniques. While doing so, he involved two other people to set up a small vegetative stage and transported the vegetative plants back to his house to begin the maturation stage. Sam also mentions switching from growing in soil to using rock wool in a hydroponic-style growing system that can offer higher yield per plant and enables one to better control the quality of the final product. This transition also marks a desire to upgrade equipment. While learning to separate plants at different stages of maturation after his first attempt, Sam was still taking legal risks by involving three other people in the grow process and transporting live marijuana plants across town, increasing his risk of being detected by law enforcement. In other words, although Sam was improving his cultivation techniques, tensions were being created due to the risk involved in transporting marijuana plants across town. Growing marijuana also involves successfully managing illicit contingencies (involving others in the grow process; transportation issues). If one does not successfully manage these contingencies, then they are likely to end their growing career at the beginning or development stage, going back to a purchaser/user rather than maintaining and further developing their producer/seller status.

For John the first attempt is seen as a trial and error process with subsequent grows taken much more seriously, gradually becoming successful in producing high quality plants through learning specific growing techniques. Dabbling in growing in high school, John's initial attempt was not very successful so he exited from growing after one attempt. Still using

however, he reentered the growing career in college:

The first time I had done it was probably my senior year of high school. It was actually gold plant. I tried growing in the back yard with a five gallon bucket. I had a bunch of little seedlings and I planted a couple out by the ditch and again my first one was in the top of my garage. A little light, nothing serious, but it happened, the one outdoor bloomed a little bit, but it was more of just the experience and then I'd say sophomore year in college I really started getting serious about it. (John)

Establishing a socialization network is extremely important in the process of becoming a career marijuana grower. For example, one grower, Angus, a mentor to other growers in the sample who fluctuated between small to fairly large, back to smaller grow rooms, describes the importance of the mentoring relationship in the initial attempts at marijuana growing. Each individual grower referenced other growers during their interviews (e.g., Angus learned along with Sam; John learned along with another grower, Jerry, both of whom were mentored by Angus). Much like Becker (1963) describes the importance of an experienced user initiating novice marijuana users in learning how to get “high”, the mentoring process was essential during the early stages of growing to show novice growers how to transform dabbling into a more structured, more serious activity. Mentorships could at times turn into partnerships. Some growing partnerships last many years, while other growing partnerships change in dynamics due to one of the growers moving out of the house. When one partner would move, each grower would set up his own operation, but the sharing of materials, information and products would continue amongst this network of growers.

Progressing Through: Establishment and Maintenance Stages of Marijuana Growing

The growers in this social network remarked that they initially started to grow to avoid the cost of a marijuana purchase. This occurred after they began smoking more potent, more expensive forms of marijuana. At between \$300-\$400 an ounce, as young men in college or finishing high school, without a large amount of disposable income, they decided it would ultimately be cheaper to purchase seeds online, plant them in soil and attempt to grow their own marijuana plants. Although they experienced limited success in their initial attempts (a plant that yielded some marijuana, but not as high quality as they had hoped for), rather than giving up and continuing to purchase their marijuana on the black market, they decided to continue growing, trying to improve upon their initial attempts. This commitment to the growing process marks the most important aspect in determining whether one becomes a career grower or not. Having a growing partner and others who could encourage and provide feedback and insight into the grow process was of tremendous importance in establishing and maintaining commitment to one's career as a grower. Also of importance in continuing after beginning and development stages to marijuana cultivation was expressing a passion for the cultivation process.

It's fun to grow stuff. I've always liked plants and stuff and I had terrariums when I was a kid. I still do and you know I just like it. It's cool. I like plants. I like watching them grow and if I can grow some plants that save me 300 dollars a month... (Sam)

This idea that growing marijuana is fun was also expressed by Jerry:

Interviewer: What was that [initially growing marijuana] like?

Jerry: Awesome. When I was introduced to it, it blew my mind. It's a fun hobby. It's neat to see something grow from nothing into something so wonderful. It grows from Mother Earth if you want it to and it's like you create it, you grow it, you smoke it, so it's not really causing any problems either.

These sentiments are also expressed by Ben, another grower in our sample:

We do live in Florida and it is kind of hot all the time. Gardening outside is okay, but gardening inside is better, and then the fun of hydroponics.

Seeing growing marijuana as fun rather than a way to make money enables growers to express their passion and love for the plant as well as the socially acceptable interests in horticulture. Such an orientation to their deviance also enables them to enter the establishment stage of a cultivation career where they become experts in the activity. While they are able to grow much more than they can use personally, they do not self-identify as drug dealers the way marijuana dealers in previous research do (Mohamed & Fritsvold, 2010). Cultivation, for them, is a serious leisure activity, organized within a social network of cultivators and friends, where their activities are seen as contributing to the betterment of their community. Within this social network, as time goes by, growers begin improving their outputs through adopting new techniques and cultivation strategies learned from one another. Categorizing marijuana growing as a serious leisure activity also enables growers to remain part of mainstream society, where some individuals in society share the same interests but others do not. Marijuana growing, defined as simply an aspect to indoor gardening the way Ben defines it, enables him to maintain a grounding in non-deviant cultural norms (gardening is fun; gardening is a leisure activity; flowering plants or bushes such as roses, gardenias and marijuana can be used, shared and sold). Clearly growing an illegal plant is not the same as growing one that is legal. There is a reason our participants grow marijuana in a closet, blocking out windows and using charcoal filters to offset the smell of their garden. There is a reason they severely restrict people who enter their home to a select few friends. Framing the experience in a similar way to all types of gardening, however, offers an account that explains or rationalizes what conventional others may view as untoward behavior (Scott and Lyman, 1968). Rather than participating in a deviant behavior, one may present their activity as a serious leisure activity that is “substantial, interesting, and fulfilling” requiring “special skills, knowledge, and experience” (Stebbins, 2007, p. 5).

Marijuana growing within the social network we studied was also an economic enterprise. While this side of the growing culture was largely downplayed by the growers, and none of the growers ever self-identified as a marijuana “dealer”, it still represents an important aspect to the growing process:

...but then it [growing] gets addicting and other people want the weed you're growing and you're like whoa I could make a little money doing this too, but I feel good about that because people I know that

I'm friends with, I'm saving them money. They aren't having to pay 400 dollars an ounce from somebody. I sell it to them cheap and then they don't have to worry about getting in trouble. (Sam)

And another grower's perspective:

[Growing] gives me something to do, something to keep up with and also just, I supply my own, that's the only reason I would get rid of anything, 'cause it pays the bills or something really. My job doesn't pay all that much right now. If I had the money for it I'd keep it all to myself, but the job doesn't allow it right now so every here and there I'll get rid of a little bit and that helps out, definitely. (Jerry)

Downplaying the importance of selling marijuana was a universal orientation of all growers (and the two wives of growers we interviewed). Much like many low-level drug distributors the profit generated from their horticultural activity was seen as a tertiary outcome, and then more as an altruistic act than a purely economic one. Ben and his wife Mary express a very common theme among our growers regarding the importance of the generated profit. Namely, that the selling of excess marijuana they produced paid the bills while in college, but became "bonus money" after they began working full-time. In fact, selling marijuana helped the purchasers, because they no longer had to gamble buying marijuana off a stranger on the street or off a friend of a friend. The buyers knew they were getting a fair deal and receiving exactly what they had intended to purchase.

Ben : Primary number one is obviously so that I don't have to go out there and buy weed. Secondary reason is because it's [growing] relaxing. And another reason is I know what goes into it [pure, high grade marijuana]. Third reason is it does lend itself to some additional income.

Mary: But we haven't come to rely on that in a very long time. Back in college we were relying on that. It was just to get us through because we had bills we couldn't pay, and that was hard. We couldn't afford to support the habit and pay the bills, so when we can grow, that will be a quick way to pay off the credit card bills. But now that we're out of debt and doing very well professionally we haven't come to rely on it. It's been bonus money. It's been investing money, traveling money, project money, that kind of money.

Much like other serious leisure activities, these marijuana growers, while earning money from their activity, did not rely on the money generated from growing to survive. In this way, they are not professional drug dealers, but rather amateur horticulturalists. As Stebbins (1992, 58) states: "many of them [amateurs] are in no way opposed to making money at their pursuits – even a lot of it – as long as their pursuits continue to be voluntary and enjoyable." Some leisure activities are more lucrative than others. The growers in our sample enjoy growing marijuana, they do it primarily for their own enjoyment, and if they can help out others and be able to pay off credit card debt, take a vacation, or purchase the dream motorcycle they

have had their eye on, it is merely a bonus of the leisure activity they chose. By seeing their marijuana production as a voluntary activity they enjoy mastering and performing, the activity as deviant or profit driven is minimized and the activity as fun, personal and something shared among friends is brought to the fore. In fact, growers who grow purely for profit are looked down upon among these particular growers:

Interviewer: So there are good growers and bad growers?

Angus: Yeah I think so. Like the one guy, this guy Thom who Sam got into it. He did it for the money. He didn't even smoke it. He just wanted to make money and he saw how much money he could make from it so he bought some lights, set it up and was making a lot of money. But he didn't smoke so it didn't matter to him how good it was. Like the people he was selling it to were going to buy it no matter what. So he wasn't growing it for his own personal taste, which I think changes things. If you're growing it because you want to make the best you can because you want the best you can for yourself, that's a little different than if you're like, I just want it to be a pound. I don't give a shit if it's sticky, green, crystally, you know. He just wanted it to be a pound worth 4 grand. So he didn't really care as much. He wasn't taking a microscope, a magnifying glass thing and looking at the crystals and that kind of stuff. He didn't care about that kind of stuff.

Not being a marijuana connoisseur or even a run-of-the-mill user and only caring about maximizing financial profit are clear indications that Thom is not only a "commercial" grower, he is a professional drug dealer and therefore not really a member of the social network the other growers belong to. The other growers relish their amateur status, emphasizing that they are "doers" who take pride in their active approach to marijuana cultivation (see Stebbins, 1992, p. 121). Marijuana cultivation is an activity in which the growers within this social network interweave skills, knowledge and talent. This differentiation between doers and dealers is similar to Becker's (1963) description of musicians who distinguish between commercial musicians and true jazz artists. The allure of going commercial, increasing yield to the point that one could generate very large sums of money is always there, however:

There's always the thought of filling up the bedroom to make a couple hundred thousand dollars really quickly. The thought is always there and it is really possible and unfortunately and fortunately it is pretty much that easy. All you have to do is have some time and patience and I guess a stomach of iron to be able to handle that unknown mist and uncertainty and scariness. That's also part of the reason I obviously haven't done that. I really do enjoy my job. We enjoy where we are. I don't necessarily have to grow 50 or 100 or a thousand plants. (Ben)

Decline: Exiting From a Marijuana Career

Through time, all of the growers we interviewed stopped growing for one reason or another. For Angus, moving out of state, starting his career and starting a family with his wife were all factors in why he stopped growing:

I think that they might get into situations where the risk becomes too much because they own a house, they have a baby, there's a lot of stories about people who get their kids taken away if they get caught growing. Or their house forfeited. So I think the threat of asset forfeiture and taking your kids away outweighs the benefits of growing for a lot of people, including me.

Similar to Angus, Ben and Mary took a prolonged hiatus due to the birth of their first child, but aging (Stover, 1983) or phasing out of a deviant drug career (Adler, 1985; Mohamed & Fritsvold, 2010; Waldorf, Reinerman & Murphy, 1991) due to increased occupational and familial responsibilities is not the only reason to stop. One of the growers we interviewed, living in an apartment complex, was eventually arrested for his growing operation when the plants were discovered following a water leak caused by a faulty hot water heater. While he was offered probation and treatment rather than a prison sentence, the arrest was enough for Jerry to exit out of the growing community and focus on starting his professional career. One grower, Sam, tragically passed away during our study while his growing operation remained at peak production levels.

One grower in our study, Rick, stopped growing very early on in the study, prior to his recorded interview, accepting a position of general manager of a hydroponic gardening store. By doing so, he was able to stay within the community, while being a completely legitimate businessman. This is similar to recovering alcoholics, cocaine, or heroin addicts who become treatment counselors (Brown, 1991). Operating a hydroponic store enables Rick to maintain his passion for horticulture, maintain his identity as a conventional member of society, while also enabling him to remain part of the marijuana growing community through supplying the equipment necessary to successfully progress through a growing career. While no longer growing marijuana, Rick continues to smoke it and mentor others who grow [outside of his occupational life].

Interviewer: Do you regret that you can't do it anymore [grow marijuana]?

Rick: Sometimes but I still get to grow many, many things at my work and I still have that 'in touch' feeling with plants. I always joke around and say to my close friends that it's a noble cause what I'm doing. I feel like I do regret the fact that I can't grow but because of my situation I would never grow unless I stopped working where I am or unless there was a situation that would be safe enough to grow like maybe have one of my friends do it or something, you know help them out. I'm not growing but I am helping the cause you know. I'm helping other people grow so it kinda makes me feel good that I'm educating and helping, selling people the stuff to grow. [laughs]

"The cause," as Rick puts it, is an interesting phenomenon. All of the people in our sample expressed disdain towards federal drug policy, often stating that prohibition is a complete failure on multiple levels. First, it is seen as a waste of taxpayer money and second it is seen as the prime example of government overextending itself into what should be private affairs of citizens. Most of those interviewed expressed that they still felt a closer bond with friends who were against marijuana prohibition and particularly among those who continue to

smoke well into adulthood. There remains an intimate bond among the growers to this day that they do not share with anyone else. This bond is stronger and much different than the bond they share with other users who do not grow marijuana. Interestingly, during follow-up interviews with several of them, the biggest issue the former growers now have (regarding the marijuana marketplace) is finding a steady supplier of a high-grade product that is similar to the marijuana they themselves grew.

Discussion

The growers in our sample can be seen as one group of people who entered, progressed through, and exited a drug dealing career. Although they no longer cultivate and sell marijuana, many continue to smoke it in states where it remains prohibited both by state and federal law, thus keeping them loosely attached to the deviant marijuana subculture. We have presented this style of indoor marijuana growing as a specific type of deviant career, namely as a serious leisure activity (Stebbins, 2007). Within serious leisure activities a particular ethos develops that is used to convey the spirit of the community. This growing ethos is manifested in the shared attitudes, practices, values, beliefs, and goals that are expressed in the organized social world of marijuana horticulture. Within the growing community, there is a strong sense of cooperation where one grower will teach another grower specific methods for increasing production and growers will watch each other's plants if one grower takes a vacation or must be gone for several days. At the same time there is a healthy competition regarding who makes the "best" marijuana (best tasting; most potent). For example, one legendary strain within this particular community was called AK-47, with clones being distributed and shared so that the strain could continue even after the original grower (Angus) exited the marketplace. The AK-47 strain was used as a benchmark for a peak quality product that newcomers into the growing network could try to match. The sharing, cooperation and healthy competition all culminate into a strong sense of pride and satisfaction one has in growing high-grade marijuana. This pride is only shared among the growers themselves, with other users seen as peripheral to the inner circle of friends and associates who actually produce the products. In this way, the growing ethos helps establish growers as unique, useful doers within their community. Growing thus becomes a source of positive self-esteem and identity reinforcement.

It has been noted in previous research (Hough et al., 2003) that growing marijuana is not just about the money generated from the product. Our findings support this, with growers expressing a love for the plant, in terms of its beauty, smell and taste, as well as in a love for gardening itself. This kind of deviant drug career represents a true blending of conventional norms (producing a high quality product for others who desire it; exhibiting an independent, entrepreneurial spirit) with unconventional, or deviant norms (just because growing marijuana is prohibited by law does not make it wrong; there are many legal products and activities much worse than marijuana use and cultivation). The techniques of neutralization (Sykes and Matza, 1957) or justifications (Scott and Lyman, 1968) our growers used are not unique and in fact are quite consistent with others involved in deviant drug careers (see e.g., Adler, 1985; Mohamed & Fritsvold, 2010; Waldorf, Reinerman & Murphy, 1991). The pull of normality (Meisenhelder, 1977), or aging out of their deviant career due to normative contingencies centered on work and family is also consistent with previous deviant career research. What is fairly unique is that the deviance conducted by our growers is not just neutralized through providing accounts for their unconventional behavior but it is a source of pride and serves as a symbol of political and social justice.

The decriminalization of marijuana remains an ongoing debate in our country, largely rooted in the medicinal and monetary value of the plant (Nadelmann, 1997). There are other considerations such as the expressive value that the serious leisure activity of growing marijuana clearly possesses for many devoted to the activity. The goals of maximizing taste and aroma are similar to the interests found in gourmet coffee roasting or local wine making. People consume all sorts of things that lack any proven benefit, not just alcohol and tobacco, but spices such as pepper, hot sauce, and oregano. Most Americans consume these products daily simply as a matter of personal taste. With that in mind, those who champion decriminalization of marijuana should not be forced to prove the benefits of it, but rather prohibitionists should be forced to prove its dangers. Even then, there are many legal activities rife with danger, such as kayaking through rapids, mountain climbing and flying small aircraft.

Leisure pursuits offer people an arena where they can gain personal expression, enhance self-identity, self-fulfillment and self-development (Stebbins, 2007). Since amateur growers are participating in an unconventional, non-institutionalized activity, there is an ambiguity regarding what they do and why they pursue growing with such passion. These growers are serious about what they do, but this seriousness can lead to misunderstandings from outsiders who generally view it as a frivolous activity one may dabble in but “mature out” of rather quickly. What we discovered is that decline in their growing activities was not a product of age but rather a byproduct of increased tensions between the joy they felt in growing marijuana and the risks involved if they were caught. With increased commitment to conventional family and work structures, the risks that once seemed worthwhile no longer do. If our participants lived in areas where their activities were sanctioned by law, it seems fairly certain many of them would reenter their career as marijuana growers.

The marijuana growers in our sample were quite similar to the growers in Belgium who responded to an internet survey (Decorte, 2010). They are highly educated, young adults (20s-30s), who know about six other growers, all of whom are otherwise law abiding, productive members of their community. Unlike their Belgium counterparts, however, all the growers in our sample ultimately grew indoors, and while sometimes changing the strains of marijuana they grew, each grower attempted to maximize potency as well as output. One weakness of our study is a lack of a comparison group of growers who may grow primarily for profit in states where they are sanctioned to grow. These growers may have different orientations to marijuana growing. That is, rather than a serious leisure activity, professionals may orient to growing rather differently, or they may share many similar thoughts and experiences. Growers in a state where medical marijuana is 100% illegal, like our sample, may have different perspectives and experiences compared to growers in states where growing for medical purposes is permitted. This comparison across state borders is an important aspect to consider for future marijuana research. This change in career dynamics (going from completely deviant to non-deviant) may very well change the characteristics of people who begin growing in the region (perhaps more women become primary growers), the number of growers each person knows, and the overall sense of cooperation and community among growers (that is, the market may revert more to the corporate model rather than the cooperative one). Further sociological research is needed in these areas.

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The Trouble with Mary Jane's Gender

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Abstract

This essay explores some of the gendered dimensions of contemporary cannabis politics and culture from the perspective of a long-time sexuality and gender scholar recently migrated into the world of drug policy reform. My essay suggests that inattention to gendered stereotypes and inequalities creates obstacles to women's full participation in drug policy reform and complicates efforts to end marijuana prohibition in the U.S.

Keywords: drug policy, gender, marijuana legalization, medical marijuana

Introduction

I am relatively new to the world of drug policy studies. Until about a decade ago, my research focused almost exclusively on gender and sexuality. My decision to give up sex and turn to drugs was occasioned both by geographic coincidence (living at 'ground zero' of the early medical marijuana movement) and desperation (fleeing the front lines of the feminist sex wars of the 1980s where I had served, for some, as a "celebrity apologist for pornography, sadomasochism, prostitution and other patriarchal ideals"¹).

It speaks to how ugly the Sex Wars had become that the War on Drugs looked like a respite, a safer place to situate myself as a scholar and a feminist. But I discovered, of course, that sex, gender and power are everywhere, including in drug culture and drug reform. This brief essay is an initial effort to think through some of the cultural implications of those gender politics. I enter this conversation from the very particular vantage point of the early – female-dominated – *medical* marijuana movement.

In the late 1980s and early 1990s, I was living in Santa Cruz, California finishing a graduate degree and working on a book about prostitution.² During those years, I shared a social, political and cultural community with Valerie Leveroni Corral. I knew that Valerie, like almost everyone else in my social circle, smoked pot. I also knew that Valerie was an epileptic.

¹ "Chapkis, who admits to never prostituting herself, has become Santa Cruz's celebrity apologist for pornography, sadomasochism, prostitution, and other patriarchal ideals," (Simonton, 1992, p. 1).

² *Live Sex Acts: Women Performing Erotic Labor* (Chapkis, 1997).

And I knew that she said marijuana helped to control her seizures. Those three biographical details would soon thrust Valerie into the national spotlight and would change the direction of my own research.

Like most Americans of the 1980s, I had never before heard the words “medical” and “marijuana” used together. Also, like most Americans of my generation, marijuana was a familiar substance to me as a life-enhancing herb, not a medicinal one. I didn’t entirely dismiss Valerie’s claim but I filed it away as a kind of dubious California alternative cultural belief.

Then, in 1992, Valerie was arrested for growing 5 marijuana plants in her garden. It was a relief to learn that the District Attorney would offer her “diversion”: Valerie’s record would be expunged if she promised not to grow or to use marijuana and if she completed a drug education class. Valerie’s refusal of the offer shocked me, as did her explanation: she couldn’t take diversion, she explained, because she couldn’t promise not to use marijuana. Marijuana controlled her seizures.

The fact that she was serious enough about marijuana as medicine that she would risk both imprisonment and the loss of her home under federal drug forfeiture laws woke the sociologist in me up to the powerful social movement unfolding in front of me. The fact that the issue appeared, at least initially, to have nothing to do with sex or sexual politics made it all the more appealing.

No Escaping Sex and Gender

Despite being new research terrain, the Santa Cruz medical marijuana world immediately felt familiar and not just because I was studying my hometown. As a feminist who came of age in the 1970s, the patient-caregiver group founded by Valerie and her then-husband Michael (the Wo/Men’s Alliance for Medical Marijuana³) bore a close resemblance to early Second Wave feminist health care collectives. There were other dynamics that were hauntingly familiar as well: I was queer and the 1980s were the plague years; many of the early medical marijuana patient-activists I interviewed were gay men dying of AIDS and lesbians providing material and political support.

As I started taking notes and reading the drug policy literature, I began to see other parallels between my new area of study and my previous work on gender and sexuality. Both illicit sex and illicit drug use are considered moral violations; efforts to discourage participation rely heavily on shame and marginalization. Under practices of prohibition, criminalizing and punishing prostitutes, addicts, and others are actions ostensibly taken for the participants’ own good; these practices are prohibited not only because they are wrong but also because they are risky. And, while risk could be reduced, policies don’t try to reduce harm; instead policies are enacted that ensure that sex and drugs remain as dangerous as possible (Race 2009). This strategy is justified on the grounds that reducing risk would encourage bad behavior while enhancing risk may serve to dissuade those otherwise tempted. Those who fail to resist temptation and suffer the consequences are offered as an abject lesson to the rest of us. In both

³*Dying to Get High: Marijuana as Medicine* (Chapkis & Webb, 2007) offers a detailed ethnographic account of the Wo/Men’s Alliance for Medical Marijuana (WAMM) in Santa Cruz, California. WAMM, the first patient-caregiver medical marijuana collective in the country, grew and gave away free of charge millions of dollars in marijuana to seriously and terminally ill patients.

the areas of sex and drugs, the AIDS epidemic only upped the ante; the cost of prohibition increasingly came to include death.⁴

Besides uncovering the intellectual and political parallels between my two areas of research, I found that gender politics were inescapable – if largely unspoken – within marijuana policy reform, and sex was everywhere. The culture shock was significant as I moved from gender and sexuality studies conferences populated by women of all colors and queers of all genders to drug policy reform gatherings of mostly men, mostly white, with a strong heterosexual presumption. I discovered that all of the major drug policy reform organizations in the U.S. – with the exception of those focused on *medical* marijuana – were firmly in the hands of men: Ethan Nadelman of the Drug Policy Alliance; Rick Doblin of the Multidisciplinary Association of Psychedelic Studies; Allen St. Pierre of NORML; Rob Kampia of the Marijuana Policy Project.

It was heartening, then, in 2009 when the Drug Policy Alliance’s biannual conference on International Drug Policy Reform featured several sessions on the intersections of drugs and difference including “Queer Community Strategies for Ending the War on Drugs,” “Gender and Drug Policy Reform,” and “Zero Tolerance Drug War on Immigrants.”⁵ The “Gender and Drug Policy Reform” session was packed despite being held in a large double room and had a historic feel about it. The five featured speakers included Debby Goldsberry (founder of one of the largest dispensaries in California, *the Berkeley Patients’ Group*) and Steph Sherer (Director of the largest medical marijuana policy organization in the country, *Americans for Safe Access*).

The frustration of women on the panel and in the audience was palpable. Sherer observed that she had raised \$10 million dollars for her organization “without sleeping with anyone” though she knew that the presumption was otherwise. She also expressed her dismay that, “as the Director of one of the largest drug reform organizations in the country, the only session I’ve been asked to speak at is the one about having a vagina.”

It was no coincidence that both Goldsberry and Sherer run medical marijuana organizations; medical marijuana is something of a pink collar ghetto within the drug policy reform movement. Perhaps that is because women tend to be the “go to” people in our culture both for caretaking and for informal medical information. As Goldsberry has observed “It’s [a woman’s] job in our families and in our circle of friends to be caregivers. It makes sense that women would gravitate to [medical] cannabis,” (quoted in Perdomo, 2009). Also, until recently, medical marijuana cultivation and distribution shared all of the risks but few of the commercial rewards of the illicit recreational market (Chapkis & Webb, 2007). Medical marijuana represented the highly feminized and under-resourced service sector of the movement.

⁴For example, according to Lurie & Drucker (1997) in the late 1990s in the US, thousands of HIV infections could have been prevented had the federal government embraced needle exchange rather than punitive prohibitionist policies toward IV drug users.

⁵I should also note, however, that all of the marijuana-specific sessions were overwhelmingly male: “Ending Marijuana Prohibition” – four men and one woman; “Marijuana’s Cultural Moment” – three men and one woman; “Medical Marijuana Production and Distribution” – four men and one woman; “Marijuana Messaging that Works” – 4 men and one woman; and “Medical Marijuana Research and Policy” – six men and one woman (that woman, was me).

Pleasure and profit, on the other hand, remained largely male terrain. Early in 2010, some of the effects of this gender imbalance burst onto the front pages of the news when seven senior staff members of the Marijuana Policy Project resigned over the director's alleged pattern of inappropriate sexual behavior with female subordinates (Bienenstock & Cusick, 2010). The incident led to at least some temporary soul-searching among men within the marijuana reform movement. On a segment of the NORML podcast the week of the resignations, Steve Bloom of Celebstoner.com observed "there aren't a lot of women in leadership positions.... It's all guys. And the marijuana world has a reputation as being a bit of a guy's club. ..." Medical marijuana, he suggested, might help save the movement: "The best thing about our industry is that medical marijuana has brought so many women into the movement and I think maybe we need to let them rise to the top, let them take a little more control of what we are doing. Maybe we will do a better job of what we are doing out there and won't have that predator thing out there with some of the men at the top" (NORML, 2010). But, after a brief 3-month "therapy leave" (for "hypersexualization"), Marijuana Policy Project director Kambia returned to the leadership of that organization.

Marijuana policy reform continues to be something of "a guy club." But then again so is marijuana use. As Spool (2007) argues, "smoking pot is a guy thing. Guys are the ones who deal, buy, and smoke. In 2005, the US Department of Health and Human Services stated that adult males were 50% more likely to have smoked marijuana in the last month than females" (Spool, 2007).⁶ In part, this disparity in use may be due to different cultural expectations of men and women. As McDonald (1994) observes, women have a special responsibility for propriety, which means that those known to use drugs risk particularly low status. She argues "Women have to be models of self-control. ... For women to take pleasure in either alcohol or illicit drugs ... can still exclude them from their established roles as caregiver and moral judge" (McDonald, 1994, p. 22). On the other hand, there is only a 19% difference between men and women's alcohol use (Spool, 2007). But then again alcohol isn't illegal.

Women's disproportionate responsibility for dependent children intensifies the risk associated with illicit activity. Goldsberry, for instance, describes a conflict between mothering and being a public face for marijuana:

I think that the voices of women and mothers especially have been quieter in years past because we've had our children to protect. The War on Drugs put families in the center of the crossfire. ... I was an activist long before becoming a mother. I became a mother when I was 37. I waited that long because I was a frontline reform activist. It was scary because kids were being taken from their parents who were arrested for simple possession. After I became a stronger advocate and wanted to be a mother, my voice needed to be loud so I could get extra protection. Other co-directors (who did not have children) did not have the same fears and concerns. (*High Times*, 2011)

⁶A recent study of 8 California dispensaries by Reinerman (2011) suggests that medical marijuana use is highly gendered as well; only about one third of medical marijuana patients were women.

Hot Pot Babes

Certainly women's roles as mothers may account for some of the gendered differences within marijuana reform movement. But not all women parent, nor are responsibilities of parenting equally distributed across the lifespan. Other factors must also account for the fact that marijuana use still tends to be "a guy thing" and that men's voices dominate in drug reform conversations.⁷

Perhaps women simply do not see themselves in ways that encourage identification with marijuana; while women's voices are muted, their bodies are hyper-visible in commercial cannabis culture. Even a cursory glance at any popularly available marijuana-themed magazine in North America reveals the exceedingly narrow range of female roles and body types offered both in articles and advertisements.

Contemporary cannabis culture is at once delightfully libertine and deeply sexist. The association of marijuana with sexual liberation of the 1960s was cemented in a particularly adolescent male way when, in 1974, *High Times* magazine was published for the first time as, according to contributor Paul Krassner, a "one-shot lampoon of Playboy substituting dope for sex" (Dodero, 2005, p. 1). *High Times*, which now has a circulation of over 200,000 (mostly young male) readers, continues to run photographs and advertisements featuring naked young women alongside "sticky, crystalline buds photographed like buxom starlets" (Dodero, 2005, p. 1).⁸

Occasional attempts to challenge this extremely limited vision of women (and sex) offered in the pages of marijuana magazines can themselves feel like parodies. In 2005, for example, the Canadian magazine *Cannabis Culture* ran an article on "Marijuana and Women" in which the author observed, "the ganga world...until a few years ago, was a naughty boys' club characterized by an adolescent, crass, sexist view of women" (Chapman, 2005). After a quick list of names of some of the more prominent women in the marijuana reform movement, the article focuses on 20 year old Jodie Giesz-Ramsay of Vancouver, the personal assistant to Canadian cannabis activist Marc Emery and "handy girl" for Cannabis Culture magazine – and the issue's "ultra-hot nude pot-babe centerfold" (Chapman, 2005). Described in the article as "a vivacious, dark-haired, silky-skinned, lithe, luscious beauty who created a small sensation at last year's Toker's Bowl," Geisz-Ramsay acknowledges that sex-appeal has been important to her role in the movement:

I refuse to delude myself by thinking that looks have nothing to do with success. I understand how the world works... if beauty garners attention, then I feel I can use my assets to draw attention to my, and our, personal mission. If a pretty face sells Cover Girl makeup, then a pretty face can sell legalization. And it'll sell even better if there's respect for the women behind

⁷For example, in the 2004 anthology edited by Bill Masters, *The New Prohibition: Voices of Dissent Challenge the Drug War*, 23 of 24 contributors (including elected officials, law enforcement officers, physicians, and activists) were men.

⁸Once again, *medical* marijuana is gendered very differently than recreational use. *High Times Medical Marijuana Magazine*, for example, features a much higher percentage of women writers (including frequent contributors such as Debby Goldsberry and Valerie Corral) than the version of *High Times* dedicated to recreational use.

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Figure 1. Advertisement for marijuana accessories and vaporizers sold by Legalbuds.com. *High Times Magazine* (2009, February). p. 3



Figure 2. Advertisement for marijuana paraphenalia sold by Wholesaleplantbongs.com. *High Times Magazine* (2008, May 2008). p. 106

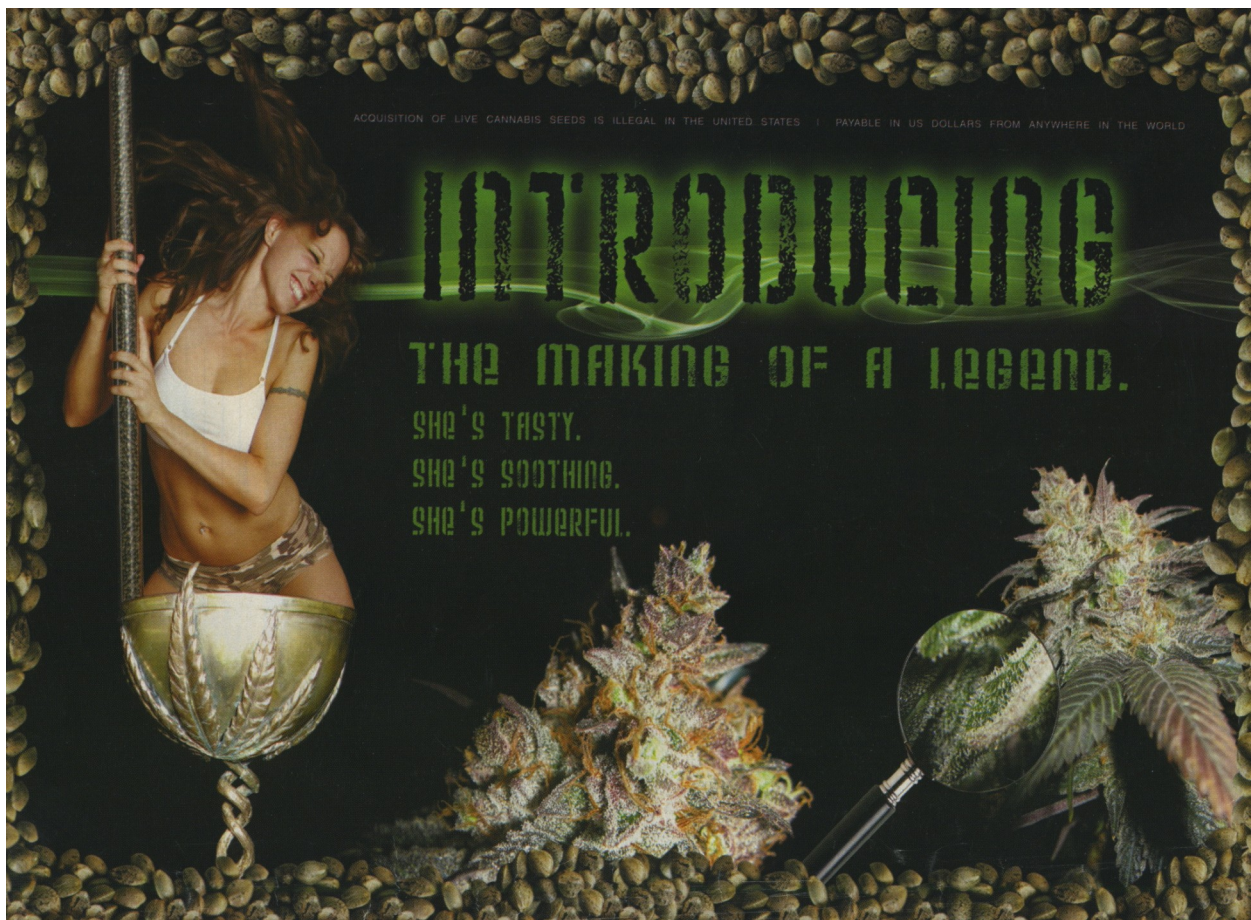


Figure 3. Advertisement for marijuana seeds sold by BCbuddepot.com. *High Times Magazine* (2009, February). p. 4

Miss HIGH TIMES 2008

The moment of truth has finally arrived: Out of these 12 foxy finalists, seven were chosen to fly down to Negril this February to compete in this year's pageant—and only one returned from Jamaica as the newly-crowned Miss HIGH TIMES 2008. Who will it be? Be sure to pick up our second annual HT Swimsuit Issue next month and find out!

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NAME: Lauren
AGE: 21
CITY: Austin, TX

MISS FEBRUARY
NAME: Jacquelyne
AGE: 22
CITY: Gainesville, FL

MISS MARCH
NAME: Kimberly
AGE: 21
CITY: Baton Rouge, LA

MISS APRIL
NAME: Ielisha
AGE: 23
CITY: Chico, CA

MISS MAY
NAME: Belle
AGE: 22
CITY: Alberta, Canada

MISS JUNE
NAME: Lisa
AGE: 20
CITY: Costa Mesa, CA

MISS JULY
NAME: Sativa
AGE: 23
CITY: Commack, NY

MISS AUGUST
NAME: Emmaly
AGE: 21
CITY: Miami, FL

MISS SEPTEMBER
NAME: Katie
AGE: 19
CITY: Windsor, Ontario

MISS OCTOBER
NAME: Vijtra
AGE: 23
CITY: Eugene, OR

MISS NOVEMBER
NAME: Nicole
AGE: 21
CITY: Kingwood, TX

MISS DECEMBER
NAME: Alyssa
AGE: 21
CITY: Springfield, MA

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34 HIGHTIMES

Figure 4. High Times Magazine (2008, May). p 33



Figure 5. *High Times Magazine* (2009, February). My best friend's girl. p. 13



Figure 6. *High Times Magazine* (2009, February). p 28

the face. I want to represent the movement in a new way: someone sexy but classy, serious but playful, not afraid to be outspoken, always happy to be of assistance, not your average pot-smoker stereotype. (Chapman, 2005)

Slacker Schlubsters and Stiletto Stoners

As Giesz-Ramsay's comments suggest, there *is* an "average pot smoker stereotype" and he doesn't look or act like her. One of the most common commercial depiction of the cannabis user in the early 21st century is a "slacker stoner," an unmotivated underemployed white guy moving in on middle age but holding tight to an arrested adolescence. Despite an economy in free fall, the slacker stoner isn't so much an unwillingly unemployed man but a perpetual teenager, living in the basement and working only as much as he has to, to get by. Consider this exchange in the 2008 Judd Apatow film *Pineapple Express* between cannabis dealer Saul (James Franco) and his customer Dale Denton (Seth Rogan):

Saul: You know, don't get down on yourself: You got a great girl, you got a great job where you don't do anything, you get to smoke weed all day... I wish I had that...

Dale Denton: Are you kidding— you do, you have the easiest job on Earth. You DO smoke weed all day.

Saul: ...Hahaha, that's true!

Dale Denton: You didn't think of that, huh?

Saul: I do have a good job...

Dale Denton: Yeah, you do nothing!

While the slacker stoner resists the conventional expectations of manhood that he should be an ambitious and disciplined breadwinner, head of household, and homeowner, his resistance is oddly apolitical. Unlike his counterpart of the 1960s – the counter-cultural, free-speech, anti-war hippie pothead – the slacker stoner is a disaffected (or maybe just lazy) individual with no particular vision of social transformation or collective action. The slacker attitude relies on a mis-match between expectation and condition; this is why it is most available to white heterosexual men with some measure of class privilege. As British comic Nat Luurtsema points out, pop culture presents "many instances of cool slacker guys...that make it seem so cool and aspirational to just live in your parents' basement. ... Girls are a bit more 'Come on adulthood, let's get this show on the road!'" (Hoby, 2012).

The slacker's refusal to work hard and assume "adult" responsibilities doesn't function quite the same way for people of color and women who are already saddled with a stereotype of dependency. For example, materially comfortable married women supported by a male paycheck are already seen to enjoy the other ostensibly "easiest job on earth" (outside of being a pot dealer): being a housewife. It is resistance to that identity that shapes young middle class women's lives.

If, as Spool (2007) suggests, “stonerdom is an accepted part of modern maleness,” it is particularly gender specific:

women are not allowed to be lazy, adorable stoners. Women have to go to college (which they’re now doing at higher rates than men) and then get their careers going quickly, before their biological clocks run out. Then they have to have kids and take them to all their activities. There is no time for women to be slovenly and relax. (Spool, 2007)

The few contemporary depictions of female cannabis users tend to reflect those pressures. In 2009, in direct contrast to the male slacker stoner image, *Marie Claire* magazine ran a cover story on women cannabis users who they dubbed “stiletto stoners.” Stiletto stoners are “card-carrying, type A workaholic” professional women who smoke pot but act and look “nothing like the unemployed, out-of-shape schlubsters who are a staple of the [filmmaker] Judd Apatow cannon” (Kohen, 2009).

But, of course, most women – cannabis users and otherwise – are not high-powered, highly successful professional women; even *Marie Claire* admits that, according to the Substance Abuse and Mental Health Services Administration, only one in five women who admitted to smoking marijuana in the previous month lived in a household earning more than \$75,000 a year (Kohen, 2009).

In fact, as the current recession continues, women are increasingly coming to the realization that the life of the Stiletto Stoner may be an unattainable fantasy regardless of a woman’s personal ambition and discipline. In a recent article in the British newspaper, the *Observer*, Hermione Hoby argues that slackerdom status may soon extend to women “as a whole new generation of [female] graduates fail to find jobs and return home to live with their parents” (Hoby, 2012). According to Hoby, “The version of twenty-something womanhood being reflected back at us in 2012 isn’t dressed in Louboutins, busy ball-breaking in boardrooms: she’s eating cereal, in her pants, in her parents’ basement.”

Nonetheless, the slacker identity is still challenging for women. Hoby interviews 26-year-old New York author Leigh Stein whose autobiographical novel *The Fallback Plan* featured a recent unemployed female college graduate who moves back in with her parents. Writing the novel allowed Stein to imagine what it would be to “give up and be stoned for the next 20 years ... [young women] feel like we did everything we’re supposed to, we went to college and got a degree and everyone told us that if we got a degree we’d get a good job and it’s like, ‘where is my good job, hello?’” (Hoby, 2012).

Advantages of Invisibility

None of the images of recreational cannabis consumers and activists available to women, including the stiletto stoner, the slacker schlubster, or the hot pot babe, speak to most women. The relative invisibility of women within cannabis culture has had both individual and social effects. On the one hand, it can provide some measure of protection. Because women are less likely to be seen as drug users, women are less likely to be targeted by law enforcement.



Figure 7. Advertisement for film Pineapple Express, directed by Judd Apatow. *High Times Magazine* (2009, February). p. 15

One dramatic illustration of the way identity (both gender and race) frames law enforcement activity can be found in the implementation of New York's notorious "Stop and Frisk" policy; in 2011, police stopped and interrogated 700,000 individuals who were considered "suspicious"; 85% of those stopped were Black and Latino young men (Times Topics, 2012).⁹ Women, also disproportionately of color, only represented 6.9% of all police stops (Times Topics, 2012).

Another advantage of occupying a place outside of drug user stereotypes is that women may not be as psychologically constrained by the limitations of the stereotype as men. In a 2010 study, psychologists Alison Looby and Mitch Earleywine studied male and female college students who self-identified as regular cannabis users. Their research subjects were asked to take a test after reading a summary of a journal article that purportedly showed "strong evidence that cannabis use leads to cognitive deficits even while not currently intoxicated" (Looby & Earleywine, 2010, p. 835). The intention was to study the effects of "stereotype threat" in the participants. Stereotype threat is "a type of self-evaluative threat whereby members of a group for which a stereotype exists experience performance-disrupting anxiety about the possibility of confirming that stereotype" (p. 835). Because of the widespread assumption of cognitive dysfunction associated with cannabis use, the researchers hypothesized that it was "conceivable that cannabis users may buy into this stereotype and experience stereotype threat when taking a test known to examine their memory and cognitive functioning" (p. 835).

Indeed, male cannabis users did perform less well on the memory test. Female cannabis users, on the other hand, "unexpectedly performed better [than even a control group of women who were not cannabis users] when exposed to stereotype-threat" (p. 837). The researchers postulated that this might be because women cannabis users "may not identify with the typical cannabis-user stereotype and [therefore] may not experience stereotype threat during cognitive testing" (p. 835).

Gender and an End to the War on Drugs

While some of the effects of the hyper-gendering of drugs may benefit individual women, the social effects of the association of marijuana with men may undermine efforts at broader drug policy reform. While smoking pot may culturally be a "guy thing," voting increasingly is a "girl thing." If women do not see themselves as implicated in the War on Drugs – as drug users, as victims of the War on Drugs, or as drug policy reformers – attempts to end prohibition may stall out.

In the contemporary US, more women register to vote and more women turn out to vote, and the gap is growing. In the 2008 Presidential election, for example, 60.4% of women but only 55.7% of men voted. Among younger voters, the gender gap was even more pronounced: a 7% gap divided women and men voters aged 18 to 44 (Center for American Women and Politics, 2012). Marijuana legalization efforts suffer from women's disconnect on the issue. A 2010 Gallup poll revealed a 10 point gender gap nationally on the issue of marijuana legalization; 51% of men but only 41% of women supported legalization (Mendes,

⁹The intersection of race and gender also leads to disproportionate rates of incarceration in the United States. In 2007, the U.S. incarceration rate for black women was 3.7 times higher than that of white women; Black men were 6 times more likely to be imprisoned than white men (Sabol & Couture, 2007).

2010).

Marijuana legalization advocates acknowledge that ballot measures in Colorado in 2006 and California in 2010 went down to defeat largely because of a failure to secure the support of women. As Allen St. Pierre of NORML has argued “Historically, as soon as women really start to create a [gender] gap, a marijuana reform measure gets killed” (Michel, 2012). For this reason, more recent campaigns have specifically set out to court the female vote. According to an *Atlantic Magazine* post-election analysis of 2012 marijuana legalization ballot measures in Colorado and Washington, moms and Latinos were “the secret ingredients” for success (Michel, 2012). The magazine argues that “convincing women – mothers, especially – that legalization wasn’t simply about stoners and libertarians was essential to ending blanket prohibition” (Michel, 2012). In Washington state, for example, the final advertisement of the campaign featured a “soccer mom” making the case for regulation and taxation of marijuana as a way to keep it out of the hands of minors, to allow police to focus on violent crimes, and to increase funding for schools – “all top concerns that an average mom in the Evergreen State would seem to have about making pot legal” (Michel, 2012). Targeting women seems to have worked; exit polls in Washington and Colorado indicate that approximately 53% of female voters in both states ended up supporting legalization (Michel, 2012). In the third state with a legalization measure on the 2012 ballot, Oregon, no comparable outreach to women was made, a factor contributing to the measure’s defeat. In that state, exit polls showed that, despite the fact that women broke for Obama by double-digits, they were much less likely to support marijuana legalization than men (Associated Press, 2012).

In a *Marijuana Policy Project* posting on “The Gender Gap: Are Women the Key to Ending Marijuana Prohibition?” the author observes:

as a female working in the generally male-dominated world of marijuanapolicy reform, you’d think I’d be accustomed to the gender gap that exists between male and female support for the taxation and regulation of marijuana. And yet, I’m continually shocked when poll after poll reveals sizeable differences among levels of support between the two genders. Although nationwide support for legalizing marijuana has never been higher, we’re going to need the backing of the ladies to push the issue over the tipping point. (Marijuana Policy Project, 2011 a)

Conclusion

In order to get the backing of the ladies, a more gender-conscious drug policy reform movement is necessary. To this end, it would help to have more women in leadership positions; as Celebrity Stoner suggests, “Maybe we should let them rise to the top” (NORML, 2010). Or better yet, we could follow the advice of Arlene Williams, a 75 year-old grandmother and medical marijuana patient, who recommends that women “bulldoze their way in and show the men exactly what we are capable of” (Marijuana Policy Project, 2011b).

Beyond more diversity at the top, Mary Jane deserves more than just a suburban makeover in the public imagination. Replacing one gendered stereotype for another – substituting the

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concerned soccer mom for the hot pot babe – may make short-term strategic sense as recent victories in Colorado and Washington suggest. But it isn't liberation.

Drug culture at its best is more than just another consumer activity, and marijuana at its best is more than simply a commodity. In much the same way as the contemporary queer marriage equality movement threatens to trade a politics of pleasure for one of respectability, so too does the “get modest for Mary Jane”¹⁰ legalization movement risk repudiating the radical countercultural history of marijuana use in the US. Legal access to marijuana through a system of state and corporate control would be a vast improvement over arresting and imprisoning hundreds of thousands of Americans each year for smoking pot. But a strategy to tax and regulate Mary Jane in order to better control her offers only a limited vision of social change.



Figure 8. Postcard (2012). Undergroundpostcardcollective@gmail.com

¹⁰ This is an imagined riff on the informal “Get Clean for Gene” slogan of Eugene McCarthy’s 1968 Democratic primary challenge to President Lyndon Johnson in which male anti-war activists on the campaign were encouraged to cut their hair and shave their beards in order to appeal to a broader voting demographic.

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Women in the Marijuana Industry

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Abstract

This paper explores the experiences of women involved with rural marijuana production in Northern California. Using grounded theory analysis, my research explores patterns and trends in the daily lives of women participants in the growing community. Multiple dimensions are explored, highlighting divisions of labor, gender, social networking, and elements of power and class. My research aims to provide a rich and highly textured portrait of various women as they operate from different positions within a legally ambiguous economy. Though the federal government continues to judge marijuana cultivation and distribution to be illegal, the marijuana industry thrives in the progressively tolerant California state environment where it is emerging as a significant source of commerce.

Keywords: marijuana, cannabis, cultivation, grower, women, gender, Emerald Triangle, drugs, trimmer, marijuana subculture

The marijuana industry of Northern California is a male dominated world where marijuana growers¹ are portrayed primarily as males, seated behind the wheels of big, late model four-wheel drive pick-up trucks and who often may carry weapons as they patrol their gardens; yet, behind this popular image is an army of women who quietly participate in the business. These women occupy a variety of roles ranging from romantic partners of male growers to entrepreneurial businesswomen themselves. They grow marijuana, trim marijuana, make a variety of cottage industry products and are often the hired labor in commercial outdoor marijuana gardens. While women occupy many of the same roles as men in the industry, their experiences are markedly different from those of their male counterparts.

This became evident during the time I spent conducting field observations within the local growing community. I pursued this area further by conducting in-depth interviews over

¹Growers are people who produce marijuana for commercial and private consumption and include owner/operators as well as laborers.

a period of 12 months following my field observations. The dimension of gender emerged strongly enough to warrant an entire chapter of my master's thesis in sociology. This paper will give an overview of my research methods, women in drug literature, a review and analysis of interviews with women in the marijuana industry and conclude with a brief discussion.

Methods

This ethnography of a marijuana growing subculture in the Emerald Triangle of Northern California is based on data collected between 2010 and 2012. During this time period I participated in 12 months of field observation, conducted 12 primary and follow-up interviews, and collected existing documents such as job announcements that provided additional insights into the structure and culture of the industry. I interviewed nine members of the marijuana growing community: six men and three women. The participants were involved in both indoor and outdoor growing operations. In the following sections I discuss the literature on women in drug economies and the interviews I conducted with women in my research.

Women in Drug Economies

Historically women are seen in the “lesser” roles of illicit drug economies, meaning street-level dealing as opposed to supplying the dealers on the streets, being the female companion of male dealers, or being an addict forced to sell drugs or themselves to support their habit (Adler, 1993; Anderson, 2005; Denton & O'Malley, 1999; Pettitway, 1987; Raphael, 1985; Weisheit, 1991). At times they are victimized as a result of their position. Even those participating in drug markets are seen as holding relatively low status positions and portrayed as incapable of fulfilling a male role. These portraits of women for the most part have been generated in more urban settings than those of rural marijuana producing communities. However, the women in these studies may share some of the characteristics seen among the women I observed and interviewed.

It is important to acknowledge the emphasis given this perspective. Gender roles in drug economies have generally portrayed males as the center of power and decision-making and women in the industry as ineffective business operators, victims in their involvement or as powerless girlfriends enticed by the lavish and hedonistic lifestyles of male operators (Adler, 1993; Weisheit, 1992).

Adler (1993) offers the following description of the women in her ethnographic work on upper level cocaine dealers in the coastal towns of Southern California:

The majority of women in Southwest County's drug world took a more passive role, however. A crowd of dope chicks formed part of the entourage which surrounded big dealers and smugglers. Universally beautiful and sexily clad, they served as prestigious escorts, so that dealers could show them off to other members of the community. (1993, p. 91)

Adler found the women were regarded as sex objects and were frequent participants in what she described as a “casual sex scene,” and although many of the male dealers were married,

engaging in extra-marital sex was common. Many of the women moved from one dealer to another when their relationships had lost their attraction.

Weisheit conducted a number of interviews around the same time frame with arrested growers in the Midwest, and of 32 convicted growers only two were females, leaving him to conclude:

As might be expected, most marijuana growers were male. In only two cases were females the primary growers, although there were several cases in which females played secondary roles. In both cases with females as the primary growers, the operations were well below average in size and complexity, and in both cases the growers were relative neophytes. (1992, p. 71)

The common thread linking this literature is that women were not found to be in positions of authority. In other words, women growers were rare and their operations were not on the same scale or level of expertise of the male growers. The women in Adler's work who were dealers were often the old ladies (wives or girlfriends) and occasionally took active dealing roles, but for the most part remained in the background of their dealer mates. Adler found this was due largely to the social constraints created by male dealers. The men were reluctant to deal with women, feeling they did not have the personality for the business. Women did occasionally work as smugglers as well, but for the most part the women in Adler's study were seen as "eye candy" for the men. In contrast, Raphael (1985) did note one woman in his work, a single mother who grew marijuana as supplemental income to support her family. In other instances, the women in Raphael's work were involved romantically with male growers.

There is, however, a new body of emerging literature that focuses on the forms of power women do hold and generate when they participate in underground economies, especially those associated within frameworks of Prohibition (Anderson, 2005; Denton & O'Malley, 1999; Murphy, 1994). Historically, moonshining has a special relationship with women, although none gained the notoriety or wealth attributed to the male gangsters of the Prohibition Era such as Al Capone. This is seen in a 1940 article in *Life* magazine, which featured photographs of 18 arrested moonshiners, seven of whom were women (Flying Revenooers Lead Raids on Southern Moonshine Stills, 1940). One notable exception is Bonnie Parker, although even she was not a solo operator but the partner of Clyde Barrow.

Murphy investigated such women moonshiners in the context of rural Montana and offers this interpretation of its female participants, "The independence of female bootleggers also challenged male notions of women's place" (1994, p.186). It seems that moonshining became a means to greater financial stability and independence, and at the same time reflected changes in social norms around public alcohol consumption and who was approved to participate in this American ritual. Empowerment appears to follow increased levels of economic independence along with increased self-esteem gained from providing steady provisions for one's family members. Murphy writes:

Women who made whiskey and those who patronized speakeasies were breaking both custom and the law. Their actions were deliberate and self-conscious. For working-class women, bootlegging was a logical extension of the many kinds of home work they had traditionally undertaken to supplement family income; admittedly, it carried some risks but presumably offered greater rewards. (1994, p. 187)

Anderson (2005) brings yet another dimension to women's roles in a similar context of Prohibition and the ongoing War on Drugs. In urban drug markets, women are seen as power holders in that they often provide the element of stable housing in personal and business relationships, and with it access to urban markets and networks of consumers. Anderson clearly conceptualizes the notions of empowerment and agency among women participants in drug markets and defines power concepts based on structural and relational approaches. Her assertion is that women hold relational forms of power that enable males to enact the structural power in urban drug markets, providing them with distinctly different types of power that work together to reproduce the market. Power is accorded women through the housing stability they bring to the context, access to networked urban markets, monthly purchasing power as drug consumers in conjunction with maintaining households, willingness to hold a legitimate form of employment as well as participate in drug markets and, finally, they often subsidize dependent men. Two final notes regarding Anderson's work are, first, where women do assume dealer roles, they are frequently the middlewoman and, second, they are likely to employ more strategies to avoid detection and exercise a higher level of caution than their male counterparts (2005, p. 389).

Women Dealers

Successful women dealers studied by Denton and O'Malley (1999) in Melbourne, Australia found the familial structure was replicated by these women in their business operations. Family and close friends comprised circles of trust and were depended upon in times of difficulty. Trust was critical in the buyers' perception of their dealers as well, and the women under study all agreed that their reputations for fairness and quality enabled them to maintain regular customers and reliable supplies of heroin (Denton & O'Malley, 1999, p. 521). It appears that women are more successfully able to transfer skills between their illegal and legal activities around income generation (Anderson, 2005, p. 391).

Transferring relationship skills from family and friends to business practices allow the women to create a high level of trust and a corresponding low level of violence. Denton and O'Malley note, "most of the dealings carried out by the Melbourne women never needed to resort to violence" (1999, p. 523). On rare occasions when women did feel the need for physical intervention, they often looked to criminal members of their families or trusted "enforcers" who were paid to act on the dealer's behalf. The study found women dealers were surprisingly less concerned with the lower level and peripheral workers due to potentials of risk than male dealers. Where males perceive and gauge risks in their business associates, women often do not perceive these same risks around their business associations. Males do play a role in women dealers' lives, as Maher's (1997) three year study of women participants in a Brooklyn drug market revealed. She writes, "to the extent that women do participate,

such participation will be mediated by involvement with husbands and boyfriends,” a description that is consistent with earlier narratives around the theme of powerlessness (1997, p. 88).

Arrested Women

Another perspective added to the body of research surrounding women and drug markets comes from Boyd (1999, 2001, 2004). She details her analysis from a feminist perspective, examining women in drug markets, the myths of mothers as drug users and the impact of drug policies on women. Her work illuminates the fact that the consequences of illegal drug use are shaped by the common sociological intersections of race, class and gender and asserts that the regulation of female drug users parallels the patriarchal subordination of most women in Western societies (Boyd, 2001). Boyd explores the impact of the War on Drugs on women and supports the notion it is a “War on Women” as well (Boyd & Faith, 1999, p. 196). In her examination of female inmates incarcerated for drug offenses in Canada, she found women of color, single mothers and low-income women are the most apt to be imprisoned and face potential intervention with their children from child welfare and social service agencies. She noted that in the United States 70% of the pregnant women confined and criminally charged with child welfare offenses were women of color. Her findings were valid for both women in Canada and the United States, reflecting a consistency among the female populations incarcerated for drug crimes in Canadian prisons (Boyd & Faith, 1999, p. 198). Most importantly, women in drug cultures harbor a high level of fear around losing custody of their children, and often when this does occur, personal drug use by the mother increases in an effort to cope with this loss (Boyd, 1999; Boyd & Faith, 1999; Boyd, 2001; Boyd, 2004). Mothers involved in drug cultures face the dilemma of identifying and claiming their “master status” as mother or criminal (Boyd & Faith, 1999, p. 200). This data highlights the need for critical considerations around ethical research design and a strong commitment to ensure participants’ confidentiality.

In contrast, where mothers may choose to hide drug use, Golub, Liberty and Johnson (2005) analyzed data found in a large sample of adult arrestees who participated in self-reports of drug use and corroborated their responses with urinalysis results. They found marijuana use was the most likely to be revealed by arrested individuals both overall and specifically by women. The authors speculate this may relate to the level of stigma attached to different drugs, with marijuana attracting the lowest level.

It is important to note that much drug research has an urban focus. The works of Anderson (1997) and Denton and O’Malley (1999) are based on studying urban drug markets. Given that marijuana growing is no more legal than other drug markets, it is worthwhile to scrutinize the characteristics from urban markets for similarities that may exist in the more rural and suburban settings of marijuana growers. Until there is a more substantial body of research around rural drug markets, these characteristics will have to serve as the measuring stick for all drug markets. Indeed, there is a deficit of information around all marijuana growers and in particular female growers. Women growers, as the literature demonstrates, have been deemed as too few or too inconsequential to demand study; thus, even basic conclusions about this group within the subculture warrant further investigation. My work is detailed in the following section.

The Gender Dimensions of Growing

My boss felt that I was more in tune with the plants and that I was doing a better job than him [a male coworker] and so he made me like the micromanager and this guy straight up said I will not be bossed around by a woman. He quit. Dude had made a few sexual harassment comments towards me too at some point so it's like I'm glad that guy's gone. It was like an awkward part of working and another anxiety I didn't want to have.

This quote, from a female who worked two consecutive seasons for two different male growers, exemplifies the gender divide experienced by women growers. Her experience supported discussions I had heard in the field among male growers around the appropriate work, primarily trimming, for females. While she performed a full range of tasks, she was an exception and not the rule. This was further confirmed in my field observations that revealed characteristics in line with the classic narratives of a gender divide represented primarily by powerless women, with a few notable exceptions. Powerless in this context refers to women uninvolved personally in the business but present during business operations as partners to the male operators. Generally speaking, labor was gendered as men performed heavy weight jobs, moving dirt, electrical and ventilation work, hash-making and upfront sales. Men, for the most part, did not seek female assistance when performing the heavy labor, but did enjoy female involvement in the form of providing refreshments and meals as well as running errands.

Interestingly, everyone in the field of study regarded growing marijuana as work, whether it was their primary source of income or not, and accomplished for personal use or for sale. For that reason I define the concept of work used in this study as “activities that produce goods and services for one's own use or in exchange for pay or support” (Reskin & Padavic, 1994, p. 1). A further distinction is made between paid and unpaid work, which is frequently seen in domestic employment. This is useful when assessing the roles of women who participate in the marijuana industry at some level, either as small growers, laborers or trimmers, as well as analyzing the context of the work in relation to other individuals involved in that particular grow. The women I observed who did participate in the business were most often “behind the scenes” performing labor in the garden, preparing marijuana butter and other ganja foods² in the kitchen, or trimming. Although several women were in fact growers, they marketed their product through male relationships, dealing only with close friends or having males actually sell their product. The one female I initially thought to be an independent dealer actually sold the product of her romantic partner.

Nearly all transactions were made by men, and in the few instances where women did conduct business, there were invariably situational issues that surfaced. For example, some women had just recently ended a personal relationship or a personal relationship was in turmoil, or children were misbehaving, whereas the males conducting business tended to keep the conversations more business-focused. Business conversation was not as clearly delineated for the women. Any mention of personal issues from men took the form of vague general state-

²Ganja foods are made with marijuana as one of the ingredients and are known to be very potent, providing a more intense drug effect.

rarely spoke of personal issues on the other hand, and were more likely to speak in general terms of the woman or family “being well” and elaborate no further.

In my observations, women appear to be heavily involved in cloning³ work, making edibles and trimming. There are a few successful women growers, but more numerous are the smaller marijuana-related cottage industries operated by women, often in conjunction or simultaneously with legitimate employment. Marijuana cottage industries are prevalent throughout the Emerald Triangle. There are stores devoted to paraphernalia, clothing lines, posters and other knick-knacks with marijuana themes. It is often women who create edibles, craft a variety of marijuana-inspired goods, run peripheral businesses, transport product between locations, clean indoor equipment and grow rooms, tend crops for male growers and drive water and food supplies to remote outdoor growers during their grow seasons. This group of independent women entrepreneurs tends to fit previous descriptions of small family farmers (Raphael, 1985), where profits are often invested in necessities like wood stoves or roof repairs.

Frequently, the women observed in my fieldwork were the romantic partners of male growers and were present as companions during work periods. They had little to do with the business aspect of the grow operation and were generally unconcerned with the details of growing. The various conversations I observed suggest this group tends towards a materialistic lifestyle that is similar to descriptions given of women associates of the dealers studied by Adler (1993). For instance, the women I observed wore designer blue jeans and shoes and carried expensive designer handbags. Several owned purse dogs like those of Paris Hilton, said by the women to have been purchased for \$5,000.00. It was not uncommon for these women to have had plastic surgery for everything from breast augmentation to derriere lifts. Most were not old enough to consider face lifts or surgeries to reverse the signs of aging, as they floated through a series of relationships with growers. Often the women were a decade or two younger than their grower partners. In addition, these women often were users of other drugs besides marijuana, including cocaine and prescription pills. As the intimate partners of male growers, they also maintained the appearance of the house, performing what is typically seen as domestic work such as cleaning and meal preparation. In some cases, this meant arranging for a trusted individual known to the grower to perform housekeeping duties. I thought of these women as the significant others [of male growers], quite different in their characteristics from the women growers I interviewed and describe below.

I found distinctive differences between male and female growers in my interviews. Of the nine growers interviewed, three were women, and two of these women were involved in commercial operations. Only one relied on growing for 100% of her income, and the other used growing to supplement her legitimate income from full time employment. This is comparatively different from the six men interviewed, all of whom were commercial growers, with five of the six relying on growing as their sole source of income. Additionally, three of the men were supporting families with young children, while none of the women were. Only one of the women was growing on a large-scale, and she was a seasonal worker employed by a male grower. Another of the women was a small-scale grower, and the remaining woman

³Clone work involves maintaining a mature plant, taking cuttings to be rooted and caring for the cuttings which are referred to as clones. This guarantees the genetics and sex of the young plants.

grew strictly for personal consumption. In comparison, none of the men interviewed grew strictly for personal consumption. Neither of the women who were growing commercially marketed their product, but relied on male acquaintances to sell the finished marijuana. Another difference can be seen in education and employment status. All three women held college degrees and two were employed full-time in legitimate work. On the other hand, two of the six men held college degrees with only one man employed legitimately albeit part-time. Finally, all three women were dressed very casually when they were interviewed. They wore blue jeans, work shirts, and boots, and were obviously dressed to perform manual labor. They differed very little in appearance from the men, who wore the same basic attire. Men's boots appeared a bit dirtier and their shirts torn, but otherwise there was little difference.

The two women working in commercial grows both relied on men to sell their crops. This is understandable in the case of the seasonal worker, and she was clearly uninformed about the sale of the crop she produced. She described the crop sale as being her employer's responsibility:

That's all on him. Like I really don't want anything to do with that aspect of it. Like I don't want to know where it goes--if it's legal or if it's illegal. Like I don't need--- I'm just growing it. Like I don't care about the other part of it so...

For a retired small-scale grower, selling her crop was achieved through a boyfriend or other well-known male acquaintances, greatly reducing the potential for loss. She felt she was more susceptible to being paid less than market prices or being ripped off by an unknown buyer than her male counterparts. She related her past sales this way, "One person used to buy most of my crop for his head stash⁴ so that pretty much took care of what I was selling."

Setting up grow rooms is another area that is different for women. The woman who grew strictly for personal consumption ran her grow in a mobile container, designed and constructed by her husband. The small-scale grower had paid a male to install her ventilation systems and upgrade the electrical wiring to her grow area. She used small pots and grew more plants in comparison to the males who usually grew in beds or large pots. This woman scaled her grow operation down until she could manage all aspects on her own, including moving the plants and disposing of used dirt⁵. Neither woman constructed her grow room. In comparison, all of the men constructed their own rooms themselves or with the help of male friends.

Finally, my interview with the seasonal worker, who was a Women's Studies major in college, exposed extreme gender discrimination associated with outdoor growing. She had worked the previous season for a man she described in the following excerpt:

⁴Head stash is the slang term for the quantity of marijuana (or any other drug) a grower or dealer keeps for his/her own personal consumption.

⁵Growers who grow in pots rather than beds dispose of their dirt after each harvest or up to six times a year.

Last year I worked for someone who was so greedy and just kind of a dick and like you know made me feel shitty about my gender. You know like in terms of doing this kind of work, like it's really gendered. It was like "Oh, go help the girls trim," and I'm just like "Dude!" Like if he had wimps to like help carry this *gennie*⁶ or something. It just pissed me so much 'cause I'd been working for him longer than this other dude, and this dude was acting more feminine than I am and [he] asked him to help like move the gennie, 'cause he was the only dude around. I was standing there too, and I'm just watching this dude try and lift this gennie with him, and I'm, "Are you fucking serious?" I went over and was like, "Watch." And I picked up the gennie by myself. I was like, "You're such a jerk. Why did you make that assumption that I'm a weak girl?"

At the time of the interview she had left her first employer and was working for a different grower. She had this to say about working for her new employer:

You know the gender issues I think are huge, in that men do the labor and the girls do the trimming. It's like, no. I hate that. It was a struggle to get my boss to recognize that I'm capable of like doing work. And I wanna do the work. Like, I like getting dirty and I don't like sitting in a chair all day. Like, I don't want to do that. I wanna get like down and do the work 'cause it's like rewarding to see all of that, you know.

The interview excerpts clearly demonstrate the division of labor for male and female workers, as well as the attitudes of some male growers towards female employees, but there is yet another dimension that provides even more evidence of gender differences in marijuana production—the labor of trimming or manicuring the plants to prepare the buds for sale. Trimming is the term used to describe the process of removing leaves and stems to create a visible flowering bud, which is the product then sold for consumption by marijuana smokers. The plant is trimmed after it has reached maturity and has been harvested or cut down and hung to dry in a secure location. Trimmers use small scissors; the work is tedious and requires careful focus. There is an element of criminality associated with the job, as trimmers can be caught up in law enforcement raids and be arrested and charged along with the growers. Trimmers who work for indoor growers frequently work at the grow site and usually work for long periods, but do leave at the end of the day, returning to their own homes. Many times this occurs with several people gathering to work at a home, sharing meals and conversation until the workday is declared finished. Trimmers are normally paid by the pound, meaning for each pound of trimmed marijuana they produce they are paid an amount that has been previously agreed upon with the grower.

The work sites of outdoor growers are not always comfortable places and many involve travelling to remote locations in the nearby hills where the living accommodations are often tents, bottled water, and outhouses and four-wheel drive vehicles are required to traverse dirt

⁶Slang term used for electrical generators.

or gravel roads. Workers may stay as long as two or three months, until there is no more marijuana to be trimmed. Often the growers are tense, tired, and anxious to get their crops trimmed, bagged, and sold. The end of the outdoor season is the culmination of an extended period of stress and tension for growers due to threats of both seizure by law enforcement and possible theft of their crop. There are *patch raiders* who wait for the end of the season to rip off crops. Trimmers have been known to steal from their employers. Often, a grower has a stack of household and crop production bills waiting to be paid after harvest season. This is not to say that trimmers are not treated well. To the contrary, many growers provide meals, comfortable housing, plenty of weed to smoke, and are good-natured, knowing their pay day is just around the corner. Trimmers who are fast, honest and easy to get along with in group situations can make enough money to support themselves until the next year's outdoor harvest season arrives.

However lucrative it may seem, trimming work is situated within a broader culture which confers legal sanctions upon those guilty of sexual harassment, yet places women in vulnerable positions as sexual objects. The broader culture openly disapproves yet discreetly ignores or even promotes situations where women are made vulnerable to sexual harassment. Women trimmers are sometimes sexualized and objectified by their male employers. My analysis of craigslist ads by growers seeking to hire trimmers leads to the conclusion that female trimmers are preferred for manual dexterity, speed, quality and a few characteristics outside of what might be physically required for manicuring harvested marijuana. The objectification of women in these ads is evident. An example of these sexualized characteristics can be seen in the following two posts from growers seeking to hire trimmers:

- **Girl Trimmer needed**

- Date: 2011-11-02, 1:19PM PDT

- Reply to: removed

- Need a good looking trimmer that is Dtf.⁷ And oPen minded, pay is great, lots of work, again need a good looking girls that's Dtf, mid 20's guy here, good looking and athletic build, blue eyes, come work this week, worker needed asap Send pic and info or no response, also let me know availability next few days, thankx

The first posting explicitly requires the female respondents to be attractive and willing to have sex with the grower. The definition of attractive is an ambiguous one which only that grower can determine, and a photo must be provided for the grower to assess if the respondent is adequately good looking.

- **lady trimmers sought**

- Date: 2010-10-20, 4:02PM PDT

⁷ Acronym for a term used to describe a girl who is "Down To Fuck." <<http://www.urbandictionary.com/define.php?term=DTF&defid=2884963>>

- Reply to: removed
- hello there- seeking new trim ladies. previous help got greedy and lazy... maybe over-indulged. looking for new help, topless extra. haha great pay otherwise.....2-3 per depending on exp.. but may train the right girls. call now will only be in town for a few. or leave message will be back on town in a few . looking for self starters looking to earn or earn and learn call soon wont last (541)removed

This second post offers additional compensation for those ladies willing to be topless as they trim. While the ad implies this is a joke, it illustrates the experience of some women during harvest season. Women are indeed offered more money than the agreed upon per pound amount if they will labor partially nude.

Not only can this be observed in the ads placed by growers, but it is reinforced by the women participants as well. The following two ads were posted by women seeking employment as trimmers:

- **HOT Experienced Trimmer;) (Hum Co)**
- Date: 2011-11-02, 3:47PM PDT
- Reply to: removed
- I am 32, experienced, clean, easy to get along with, fast, harworking and easy on the eyes. I have my own truck live in the area and can stay the night if needed. You can reach me @ (707)removed

This first post clearly illustrates how some women may perceive advantages in getting hired by describing themselves as “hot” or “easy on the eyes.” Not only does this post announce the respondent’s appearance as hot, but the emoticon of a winking smiley face suggests other intentions as well. This emoticon can be interpreted as flirtatious and designed to attract the attention of those male growers who require their trimmers to be physically attractive and potentially willing to engage in sexual activities.

- **Hard Working and Cute Female Trimmer**
- Date: 2011-10-03, 6:54PM PDT
- Reply to: removed
- Hey there Humboldt!
I've got plenty of experience with what I do, and know how to make your product look beautiful and take off only what needs to be taken off. I've also

got my own campervan, so putting me up won't be an issue. Looking to work for a while, so if you've got enough to keep me busy for a month, that's perfect! I've also got experience with cooking, cleaning and making products, so I'm a pretty handy gal to have around... I'm willing and able to travel, and ready to start work today, so let me know! Cheers!

In this sample post, not only does the respondent advertise her appearance, but is also willing to perform other tasks far different from trimming but obviously gendered, such as cooking and cleaning. Her promise to make the product look beautiful reassures the grower she has experience and will not waste any of the finished marijuana. However, it seems being an experienced trimmer with her own accommodations may not be adequate to secure a position. The respondent perceives a combination of good looks, the willingness to perform additional tasks, and experience will be the most effective selling points for her to secure a position.

It became obvious in my analysis that female trimmers are aware the very nature of their work creates a scenario that could easily facilitate sexual harassment. In response, experienced female trimmers may join with other female workers to form crews and thus alter the environment and conditions of their employment. The posting below illustrates this point:

- **Trimmchicks**

- Date: 2010-10-07, 8:55PM PDT

- Reply to: removed

- What we offer are Experienced, Reliable, Discrete, and Honest ALL Female Trim crews. Crews are 2 to 6 workers depending on job and space. Maximum hours per day per person is 12. We provide our own equipment and food. What we expect from you is a safe, well lit, comfortable room to work in with restroom facilities. Payment is to be made at the end of the shift. You pay me, I pay the crew. The standard price is ballpark and will apply to most jobs. Little and loose will cost more⁸. Sexual Harassment will not be tolerated. All jobs have to be approved by management. You of course are the boss. If there is a conflict of personalities with any crew member, that crew member will be sent somewhere else. The job will always be done per your instructions. Each person that works for me is known personally by me for at least 15 years, most considerably longer. The more people you want the earlier you need to schedule.

- Contact removed

Notice too this post referred to the work team as a crew, fitting the description of mob, or organized crime, crews identified in research focused on the social organization of deviants (Best & Luckenbill, 1980). Mob crews form in the unified pursuit of economic gain from their activities just as trim crews come together to earn money. There is also an element of safety

⁸Little and loose indicates the work will be more difficult and time consuming.

for women trimmers who only work in crews, as the above announcement illustrates. Finally, my analysis of craigslist provides more perspective just by looking at the number and purpose of the postings, summarized in Table 1 below. As I described earlier, the postings were divided into those seeking to hire trimmers, and trimmers seeking work. Over the course of two seasons I collected a total of 125 postings specific to trim work, with 12 seeking to hire trimmers and 113 by trimmers seeking work. Of the 12 ads hiring trimmers, 10 specified only women respondents would be considered, two were gender neutral and none were seeking male trimmers. Of 125 trimmers seeking work, 32 were males, 35 females and 46 were gender neutral. The ads seeking to hire trimmers are the most revealing when it comes to gender differences.

The numbers themselves may not be all that impressive, but when one considers that three (25%) of 12 ads for female trimmers feature details that raise questions of sexual harassment, a clear pattern of male dominance emerges. In addition, this should also be balanced against the fact there were no posts for specifically male workers. While this small sample size does not allow for any generalizations to be made, it clearly makes visible the role of gender in the dimension of trimming.

Table 1 *Craigslist Trimmer Posts by Gender and Advertisement Type*

Advertisement Type	Gender of Trimmer			
	Male	Female	Gender Neutral	Total
Ads seeking trim work	32	35	46	113
Ads seeking trimmers	0	10	2	12
Total	32	45	48	125

Discussion

Within my larger study, the gender divide between male and female participants in the marijuana industry proved to be one of the most interesting features of the grower subculture. For the most part, the selling of a crop seems to be a point of vulnerability for women growers, forcing them to partner up with a male to reduce the risk of being ripped off by potential buyers. The two women who grew on a commercial basis were strongly independent and proud that they ran their own operations. This finding is consistent with the moonshining women in Murphy's (1994) work. Women are generally pushed into the tedious jobs of growing, tending crops, trimming and clone work. Since none of these particular tasks bring high wages, prestige or positional power, it is an ideal example of feminist social theory at work. The major players in the marijuana industry are males and the resultant market structure is not conducive to female success. Rarely are women encouraged to set up and maintain their own operations, and in contrast to the findings of Adler (1993) and Anderson (2005), they were rarely acting as brokers or middle-women. The small number of women I observed reinforced Weisheit's findings that the marijuana industry is primarily a male environment (1992). Women risk sexual harassment as workers and advertise their sexual qualities as much as their skills when seeking

employment in the industry. The objectification of women is not hidden in this illegal economy but blatant and unsanctioned. This creates a potentially dangerous work environment for the women. Furthermore, women who are involved in the industry as a result of their relationships with male growers can be equally sexualized and find themselves insignificant eye candy, strongly paralleling Adler's assessment of the women in her study (1993). Further examination of the gender dimensions of the marijuana industry is warranted to assess agency and power in the context of the marijuana subculture as it exists today.

Limitations of the Study

This study was conducted in the Emerald Triangle of Northern California, where the marijuana culture is a vibrant thread in the fabric of life and unremarkable to local residents. It is a unique contextual situation reflecting a localized history of marijuana production, strong private property rights, and community values. These characteristics have evolved even further with the medical marijuana industry that emerged since Proposition 215, known as California's Compassionate Use Act, was approved by voters in 1996. Worth billions of dollars to the state economy, some would argue Proposition 215 is de facto legalization, and few would disagree that it has created an exceptional level of tolerance among citizens throughout California.

Additional limitations are imposed by the very small sample. Just three of nine participants were women; however, these women were both genuine and generous in their responses. Field observations of women were also limited in scope, as were the number of women encountered. The small number of women visible in the industry may be a contributing factor to the general lack of knowledge around women in the marijuana industry. Regardless of the limitations, these women have supplied valuable and exclusive data from which to draw an analysis that will support future work around women's roles in the marijuana industry.

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The Fallacy of a One Size Fits All Cannabis Policy

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Abstract

Although the cannabis plant is one of the oldest herbal products currently in use, the policies and research surrounding its use and associated risks and benefits have been points of contention throughout its modern lifespan. Cannabis has been seen as a revered botanical medicine, a demon substance sure to ruin modern society, and an alternative to Western-born pharmaceutical drugs and treatments. Over time, the debate concerning cannabis has been driven by morality, science, politics, economics and social control. Given its multiple uses (textiles, medicine, and relaxation), developing one policy to encompass these uses in a responsible way remains elusive. This paper seeks to explain why a “one size fits all” regulatory framework is not sufficient for cannabis. Antiquated notions of the effectiveness of botanical medicines compared with pharmaceutical drugs and the difference between curative (curing a diseased state) and palliative (addressing the symptoms associated with a diseased state) treatments have muddied the cannabis policy waters. Efforts to regulate the raw plant alongside cannabinoid-based medications have resulted in a regulatory roadblock, often framing doctors as gatekeepers. I propose that in order to move past this roadblock and to maximize the benefits of the cannabis plant for both curative and palliative treatments of conditions such as substance dependence, the plant and the cannabinoid-based medications must part ways and seek their own, individual regulatory destiny.

Keywords: cannabis, marijuana, public policy, pharmaceuticalization, drug war

Although the cannabis plant is one of the oldest herbal products currently in use, the policies and research surrounding its use and associated risks and benefits have been points of contention throughout its modern lifespan. Cannabis has been seen as a revered botanical medicine, a demon substance sure to ruin modern society, and an alternative to Western-born pharmaceutical drugs and treatments. At the heart of many of these policy and societal shifts was the US government. Decisions made by legislators are influenced by a myriad of exter-

nal and internal sources. Available empirical evidence, pressure from special interest groups, personal moral beliefs and experiences, political party obligations, and constituents' opinions all shape how policy is written. As can be expected with many sources of influence, disagreements and conflicts often impede the process of developing sound policy. Policy makers often disagree among themselves as to what makes a policy appropriate and successful (Kingdon, 1995). When moral beliefs and perceived deviant behavior are involved, the policy making process becomes even more vulnerable to special interests and policy makers' personal agendas. The drug laws in the United States illustrate this conflict (Duster, 1970).

The cannabis plant has been a part of American culture in some way since the country's inception. Before the United States gained independence from Great Britain, laws regarding hemp (a nonpsychoactive variety of the cannabis plant) were passed in the colonies, the first in Virginia in 1619. This law required farmers to grow the hemp plant so that the fiber could be used for paper, rope, and clothing and the seeds for food (Schlosser, 2003). Mexican migrant workers introduced cannabis to America as a means of relaxation during the turn of the century. The plant had been brought to Mexico by the Spaniards as it was colonized (U.S. Department of Justice, 1972). Over time, the debate concerning cannabis has been driven by morality, science, politics, economics and social control. Given its multiple uses (textiles, medicine, and relaxation), developing one policy to encompass these uses in a responsible way remains elusive. In the context of the political history of cannabis in the United States, the reasons behind volatile and often misdirected arguments and policies concerning cannabis become apparent. As will be shown, the early decisions made in the US regarding drug policy were rooted in moral philosophy. These beliefs would influence the future of all illicit drugs, including cannabis, stalling development of cannabinoid-based medications and access to the raw plant. Disagreement still runs high within the cannabis industry as to which regulatory path to take. I argue that one path alone simply will not do.

This paper seeks to explain why a "one size fits all" regulatory framework is not sufficient for cannabis. Antiquated notions of the effectiveness of botanical medicines compared with pharmaceutical drugs and the difference between curative (curing a diseased state) and palliative (addressing the symptoms associated with a diseased state) treatments have muddled the cannabis policy waters. Efforts to regulate the raw plant alongside cannabinoid-based medications have resulted in a regulatory roadblock, often framing doctors as gatekeepers. I propose that in order to move past this roadblock and to maximize the benefits of the cannabis plant for both curative and palliative treatments of conditions such as substance dependence, the plant and the cannabinoid-based medications must part ways and seek their own, individual regulatory destiny.

The discussion begins with an overview of the government definition of the safety and usefulness of cannabis via drug scheduling and the philosophical underpinnings of modern drug policy. The moral judgments placed on those who use substances regardless of the consequences of their use, and beliefs about what defines an "acceptable consequence" for substance use feed the political stalemate and result in cognitive dissonance among the public. Next the history of cannabis regulation in the US will be reviewed as cannabis begins its life as a medicine, is thrust back into the shadows as an illicit substance, and re-emerges as a promising alternative to modern pharmaceuticals. Finally, the argument for a

dual policy track will be presented in relationship to the use of cannabis as a treatment for substance dependence from a palliative and curative standpoint. Data on the use of cannabis for this purpose will be discussed, as will implications for the future of cannabis policy.

Cannabis: Conventional Medicine, Scourge on Society, or Both?

To understand the barriers to moving past prohibition when it comes to cannabis, it is important to look at the impact of how the government defines the medical value and safety of cannabis and the current philosophical framework about drug use. Since cannabis arrived in the United States, society has toggled with the belief that it is a recreational, curative and therapeutic agent in the context of a regulatory framework that makes these attributes mutually exclusive. Drug schedules place psychoactive substances in various categories according to their accepted medical use, perceived risk of abuse and dangerousness (Department of Justice, 1970). Schedule I is the most restrictive category, set aside for substances with a high risk of dependence and no proven medical benefit. Cannabis is currently a Schedule I substance. Due to their perceived danger, there are heavy restrictions on the use of Schedule I substances in research. The investigation into how cannabis can be utilized for curative and palliative purposes has been slowed by the Schedule I restriction in two ways. First, this restriction has slowed research into the components of the plant and its development into a pharmaceutical drug by interrupting the normal progression of botanical to medicinal discovery. In some ways we are picking up where we left off in 1937 when cannabis was reclassified from medical to recreational. Second, cannabis was labeled as having “no medical value” and placed into Schedule I before any controlled efficacy studies had been done, and after people had been using it as a medicine for thousands of years. Several lawsuits have been filed challenging the Schedule I status of cannabis; however, the federal government has not yielded on this issue (Americans for Safe Access [AFSA], 2012). Meanwhile, in lieu of clinical research on cannabis use in humans, it was gaining a reputation among users in greater society as being fairly benign and fun to use, which lent support to its recreational descriptor, but left the curative and palliative uses behind. In addition to the Schedule I status being a barrier to appropriate regulation, the philosophical viewpoint associated with drug use in general has influenced the lack of acceptance of cannabis as a palliative and curative agent.

Drug policies in the US are rooted in deontological theory, which focuses on the innate morality of actions themselves, regardless of their consequences (Darwell, 2002). Deontological theories often find their way into so-called “victimless crime” policies. These policies, revolving around unacceptable private behavior, only consider the behavior itself, regardless of the consequences. If a person uses drugs, even if the only negative consequence is to them alone, deontics would view the drug use as inherently wrong and would therefore encourage policies prohibiting drug use. Another aspect of Deontological policy is that the context in which the behavior occurs is not taken into consideration (Haydar, 2002). On the other side of the coin is consequentialist theory. Consequentialist theory can be described as focusing on the consequences of a person’s actions when deciding whether to intervene. Society holds a belief that possession and use of substances deemed illicit are inherently wrong regardless of the consequences. Therefore, drug policies are centered on prohibiting access to illicit substances regardless of the consequences of their use. It is assumed that all illicit drug use is problematic and that it is not possible to be a responsible drug user. This false assumption has led to another, that prohibition is the same thing as control. The belief

that eliminating all drug use is possible prevents the belief that allowing drug use under highly regulated conditions is acceptable, even if that model is more likely to prevent negative consequences than a model of prohibition and punishment. Once cannabis was placed in the category of illicit substances rather than herbal medicines, its use was wrong regardless of the consequences and the mounting evidence of its medical potential. Once it was legally deemed to have no medical value, it was very hard to justify changing that, regardless of the research on the health and social consequences associated with cannabis that have since emerged, because in a deontological framework consequences are irrelevant. Furthermore, it is extremely taboo to suggest that cannabis, a drug placed in the most restrictive category, could be a treatment for a drug such as cocaine, which is placed in a lower schedule. However, even while cannabis is a Schedule I substance, the National Institute on Drug Abuse (NIDA) is funding research on the role of cannabinoids in treating a myriad of conditions, including addiction. This duality confuses the public, the industry and those who seek to regulate it. It also distracts from the development of practical applications for cannabis in practice. The movement of cannabis from a medicine to a prohibited substance and back again has only added to the public confusion over its proper regulation.

From Botanical Medicine to Illicit Substance and Back Again

Between the mid 1800's and the mid 1900's, cannabis would see itself going from one of the most common medicines to being regarded as one of the most dangerous substances known, to a place where it is believed to be both. The following discussion traces the use of cannabis as a medicine, its re-classification as an illicit substance and its rediscovery as a therapeutic agent.

Cannabis as a medicine.

Before the first Federal cannabis law, the Marihuana Tax Act, was passed in 1937, several major pharmaceutical companies, including Eli Lilly and Bristol-Myers Squibb produced medicines with cannabis in the ingredient list. During the Tax Act hearings the president of the American Medical Association, Dr. William Woodward, opposed the Act under fear that it would stand in the way of cannabis's medical uses (Marijuana Policy Project, 2003). Between the years of 1840 and 1900, more than 100 journal articles were published in American and European medical journals on the therapeutic uses of cannabis (AFSA, 2012). A dosing guide for doctors published in 1907, says of cannabis,

Specific cannabis is an agent to control pain, and secure rest and for these purposes when opium would be objectionable. Unlike the latter, it causes no loss of appetite, nor arrest of secretion and the skin retains its normal condition under use. (Bell, 1907, p. 85)

Interestingly, that edition was published one year after the Pure Food and Drug Act of 1906, which marked the beginning of the end for many elixir medications, as the act included strict labeling requirements (Pure Food and Drug Act, 1906). Along with the Food and Drug Act, views of cannabis were also shifting as reports increased about the cannabis plant being brought into the US by Mexican immigrants. This cannabis, it was noted, was dangerous and caused Mexicans to exhibit ruthless behavior (Bonnie & Whitebread, 1974). The duality of cannabis was born.

Cannabis as an illicit drug.

While cannabis continued to be found in a myriad of medicines, its use in the raw form was starting to gain attention. Previously, opium and coca, from which cocaine is derived, had been subject to regulation through the Harrison Narcotics Act of 1914 (Harrison Act, 1914). But cannabis was not yet well known in the United States at this time outside of its medicinal uses. According to Walton (1938), the history of national cannabis policy in the United States can be traced back to Mrs. Elizabeth Bass, a Supervisor for the Federal Narcotics Bureau for the district covering Indiana, Illinois and Wisconsin in the mid 1920's. In a report filed with the Bureau, Mrs. Bass asserted that the number of fines given out for cannabis had grown by four times between the years of 1926 and 1927. This report sparked an investigation into the sudden increase in cannabis use by the Department of Pharmacology at the University of Chicago.

The investigation traced the origin of cannabis in the US to parts of Texas and New Orleans, where Mexican migrant workers had brought cannabis as it is known today into the country at the turn of the century (Bureau of Immigration, 1915-1930). In addition, cannabis was being exported from Havana, Tampico and Vera-Cruz (Walton, 1938). The states that saw the largest influx of Mexican immigrants during this time also became the first states to adopt anti-cannabis laws. The first state cannabis laws were passed by the Louisiana state legislature in 1927 against "loco-weed," the cannabis flowers that were dried, rolled into a cigarette and smoked, mostly by Mexican migrant workers (Walton, 1938). The use of cannabis was normalized in the Mexican culture, and many men suddenly found themselves at risk for massive fines and jail time. The conflict of how to classify cannabis had begun.

New state laws written in the early 1930's effectively placed social controls on the Mexican population in Texas, opening the doors for white laborers to control the agricultural job market (Taylor, 1931). Feeling pressured by the competition for jobs in the agricultural field, the white population sought out a way to control this new source of American labor (Sterling, 1999). This was similar to the earliest state narcotic laws in the late 1800's, attempting to control opium smoking by Chinese immigrants (Trebach & Inciardi, 1993). The supposed effect that cannabis had on the temperament of the Mexican immigrant—maniacal rage and sexual impulsivity—as stated during anti-cannabis hearings in Utah, Texas, Montana, Colorado and New Mexico in the mid 1930's (Bonnie & Whitebread, 1974). Adding to this was the plethora of police officers and federal employees who were now without jobs because of the end of prohibition of alcohol. The entire workforce that formerly enforced the prohibition of alcohol were now unemployed. Instead of adding to the Depression Era unemployment problem, a new illicit vice, cannabis use, was created to replace alcohol (Earlywine, 2002). This propaganda concerning who uses illicit substances, including cannabis, remains a technique for preventing drug use, further solidifying cannabis' place among "dangerous" illicit substances.

Besides Texas a major cannabis importation business was growing in the port of New Orleans. Ships would come up from Mexico and sell the cannabis on board in America for five times what the cargo cost at its origin. The interest in New Orleans was said to be because of the widespread cannabis use among the "native population," which at this time was composed of jazz musicians and people of color (Walton, 1938). Racial undertones exist in many attempts, past and present, to regulate illicit substances.

The first federal law against cannabis, the Marihuana Tax Act, was developed by Harry Anslinger, the Director of the Federal Bureau of Narcotics. One of the purposes of the

law was to aid in enforcing the Uniform Narcotics Act of 1932. Before cannabis was included in the Uniform Narcotics Act, there were no federal cannabis laws in the United States. However, by 1931, 22 states had enacted some type of cannabis restriction (Bonnie & Whitebread, 1974). To gain support for his law, Anslinger publicly proclaimed the dangers of cannabis use and touted cannabis as a dangerous narcotic that “enslaved” youth and aroused violence (Anslinger & Cooper, 1937). Before Anslinger decided that cannabis needed to be eradicated from American society, few Americans had even heard of the ancient plant (Bonnie & Whitebread, 1974; Speaker, 2001). When Anslinger decided that cannabis had to be eliminated, he knew that the success of his campaign largely rested in the hands of the American public. In order to gain the support of the public, Anslinger began a smear campaign against cannabis that portrayed the drug as an evil menace that caused a homicidal-like reaction in its users. Some argue that it was this campaign that ruined any chance of seeing the drug issue as anything but black and white, good and evil (Wisotsky, 1990). Anslinger may not have known it at the time, but his efforts were slowly removing cannabis from the realm of medicine, where it had existed for thousands of years, and placing it in a category of dangerous substances that need to be prohibited for the greater good. Anslinger began his campaign against cannabis by publishing *Marijuana: Assassin of Youth* in 1937. The report began with the tale of a young woman who committed suicide by leaping to her death as a result of smoking cannabis. Anslinger also told stories of others who had committed atrocious crimes while under the influence of cannabis. One such story involved a young man from Los Angeles:

Suddenly, for no reason, he decided that someone had threatened to kill him and that his life...was in danger. Wildly he looked about him. The only person in sight was an aged bootblack (shoe shine). Drug-crazed nerve centers conjured the innocent old shoe-shiner into a destroying monster. Mad with fright, the addict hurried to his room and got a gun. He killed the old man, and then later, babbled his grief over what had been wanton uncontrolled murder. That's Cannabis! (Anslinger & Cooper, 1937, p. 153)

To add to the fear that he was instilling in the American public, Anslinger also made it clear that cannabis would make men rape young girls (Anslinger, 1937).

During the hearings for the Marihuana Tax Act, Anslinger relied on three pieces of evidence to prove the harmfulness of cannabis. First, Anslinger used the aforementioned newspaper stories asserting the maniacal tendencies of those high on cannabis. Second, Eugene Stanley, District Attorney of New Orleans, presented a study claiming cannabis's prevalence among the Louisiana prison population. The study, conducted by the Indian Hemp Drugs Commission, looked at the prevalence of cannabis use among the New Orleans prison population. The report itself was written by two New Orleans police officers and was not based on an empirically sound survey (Bonnie & Whitebread, 1974). Third, Temple University Pharmacologist James Munch presented a poorly designed empirical study testing the effects of cannabis on dogs. Although Dr. Munch concluded that cannabis caused degeneration in the dogs' brains, he also stated that only 1 in 300 dogs were sensitive to the cannabis. Furthermore, the study was never able to link the dog results to humans (The Marihuana Tax Act, 1937). The Marihuana Tax Act passed through Congress in 1937.

State legislators like Mrs. Bass now had the support of the Federal Bureau of Narcotics in their fight to control cannabis. The language of the Marihuana Tax Act is similar to the Harrison Act which controlled opium and cocaine. It requires anyone importing, selling or growing cannabis to pay an occupational tax and register with the Internal Revenue Service. Just like the Harrison Act, the Marihuana Tax Act made it unlawful to possess cannabis without a permit, or to transfer possession to someone without the proper papers (Harrison Act, 1914; Marihuana Tax Act, 1937). The first federal sentence handed down in New Orleans after the Cannabis Tax Act was passed occurred in the spring of 1938. Although the federal law was passed, penalties for cannabis varied across the states. By the end of 1937, nearly every state had a penalty for cannabis (Walton, 1938).

The media helped develop this societal fear surrounding cannabis. In 1937 a movie entitled “Reefer Madness” (originally titled “Tell Your Children”) was released with the purpose of instilling Anslinger’s anti-cannabis message into mainstream society. The movie begins during a PTA meeting where a high school principal is warning parents of the dangers of cannabis. The movie then tells a tale of a young man who is lured into an apartment where cannabis is being smoked. After he himself is intoxicated, he’s framed for the murder of his girlfriend. The movie ends with the real killer (and regular cannabis smoker) being committed to an institution due to insanity brought on by smoking cannabis (*Reefer Madness*, 1937). Many newspapers wrote about the secrecy of the drug subculture by using the slang terms for cannabis in their articles and writing about secret “reefer parties” that were going on, furthering the division between mainstream drug use, such as alcohol or nicotine, and cannabis use (Chicago Tribune, 1929; Montana Standard, 1929; Rocky Mountain News, 1931, as cited in Bonnie & Whitehead, 1974).

This propaganda campaign was extremely successful, and cannabis use fell out of favor with the general population. However, resurgence occurred in the 1960’s when the number of youth who used cannabis increased as young people protested against the Vietnam War (Goldstein, 1966). In 1965, 46% of new cannabis smokers were under eighteen, and 797,000 Americans used cannabis for the first time. That number rose to just over 3 million in 1971, with 46% of them minors. By 1976, 3.6 million Americans tried cannabis for the first time and 63% of them were under 18 years of age (Substance Abuse and Mental Health Services Administration, 2002). In a report released by the U.S. Department of Justice in 1972, the number of people who had tried cannabis in the U.S. in mid-1971 was estimated at 9% of the population over 11 years of age. Of this 9%, it was estimated that 3% used on a daily basis.

The response from policy makers was to describe the increase in use as an “epidemic.” This led to the Rockefeller Drug Laws in the state of New York in 1973, which called for extremely long sentences for drug offenders. The new laws made life sentences a possibility for those found guilty of drug possession. Although the laws focused on hard drugs such as heroin and cocaine, the wording of the law also included hashish (resin oil from the cannabis plant) and strong varieties of cannabis. This meant that a person could go to prison for life for selling cannabis (Coughlin, 1993).

The Controlled Substances Act of 1970 had outlined a method for classifying the dangerousness of a drug so that sentences could be constructed accordingly. This was done through a system that called for drugs to be classified as “schedules”. As previously mentioned, illicit drugs were scheduled based on their perceived harmfulness, addictive properties, and their potential as medicine. Cannabis was then and is currently a Schedule I

drug. A Schedule I drug is considered to have a high potential for abuse, no accepted medical use, and is deemed too dangerous to use even if under medical supervision. Another aspect is that scheduling limits research funds for drugs that are Schedule I, making clinical trials on medical cannabis difficult (Controlled Substances Act, 1970).

Although it seemed that the laws concerning cannabis were getting more stringent, there were also more liberal state laws that were starting to emerge. Less than two years after the Rockefeller laws were passed in 1973, Oregon became the first state to remove criminal penalties for the possession of small amounts of cannabis (Anderson, 1981). It was during this time as well that then President Richard Nixon declared the famous “War on Drugs” (Sterling, 1999). In 1971, the Nixon administration commissioned a group of researchers to write a report and make recommendations about the future of cannabis policy. The report, entitled *Marihuana: A signal of misunderstanding*, was released in 1972. This report made several suggestions for state and federal law concerning cannabis. On the federal level, the report suggested maintaining felony status for possession with the intent to distribute, as well as for cultivation, importation, and exportation. However, the report also concluded that private possession for personal use should not be an offense and public use should only be a misdemeanor. The state recommendations were similar, but added specifications for driving under the influence of cannabis and how penalties might vary for different amounts of cannabis seized in public (National Commission on Marihuana and Drug Abuse, 1972). Nixon rejected the report (Anderson, 1981). This response from Nixon was predicated by his assumption that soldiers returning from Vietnam would be addicted to heroin. Heroin use by soldiers in Vietnam had been publicized in the United States. Worried that the US would have to respond to a gigantic influx in heroin addiction once soldiers returned, Nixon planned for the worst and put priority into making sure that every returning addict had a treatment program available. What Nixon did not count on was that the heroin use by soldiers was highly situational and did not necessarily translate into a continuing addiction once they returned to the US. As a result, Nixon turned his attention to cannabis to justify the money and resources spent on heroin treatment. Cannabis became Nixon’s symbol of rebellion and anti-war sentiment and he argued strongly that it was a dangerous drug. Therefore, accepting a report that questioned this opinion was not a possibility for Nixon (Massing, 1998).

States besides Oregon began to evaluate the pros and cons of their own cannabis laws. One such state was California, which, in May of 1974, produced a report written by the Honorable George Moscone and Senators Biddle, Beilenson and Marks entitled *Cannabis: Beyond Misunderstanding*. In this report, the Senators tried to decide what was best for California. The report states in general that although cannabis might possess some harmful qualities, this does not justify criminal punishment. The report further found that cannabis use is a private act and not a threat to the health of society. The argument for decriminalization seemed to achieve more support when President-elect Jimmy Carter stated in a message to Congress on August 2, 1977,

Penalties against possession of a drug should not be more damaging to an individual than the use of the drug itself; and when they are, they should be changed. Nowhere is this more clear than in the laws against the possession of cannabis. (President’s Message to Congress on Drug Abuse, 1979)

It seemed at this time as if cannabis prohibition might be coming to an end. However, in 1980 Ronald Reagan became President and the War on Drugs was revived and strengthened. More money than ever was allocated to the War, and most of it went to interdiction and law enforcement and not to treatment (Sterling, 1999). The Reagan administration spent \$1.65 billion on the war on drugs in 1982 which rose to \$6.66 billion by the end of his second term of office (Office of National Drug Control Policy, 1992). With mandatory minimum sentences for drug-related offenses and high budgets for interdiction as the main components of drug policy in the 1980's, the message sent to the public was that cannabis is a dangerous drug and society should be protected from it at all costs. However, during a hearing to determine whether cannabis should be moved from a Schedule I to a Schedule II drug, the Chief Administrative Law Judge for the DEA, Francis L. Young asserted,

Cannabis, in its natural form, is one of the safest therapeutically active substances known. The provisions to the Controlled Substances Act permit and require the transfer of cannabis from Schedule I to Schedule II. It would be unreasonable, arbitrary and capricious for the DEA to continue to stand between those sufferers and the benefits of this substance. (U.S. Department of Justice, 1988, p. 57)

This stark contradiction between the reports coming out of Washington and the federal policy on cannabis would continue to muddy the policy waters for decades to come, as cannabis was about to re-enter the therapeutic scene in a big way.

A medicine once again.

Modern US medical cannabis distribution began in 1976 through the Investigational New Drug (IND) compassionate access research program. Robert Randall had been diagnosed with glaucoma and found cannabis to be helpful in relieving intraocular pressure. Claiming medical necessity, Randall went to court over his right to use cannabis since, in his and his physician's opinion, available medical treatments had not been successful. Randall won the case and became the first federal medical cannabis user in 1978 (Russo et al., 2002). This federal program accepted seriously ill participants and gave them access to up to nine pounds of cannabis per year. The application process was complicated and only 6 patients were accepted into the program between 1976 and 1988. However, as HIV continued to spread across the US in the 1980's, the compassionate access program began receiving high volumes of applications from AIDS patients. In 1989 alone, 34 new patients were granted access into the program. In 1991 the program was suspended due to the contradiction between access to medical cannabis and the Presidential stance on drug prevention. A year later the program was discontinued. Today, four patients from the compassionate access program remain. They continue to get medical cannabis from the federal government (AFSA, 2012).

The adaptation of cannabis into the pharmaceutical market as a medicine used to treat the symptoms of a variety of ailments has muddied the cannabis debate. Some of the illnesses and conditions where cannabis has been shown to be beneficial are: nausea and vomiting, muscle spasticity, eye pressure due to glaucoma, wasting syndrome associated with HIV/AIDS, muscle tremors, migraine headaches, depression, seizures, insomnia and chronic pain (Chang et al., 1979; Clifford, 1983; Crawford & Merritt, 1979; Foltin et al., 1986; Grinspoon

& Bakalar, 1995; Malec et al., 1982).

The use of medical cannabis went from the small IND program to state level policy when California became the first state to legalize cannabis for medical purposes in 1996. Between the years of 1996 and 2012, eighteen states plus Washington DC passed legislation allowing cannabis to be used for medical reasons (National Organization for the Reform of Cannabis Laws, 2012). The Federal government, however, did not accept the return of cannabis into a medical context. The legal battle over medical cannabis began in 1996 when, even after California voters approved medical cannabis, the federal government threatened to revoke the medical licenses of any physician who recommended cannabis to their patients. AIDS specialist Dr. Marcus Conant led a group of doctors and patients in a lawsuit against the federal government claiming that this violated the First Amendment. The case was eventually brought before the 9th Circuit Court of Appeals where the doctors won. The court ruled that doctors could not be punished for recommending cannabis to their patients or discussing its possible benefits with them. What doctors could not do was to help patients obtain cannabis (Conant v. Walters, 309 F. 3d 629 Court of Appeals, 9th Circuit, 2002). Now that doctors were protected, patients sought the same from the government. Angel Raich sued Attorney General John Ashcroft in 2003, seeking an injunction against future arrests or prosecutions. The case was again brought before the 9th District Court of Appeals where the court ruled that in states where it had been approved it was legal for medical cannabis patients and caregivers to grow and possess cannabis as long as it was not transferred over state lines. The federal government appealed that decision and won (Gonzales v. Raich (03-1454), 545 U.S. 1, 2005).

Despite the barriers put in place by the government to prevent cannabis research, several initiatives have furthered the scientific understanding of cannabis. First, since being formally recognized as a scientific research society in 1991, the International Cannabinoid Research Society has seen its membership grow from 50 in 1991 to nearly 500 in 2012 (International Cannabinoid Research Society [ICRS], 2012). Second, the International Association for Cannabis as Medicine was founded in 2000. This association publishes a bi-weekly newsletter and bulletin. Furthermore, the association has been working with Haworth Publishing for the past 10 years publishing a peer-reviewed journal, *Journal of Cannabis Therapeutics*. Finally, universities are becoming involved in the investigation of cannabis. In 2001, the University of California founded the Center for Medicinal Cannabis Research (AFSA, 2012), and in 2012, Humboldt State University founded the Humboldt Institute for Interdisciplinary Marijuana Research.

Unfortunately, even as the scientific evidence of the medical benefits of cannabis is mounting, cannabis remains a Schedule I substance which, by definition, has no accepted medical benefit. This classification has served to prohibit research with human beings using the whole plant. Instead, much of the research has been relegated to animal models with synthetic cannabinoids. However, a shift in how consumers view health care has opened a door for the raw cannabis plant—that of herbal and dietary supplement in the realm of Complementary and Alternative Medicine. Modern cannabis therapeutics returns to the use of the plant as a natural remedy.

Complementary and Alternative Medicine (CAM) can be defined as a group of health and medical practices used in conjunction with (complementary) or instead of (alternative) conventional health and medical practices (National Center for Complementary and Alterna-

tive Medicine [NCCAM], 2012). Examples of CAM include the use of medicinal herbs and plants such as Echinacea, physical treatments such as acupuncture and mindfulness practice such as meditation. For chronic pain related conditions the use of complementary treatments, such as acupuncture in conjunction with conventional medications for pain can be more effective than conventional treatments alone. Additionally, for those individuals currently prescribed multiple medications, concerns over chemical dependence and the mounting costs of medications have led some to seek out alternatives to more conventional methods (Abrams, Couey, Shade, Kelly, & Benowitz, 2011). A 2008 survey conducted by the National Center for Complementary and Alternative Medicine reveals that 38% of US adults report using CAM treatments. The most commonly reported CAM treatments were the use of natural mineral and vitamin products, followed by deep breathing and meditation. The most common ailment for which CAM was used was chronic pain. This is also the most common reason for medical cannabis use (Artus, Croft & Lewis, 2007). Raw cannabis is more in line with the herbs and plants utilized through CAM than it is with the conventional medications they complement and replace. However, cannabis in its raw form is only one incarnation of it as a modern day therapeutic agent. Conventional medications utilizing synthetic and natural cannabinoids have begun to emerge. The phytocannabinoid based medication Sativex was developed by GW Pharmaceuticals, a UK based company. Sativex delivers a dose of cannabinoids via a mouth spray and has been approved to treat MS. It is in Phase III Clinical Trials as a treatment for cancer and it is being investigated as a treatment for metabolic disorders, epilepsy and psychiatric conditions. Sativex is approved for use in the UK, Canada, New Zealand and Spain, with approval pending in Germany, Italy, Sweden, Denmark, Austria and the Czech Republic (GW Pharmaceuticals, 2012).

The medications being developed by GW Pharmaceuticals and others are different than the use of the raw plant material because they contain combinations of cannabinoids at extremely high doses manipulated by scientists to produce a specific physiological reaction. The raw plant, on the other hand, has more of a breadth vs. depth effect, blanketing the system with a dose of cannabinoids driven by the strain of cannabis ingested. The effect of this type of ingestion tends to be palliative rather than curative, which is the ultimate goal in the development of cannabinoid-based pharmaceuticals. This emerging duality calls into question the applicability of a single regulatory track for cannabis. While the raw plant will never meet with criteria for FDA approval, the clinical applications for cannabinoid-based pharmaceuticals will negate them from being properly regulated and distributed by the herbal and dietary supplement industry and dispensaries. So, how can policies maximize the benefits of both the palliative and curative properties of cannabis? Can we create a regulatory framework that appreciates and addresses this duality? I believe we can, but first we must recognize the difference between the use of the raw plant and the use of cannabinoid-based medications.

Moving Forward by Moving Apart

The duality of cannabis as herb and cannabis as cure is slowly tearing the issue apart. On one side there is cannabis as wellness, whether it is for therapeutic or recreational purposes. This herbal supplement model is supported by those in the medical cannabis industry who view the use of the cannabis plant in its many forms (flowers, oils, fibers) as vital for maintaining a healthy balance within the body and for the health of the planet. This

model most relates to the growing use of CAM. Individuals looking for alternatives to pharmaceutical drugs (from Oxycontin to Tylenol) are turning to acupuncture, chiropractic work, and herbal supplements such as cannabis. On the other side there is cannabis as a cure. The discovery of the endocannabinoid system in the 1990's fueled research into the role of cannabinoids in the regulation of almost every bodily system. Pre-clinical research with animal models shows that cannabinoids such as THC and CBD have the potential to mitigate diseases such as cancer, HIV, Alzheimer's, and MS (Abrams et al., 2003; Guzman et al., 2000; Ramirez et al., 2005; Wade et al., 2006). Marinol, a synthetic version of THC, has been the only cannabinoid-based medication on the US market. Some patients do not like Marinol because they claim it is too strong (Musty & Rossi, 2001). This may be because it lacks the balance of the whole plant profile. Sativex is the one drug with the whole plant profile that is currently on the market, but not, as referenced earlier, in the US.

Given the context of drug policy and beliefs about cannabis and its uses, moving ahead with an effective regulatory scheme is difficult but not impossible. It will take, however, a radical shift to bring cannabis back to its roots as a complementary and alternative medicine. As previously discussed, cannabis in its raw form has been shown to have very powerful palliative effects in the treatment of nausea and vomiting, muscle spasticity, eye pressure due to glaucoma, wasting syndrome associated with HIV/AIDS, muscle tremors, migraine headaches, depression, seizures, insomnia and chronic pain (Chang et al., 1979; Clifford, 1983; Crawford & Merritt, 1979; Foltin et al., 1986; Grinspoon & Bakalar, 1995; Malec et al., 1982). At the same time, cannabinoid-based medications have shown promise in impacting the state of the disease itself (GW Pharmaceuticals, 2012).

Herbal and dietary supplements used for the purposes of symptom management, life enhancement and overall health are approved and regulated in a different manner than FDA-approved medications listed in the US Pharmacopeia. I assert that in order to move forward with the regulation and benefit maximization of cannabis, two regulatory schemes must be sought out. The herbal and dietary supplement market is regulated by the American Herbal Products Association (AHPA) and the pharmaceutical market is regulated by the FDA. Both paths were developed specifically for products whose characteristics fit a certain profile. For herbal products, it is ensuring that plants grown and consumed for the purposes of improving health are done so safely and with as much standardization as possible given the living nature of plants. Regulations are centered on cultivation practices, thresholds for pesticides and molds, and responsible labeling and distribution (AHPA, 2012). This regulatory scheme is very applicable to raw cannabis. The FDA framework for regulation focuses on testing a chemical's ability, through a drug delivery system, to impact a physiological mechanism for the purposes of improving health. The focus is on safety, efficacy and standardization. For many conditions, both the herbal supplement model and the medication model can be utilized to achieve a truly holistic health care plan. One example is the treatment of addiction, where both the cannabis herbal supplement and cannabinoid-based medicine model apply, but in different ways.

The Duality of Cannabis and the Treatment of Substance Dependence

In the treatment of substance dependence, both the palliative and curative properties of cannabis can be utilized. This holistic approach to treating the symptoms of dependence while addressing the neuroscientific aspects of addiction might be more effective than current treatments which tend to favor one or the other.

Herbal supplement.

As an herbal supplement, cannabis in its raw form can be used as a psychoactive behavioral substitute for the drug of addiction. I recently conducted a study of eight medical cannabis patients using cannabis as a substitute for methamphetamine. Patients reported that cannabis facilitated a mind/body connection which helped them tune into their personal difficulties rather than trying to numb them (Reiman, 2012). Cannabis was also reported to be helpful with the nausea, seizures and other effects of withdrawal. Finally, the use of cannabis as an herbal supplement in its raw form can assist with harm reduction by helping patients get through moments of craving, to stay within their own boundaries of drug use, prevent relapse, and to move them from a more harmful substance, such as alcohol, to a substance that poses less harm like cannabis (Reiman, 2007; 2009).

Cannabinoid medication.

Cannabinoid-based medications for substance dependence are also being developed. These medications' effects are similar to patient reports of the raw product, but involve much higher concentrations of cannabinoids, with profiles developed to initiate a specific physiological reaction. The endocannabinoid system may be responsible for modulating the behavioral and motivational effects of drugs like nicotine (Balerio et al. 2006; Damaj & Lichtman, 2011; Muldoon et al., 2011). Blume et al. (2011) and Ramesh et al. (2011) suggest that cannabinoid receptors might interrupt signaling in the opioid receptor systems, affecting both cravings for opiates and withdrawal severity. In a study by the New York State Psychiatric Institute, Aharonovich et al. (2006) found that people with cocaine dependence and comorbid Attention Deficit Hyperactivity Disorder who were also cannabis users were more successful than other patients in abstaining from cocaine use. In an earlier study Labigalini Jr. et al. (1999) also noted this effect on people with a dependence on crack cocaine, reporting that 68% of the 25 subjects who self-medicated with cannabis in order to reduce cravings were able to give up crack altogether. Furthermore, recent research by Maitra et al. (2011) suggests that cannabinoids might protect the liver from the effects of heavy alcohol use. Liput et al. (2011) and Devkota and Mukhopadhyay (2011) suggest a neuroprotective function of cannabinoids during alcohol withdrawal after heavy alcohol use. Various methods for administering THC for the treatment of alcoholism have been explored by Howard et al. (2011), including transdermal administration.

Cannabis has the potential to play a role in the treatment of addiction as both a palliative and a curative agent. However, as long as its status as an illicit drug prevents policy from looking beyond this label, potentially beneficial consequences of cannabis use may never see political light. Caught in the middle between the cannabis as wellness and cannabis as cure models are the providers of cannabis, dispensaries.

Clinical Context for Cannabis as a Treatment for Substance Dependence: The Role of Dispensaries

If cannabis were to take two regulatory tracks, and cannabinoid-based medications were developed in labs for administration through pharmacies, then where would the herbal product go? Currently, medical cannabis dispensaries have emerged as the purveyors of the herbal form of the product. From the CAM perspective, this makes sense and in their role in treating patients with addiction, dispensaries would offer alternative therapies such as acupuncture and meditation, along with the use of cannabis as flowers, tea, edibles, etc. as a

method of easing the mind and changing behaviors while reducing harm. This is the model currently exhibited by dispensaries such as Harborside Health Center in Oakland, California and the San Francisco Patient Resource Center (SPARC). The latter currently offers Chinese Medicine counseling, acupuncture, acupressure, meditation, and support groups for women, veterans, and those interested in harm reduction.

From the FDA-approved medicine perspective, addiction treatment via cannabinoid-based medications could include prescribed medicines such as those delivered by mouth spray (e.g., Sativex) to prevent cravings, or an IV solution containing cannabinoids administered to an alcoholic in the hospital during detox. These interventions might be better suited for a hospital setting than a dispensary. Perhaps utilization would be both inpatient and outpatient during the course of treatment such as with addiction treatment where inpatient care is often followed by palliative, outpatient services.

There was a time when most of what was known about the experience of using cannabis was anecdotal. This pattern is repeating itself via patient reports about therapeutic effects. Medi-Cann, a clinic of physicians who conduct medical cannabis patient evaluations, randomly selected 175 charts from patients seeking recommendations. The sample was 69.5% male. The mean age of the sample was 42.2, with ages ranging from 19-81. Half of the sample (50%) reported that they were currently working, and 68.2% had health insurance. When looking at the types of conditions reported by the sample, 52.3% reported a physical condition; 2.9% a mental health condition; and 44.8% both. Patients were asked about the use of cannabis as a substitute for alcohol, illicit or prescription drugs. Their answers echo reasons why some people choose CAM treatments. Of the 68.9% who reported using cannabis as a substitute, 1% chose cannabis because it was cheaper than other substances, 14.4% chose cannabis because it was more effective for them than other substances, 24% reported that cannabis had fewer side effects than other substances, 1% used cannabis due to concerns over their long term use of pharmaceutical drugs, 19.2% were looking for a general reduction in other substances, and 40.4% gave no reason. When rating how effective cannabis was at treating their symptoms, 81.1% reported it as very effective, 18.3% said it was effective, and .6% reported it as somewhat effective. When asked if they needed to use more cannabis over time to achieve the same effect, 22.8% said yes; 25.5% reported wanting to reduce their use, and among those who wanted to reduce, 85.9% were able to. Speaking directly to the use of cannabis for both wellness and medicine—palliative and curative—the benefits reported by patients fell across all categories. The benefits most commonly reported were pain relief (85%); sleep (77.7%); relaxation (50.9%); prescription medicine substitute (46.3%); and anxiety (46.3%). The benefits least commonly reported were anti-diarrhea (3.4%); anti-itching (3.4%); prevent seizure (3.4%); and prevent involuntary movement (5.7%). The bothersome effects most commonly reported were dry mouth (29.7%); hunger (23.4%); and mood disturbance (17.7%). The bothersome effects least commonly reported were confusion (none); dizziness (.6%); palpitations (.6%); and movement problems (.6%). The benefits reported by patients fit both the wellness model (relaxation, sleep) and the curative model (prescription medicine substitute, anxiety, prevent seizure/involuntary movement) (Reiman, n.d.). Additionally, the relationship between disease and symptoms such as anxiety and insomnia can be covered under the dual cannabis treatment model.

Currently, there is a push in the realm of the raw cannabis product to provide more detailed information for patients regarding the cannabinoid and terpene profiles contained in specific cannabis plant strains. This is an attempt to place some of the knowledge born in the

synthetic cannabinoid research on animals into the hands of people using the raw product. The lab analyses currently being conducted give cannabinoid and terpene information to patients and screen for molds and other contaminants to help ensure a safe product. Furthermore, Good Manufacturing Practices similar to those used for other herbal medicines and supplements are being developed and implemented by those who have cannabis gardens to ensure the botanical safety of the plant for the consumer and to pinpoint issues in cultivation that might lead to an unsafe product. These developments have done much to move cannabis as a raw product into a regulatory scheme alongside other herbal medicines and supplements.

Conclusion

While the palliative and curative uses of cannabis should be harmonious, these two sides have been pulling the cannabis policy issue farther and farther apart against a backdrop of public confusion over what this plant is: drug, medicine, supplement, food? This confusion is reflected in the disagreements over cannabis regulation and legislation. There are three points that meet the herbal supplement and cannabinoid medication models in the middle: 1) cannabis in its many forms has the potential to establish balance and homeostasis in the body, as evidenced by the role of the endocannabinoid system in functions such as metabolism (Bowles et al., 2011) whether this is to maintain wellness or address disease; 2) stress relief and relaxation is a legitimate medical use, given the research on the role of stress in the development of disease (Andersen, Kiecolt-Glaser, & Glaser, 1994); and 3) points one and two do not mean that the entire family of cannabis products and preparations should be regulated the same way. Valerian and Valium are not regulated in the same way though both are relaxants. The attempt to include both sides in any one policy is futile because the avenues for regulating herbal supplements and FDA-approved medications are very different. If cannabis policy is to succeed in a way that honors the complexity of the plant and its many forms and uses, each camp might have to support each other and learn from each other, but head their own way. These treatments are complimentary, but they are not the same and should not be regulated the same way. It muddles the message and inhibits the use of cannabis in practice. Medical doctors are afraid of using a plant in their conventional medicine treatments and CAM folks shudder at the thought of an FDA-regulated pharmaceutical. A policy does not exist that would satisfy both these parties. This is unfortunate, as there are a myriad of practice situations that would be optimal for both, including the treatment of addiction.

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A Tale of Three Cities: Medical Marijuana, Activism, and Local Regulation in California

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Abstract

This article examines important differences taken by California's three largest metropolitan areas to regulating medical cannabis dispensaries and the role activists and organizations play in shaping regulatory practices. In the San Francisco Bay Area, Los Angeles, and San Diego, medical marijuana activists and providers have faced vastly different "political opportunity structures." I operationalize political opportunity structures as composed of district attorney policies, police department policies, city initiatives and resolutions, the presence or absence of dispensary regulations, and the presence or absence of city level task forces or commissions. Activists use ballot initiatives, lobbying, civil disobedience, protests, and referenda to further open the political opportunities they faced. Cities in the San Francisco Bay Area are "pro-regulation," while Los Angeles has taken a "laissez faire" approach, and San Diego a "prohibitionist" approach. Successful local ballot initiatives, pro-medical marijuana city council resolutions, sympathetic local law enforcement personnel, and the presence of local regulatory bodies contribute to favorable political opportunities and viable local regulations. Local officials have responded differently to a federal campaign to eliminate dispensaries and dissuade local regulation that began in late 2011.

Keywords: medical marijuana, medical cannabis, dispensaries, drug policy

This article seeks to answer a two-fold research question: why did the medical marijuana movement succeed in changing marijuana policy in California in the 1990s, and why have different cities in California taken vastly different approaches to governing the radical new policy? To explore these questions, I use the concept of "political opportunity structures"

from the political process approach to the study of social movements. The concept of political opportunity structures emphasizes the role of political and legal contexts in shaping the emergence and success of social movements. After introducing the concept of political opportunity structures, and reviewing earlier literature on radical drug policies, I operationalize political opportunity structures with regard to medical marijuana dispensaries and their regulation.

Using interview data with key actors, movement literature, archival research, observations from attending City Council and Cannabis Task Force meetings, and official City documents, I explore the varying experiences of San Francisco, Los Angeles, and San Diego regarding official responses to medical marijuana providers. I analyze how political opportunity structures and the ways that activists open political opportunity structures contribute to three distinct regulatory approaches to medical marijuana under a uniform state law. I propose three regulatory models and explain their varying contours. Cities in the San Francisco Bay Area represent the “pro-regulation” model, while Los Angeles represents the “laissez-faire” model, and San Diego represents the “prohibitionist” model. These three models vary according to the variables that comprise their political opportunity structures: city and district attorney policies, the presence of pro-medical marijuana ballot initiatives and council resolutions, and local law enforcement policies with regard to cooperating with the Drug Enforcement Administration (DEA).

This article seeks to contribute to an understanding of how novel drug policies emerge and take hold despite institutional opposition. It emphasizes the importance of activism and civil disobedience in capitalizing on and expanding political opportunity structures. My three-city comparison demonstrates that three models of dispensary regulation emerged from three different political opportunity structures in California. However, civil disobedience and political activism play a large role in shaping local cannabis politics. Political opportunity structures alone cannot explain how activists were able to shape the context of medical cannabis. It was the bold civil disobedience of activists and their ability to cooperate with city and state officials that made Proposition 215’s potential a reality.

The terms activist, advocate, provider, dispensary, and qualified patient are used throughout the article. An activist is any individual working alone or as part of a group to institute the provision of medical cannabis in line with the Compassionate Use Act of 1996 (CUA). Activists may use political tactics (including ballot initiatives and lobbying), legal tactics (lawsuits and challenges), or traditional social movement tactics (including protest, civil disobedience, and rallies). Advocates are actors who only use legal tactics (lawsuits and legal defenses). A provider is an individual or group of individuals operating a medical cannabis dispensary, a medical cannabis collective, or medical cannabis growing projects. A medical cannabis dispensary is a location that sells medical marijuana to qualified medical cannabis patients. A qualified medical cannabis patient is someone who has sought and received a recommendation to use cannabis for medicinal purposes from a currently licensed and practicing physician.

Context, Opportunities, and Drug Policy Reform

This section traces the theoretical development of the concept of “political opportunity

structures,” and reviews how earlier scholars of drug policy reform have implicitly focused on political, legal, and geographical contexts to help explain the emergence of new social formations that challenge the logic and institutional arrangements of drug prohibition (including medical cannabis dispensaries and needle exchange programs). I then operationalize an empirical definition of political opportunity structure with regard to medical cannabis to guide my exploratory analysis of the movement’s emergence and three models of dispensary regulation. At the conceptual level, political opportunity structures are composed of laws and policies at the national, state, and local levels of government. From variations in how presidential administrations deploy federal law enforcement agencies, to changes in state law, to city level policies toward medical cannabis dispensaries, an interlocking system of policies forms the legal context that shapes the politics of medical marijuana. My case study of the emergence and spread of the medical marijuana movement employs a dynamic version of political process theory to account for the role of activism and civil disobedience in shaping political opportunity structures.

Political process theory was the dominant orientation to social movements from the late 1970s to the late 1990s, and its concepts remain prominent concerns in the sociology of social movements (Crossley, 2002; Lee, 2012; Meyer & Staggenborg, 1996; Tarrow, 1998). Political process theorists ask why does movement activity arise in certain places and at certain times? The theory examines both durable and shifting features of the state and the historical context of movement emergence. The perspective holds that broad economic, political, and cultural changes alter the political structure and the ability of powerless groups to wield power (McAdam, 1982; Tilly, 1978). According to Eisinger (1973, p. 11), the political behavior of groups “is not simply a function of the resources they command but of the openings, weak spots, barriers, and resources of the political system itself.”

Early political process theorists (Eisinger, 1973; Tilly, 1978) emphasize the structural determinants of movement genesis, while underemphasizing the role of agency, activism, and social relationships. Later formulations of political process theory (Tarrow, 1998) are dialectical and dynamic in noting that movement activity (and the activities of countermovements) often alter future political opportunity structures for both existent movements, the state and countermovements (Gale, 1986; Meyer & Staggenborg, 1996). Later political process theorists also emphasize the role of state response in conditioning the direction that social movements take (Meyer & Staggenborg, 1996). Although later scholars have theorized how social movement actors alter political opportunity structures, there has been little empirical exploration of how activists go about shaping political opportunity structures. Political opportunity structures are often theorized but seldom illustrated. This article seeks to contribute to an understanding of how activists shape political opportunity structures by emphasizing how activists have shaped the politics of medical marijuana. I detail the empirical dimensions of political opportunity structures at the end of this section.

Several scholars of drug policy reform have implicitly focused on the importance of political and social contexts to the emergence of radical deviations from existing drug policy, including needle exchange programs and medical marijuana distribution cooperatives. Chapkis and Webb (2008), for example, contend that Santa Cruz’s location was integral to the development of the medical marijuana collective known as the WoMen’s Alliance for Medical Marijuana (WAMM). Similarly, Sherman and Purchase (2001) show that co-

operation between various local officials was crucial to the survival of the nation's first public needle exchange. The mayor, chief of police, health department director, and county commissioner were all amenable and willing to cooperate with implementing a needle exchange program in Tacoma, Washington (Sherman & Purchase, 2001). Ferraiolo (2004; 2007) finds that ballot initiatives and the use of "framing" by drug policy reformers was instrumental to the successful passage of California's medical marijuana law, Proposition 215, in 1996. With regard to medical marijuana, such voter initiatives are a crucial component of political opportunity structure at the state level. Ten of the seventeen states that have adopted medical marijuana laws have done so through voter initiatives (ProCon.org, 2012).

Empirically, the local political opportunity structures that shape the provision of medical marijuana in California are composed of: policies pursued by district and city attorneys, how local law enforcement agencies work with federal law enforcement agencies, city and county initiatives, the presence or absence of dispensary regulations, and the presence or absence of city-level medical marijuana task forces or commissions. Additionally, local political opportunity structures are also shaped by federal medical cannabis policies that shift with each new presidential administration; under Obama federal policies shifted significantly *during* his administration. Local medical cannabis policies are not merely trumped by federal policy; instead local political opportunity structures determine the impact of federal policies (e.g. in determining variations in federal raids and local responses to raids). Medical marijuana activists shape the political opportunity structures through advocacy, local ballot initiatives, activism and lobbying. See Table 1 for a summary of political opportunity structures and activist tools.

Table 1 *Political Opportunity Structures and Activist Tools*

Elements of Local Political Opportunity Structures	Tools Activists and Organizations Use to Shape Local Political Opportunities
Federal Policies State Laws and Policies City Laws and Policies City Council Resolutions in Support City and District Attorney Practices Police Department Policies and Practices Viable Dispensary Regulations City Commissions and Task Forces	City and State Ballot Initiatives Lobbying Protest and Rallies Legal Advocacy Referenda

A Tale of Three Cities

California's three largest metro areas, the San Francisco Bay Area, Los Angeles, and greater San Diego, demonstrate key local differences in medical marijuana policy under one uniform state law. The intentional flexibility of California's medical marijuana law makes local variations in the application of state law possible. Cities in the San Francisco Bay Area represent the "pro-regulation" model; city and district attorneys recognize the legitimacy of dispensaries to operate under state law, local law enforcement agencies do not cooperate with DEA dispensary raids, local ballot initiatives codify official support, regulatory guidelines and bodies tasked with regulation exist, and the number of dispensaries is relatively low. Los Angeles represents the "laissez-faire" model; city and district attorneys do not recognize the legitimacy of dispensaries under state law, local law enforcement agencies have not consistently cooperated with DEA raids on dispensaries, a local ballot initiative was not approved until 2011, local regulations have been contested and unstable, and the number of dispensaries is very high. San Diego represents the "punitive" model; city and district attorneys actively work to close dispensaries, local law enforcement agencies have consistently cooperated with DEA raids on dispensaries, the county government has challenged provisions of state law regarding the provision of ID cards, and local ballot initiatives have not been passed, although a referendum to repeal restrictive city regulations passed in 2011.

San Francisco: The Origin of the Medical Marijuana Movement

In the San Francisco Bay Area, favorable political opportunity structures contributed to the birth of the medical marijuana movement, its incubation through determined activism and favorable city policies (from 1997 through 2004), the eventual regulation of dispensaries (in 2004 and 2005), and the formation of local task forces and commissions (2007 through 2009). The movement first caught on in San Francisco, then in nearby Santa Cruz and next-door Oakland (Bock, 2000; Chapkis & Webb 2008). Before it grew into a statewide effort to legalize the provision of marijuana for medical purposes, activists in these locales risked arrest to provide the plant to people suffering from AIDS, cancer, and other conditions (Reinarman, Nunberg, Lanthier, & Heddleston, 2011).

The cultural history and rich activist past of San Francisco contributed to the perfect set of conditions for the medical cannabis movement to take root. In the Bay Area, waves of social movements prepared the soil for the early growth of the movement. Two key figures in San Francisco's medical marijuana movement, Brownie Mary Rathbun and Dennis Peron, directly link the cannabis movement of the 1970s to the medical marijuana movement of the 1990s (Rathbun & Peron, 1993). Their pasts as both cannabis and gay rights activists left them uniquely positioned to advocate for the use of marijuana to treat the suffering of people with AIDS, as the disease ravaged San Francisco's gay community during the 1980s and early 1990s.

Dennis Peron opened the Big Top Pot Supermarket in 1972. In addition to openly selling marijuana, the Big Top was also a key gathering site for activists from a variety of

progressive social movements in the 1970s (Rathbun & Peron, 1993). Rathbun provided marijuana-laced brownies to Peron's Big Top in the 1970s. After she was arrested for baking brownies, her court-mandated community service grew into volunteer work with AIDS patients through the Shanti project (Rathbun & Peron, 1993). This would lead her to volunteer in the AIDS ward of San Francisco's General Hospital, where she continued to provide marijuana brownies to people suffering from AIDS, despite two more arrests. She became a *cause celebre* in San Francisco, successfully used a medical necessity defense in court, and continued to advocate for the medicinal benefits of marijuana for people with cancer and AIDS. The discovery that cannabis relieved the symptoms of wasting syndrome for people suffering from AIDS and cancer caused Peron, Rathbun, and other activists to advocate for it being provided to those suffering from the disease.

Peron authored the city ballot initiative Measure P in 1991, after San Francisco police arrested him for possessing marijuana for his partner Jonathan West, who was very ill with AIDS. The measure pressured San Francisco officials to allow people suffering from AIDS and cancer to use marijuana without interference from local law enforcement (Rathbun & Peron, 1993). Proposition P had important effects on the political opportunity structure of the early medical marijuana movement. In addition to the ripple effect provided by the victory, as similar measures passed in Santa Cruz County and in Morro Bay the following year, the success of the measure and the tragedy of his partner's death inspired Peron to open up the San Francisco Cannabis Buyers Club (CBC).

In response to Proposition P and Brownie Mary's theatrical trial in 1992, the San Francisco Board of Supervisors declared August 25, 1992 "Brownie Mary Day" in the city. The medical marijuana community held a rally at city hall to celebrate. The San Francisco Board of Supervisors approved Resolution 741-92 in August of 1992, which states, "[T]he San Francisco Police and the District Attorney shall place as its lowest priority, enforcement of marijuana laws that interfere with the medicinal application of this valued herb..." (as quoted in Rathbun & Peron, 1993, p. 47). Although the San Francisco CBC had opened the previous year, the new resolution allowed the club to expand its operations by moving to a much larger space. The success of the early movement in San Francisco highlights the willingness of local leaders to permit an innovative approach to the AIDS crisis when faced with federal inaction.

Inspired by Peron and the San Francisco CBC, in 1995 Jeff Jones and several other activists formed the Oakland Cannabis Buyers Cooperative (OCBC) to deliver medical cannabis to patients in the East Bay cities of Oakland, Berkeley, San Leandro, and Fremont. Like the San Francisco Cannabis Buyers Club, the Oakland Cooperative engaged in civil disobedience by providing cannabis before it was legal under state law. According to Jones (personal communication, October 7, 2011),

We were actively dispensing by bike delivery in the middle part of '95, and then got endorsed by the city council, here in Oakland, in the middle part of '96....located on Broadway...in July of '96, where we operated a provider collective until the feds shut us down in October of 1998.

Despite its relatively covert status, the Oakland Cannabis Buyers Club enforced mem-

bership protocols and sought to verify that the patients they were serving had been diagnosed with serious medical conditions including AIDS and cancer. When I asked whether he had received a “signal from the city” before opening the delivery service, Jones replied “a signal... came more from those who were already doing things” (personal communication, October 7, 2011).

The City of Oakland responded to the OCBC and the growing movement by declaring its support for medical marijuana in several resolutions. In a resolution dated December 12, 1995, the Oakland City Council voiced their belief in the medical utility of cannabis for treating the symptoms of cancer, AIDS, multiple sclerosis, glaucoma, arthritis, epilepsy and migraines. In Resolution 72379, the Council also stated its support for a medical marijuana bill in the California Assembly and the embryonic Compassionate Use Initiative of 1996 (Oakland City Council, 1996b). This resolution established the City of Oakland as an early proponent of medical marijuana in the state. Oakland joined the city of San Francisco as being officially on record in support of medical marijuana. In a more daring move, the Oakland City Council made their support of the Oakland Cannabis Buyers Club known in a resolution dated March 12, 1996, which recognized that “the Oakland Cannabis Buyers Club provides a way for patients needing to purchase marijuana for medical use to do so with greater ease and less risk of arrest and prosecution” (Oakland City Council, 1996a).

The San Francisco CBC served as both the operational and symbolic headquarters for a group of activists in the burgeoning medical marijuana movement (Bock, 2000; Chapkis & Webb, 2008). This group, which consisted of Peron and Rathbun, Dale Gieringer of the California branch of the National Organization for the Reform of Marijuana Laws (NORML), Mike and Valerie Corral of Santa Cruz’s Wo/Men’s Alliance for Medical Marijuana, and Jeff Jones from the Oakland Cannabis Buyers Cooperative, made important drafts in 1995 of what would become the Compassionate Use Act, and then Proposition 215 (Bock, 2000). Ultimately it would take an infusion of financial support from donors affiliated with the Drug Policy Foundation to fund a professional signature drive that put the initiative on the 1996 ballot in California (A. St. Pierre, personal communication, August 15, 2010).

The watershed event in the institutionalization of medical marijuana in California was the passage of Proposition 215 in November of 1996. This Proposition effectively legalized—under state law—marijuana for medical use, although it did not provide for the legal provision of medical cannabis to patients. The Act remains unique among medical marijuana laws for several important reasons. First, it was drafted by a grass-roots group of activists, many whom were already engaged in civil disobedience to provide medical marijuana to sick people. Second, the drafting of the initiative was a collaborative process, and the final draft was reached through long meetings. Third, the Act was unique in providing broad language that allowed the creation of dispensing collectives in locales amenable to their existence (Bock, 2000). Subsequent medical marijuana laws in Oregon, Washington, Alaska and Hawaii did not provide for the existence of dispensaries.

Medical marijuana dispensaries are the key sites for the provision of medical marijuana in California. Until Colorado began to permit the operation of dispensaries in 2009, dispensaries were the most distinctive feature of medical marijuana provision in California. Similar to syringe or needle exchange programs, dispensaries occupy physical space and often have a permanent address. Because of their physical footprint, dispensaries broadcast the

success of the medical marijuana movement in California. The physicality of California's dispensaries forces federal, state and local governments to address the legality, taxability and feasibility of these unique formations that straddle the line between modalities of policy reform and commercial enterprises. Both Feldman and Mandel (1998) and Reiman (2008) found that dispensaries were important venues for face-to-face social networking and the provision of social services.

The passage of the Proposition led to a new legal reality in California, which encouraged both activists and entrepreneurs to open medical cannabis dispensaries. Although Proposition 215 passed in every county in the state, it was most popular among voters in the San Francisco Bay Area, with San Francisco and Santa Cruz counties having the highest percentages of "yes" votes. Despite the success of the initiative, state law enforcement officials were not as hospitable to dispensaries as law enforcement officials in the Bay Area. California Attorney General Dan Lungren tried to shut down Peron's new Cannabis Cultivators' Club in late 1997. In *The People v. Peron*, Lungren argued that cannabis clubs could not qualify as "caregivers" under the CUA. In December, 1997, the California Appellate District judge ruled that clubs should not be considered "primary caregivers." Clubs began to organize as collectives of patients as opposed to caregivers for patients, allowing them to sidestep Lungren's efforts to capitalize on the *People v. Peron* ruling.

Federal Pushback and Local Opportunity Structures

In January of 1998, the US Department of Justice filed suit against six cannabis clubs in northern California, including the OCBC and Peron's renamed Cannabis Cultivators Club. In an example of a local law enforcement official acting to protest the involvement of a federal law enforcement agency, San Francisco County District Attorney Terrance Hallinan filed an *amicus curiae* brief critical of the DOJ suit. On October 19th, 1998, the Oakland OCBC closed voluntarily, and announced that it would appeal the decision to the 9th Circuit Court of Appeals. A week after the OCBC closed, on October 27, 1998, the Oakland City Council (1998) declared "a local public health emergency with respect to safe, affordable access to medical cannabis in the City of Oakland." The response of city officials to the closing of the OCBC demonstrated how committed the city of Oakland was to the spirit of the CUA, and to the idea that cannabis was both an effective and necessary medicine.

Outside the protective climate of the San Francisco Bay Area, local officials were not as hospitable to the operation of dispensaries. While providers in the Bay Area were primarily wary of federal law enforcement agencies, providers in other parts of the state faced prosecution by local police and sheriffs. In a 1998 *Los Angeles Times* article, activist and cannabis dispensary operator Scott Imler said that law enforcement had closed 23 of 29 dispensaries in the state since 1996, "including ones in San Diego, Orange, and Ventura counties" (Glionna, 1998).

From 1998 to 2002, changes in personnel altered the national and state level political opportunity structures for the fledgling medical marijuana movement. In 1998, Democrat Bill Lockyer was elected California Attorney General and he pursued a policy that was much more amenable to the CUA than his predecessor, Lungren. Lockyer sought to pursue a poli-

cy of “full implementation” of Proposition 215, and convened an advisory panel that featured law enforcement and activists alike (Bock, 2000). Although Lockyer sought uniform regulations for cannabis patients, growers and dispensaries, many nuances of Prop. 215 would not become resolved until the California legislature passed Senate Bill 420 in 2003. At the Federal level, the first term of George W. Bush beginning in 2001 marked a new chapter in the effort to prevent activists from providing patients with cannabis.

In May 2001, the Supreme Court announced its unanimous decision in *United States v. OCBC*. The case had been appealed to the 9th Circuit Court of Appeals, which ruled in Jones’ favor. The high court ruled against the OCBC’s medical necessity defense and found that the OCBC violated the Controlled Substances Act of 1970 (Eddy, 2010). Emboldened by this ruling, the DEA began to raid dispensaries throughout the state with greater frequency in 2001 and 2002. On October 25, 2001, for example, the DEA raided Scott Imler’s LA Cannabis Resource Center in West Hollywood. West Hollywood officials viewed the dispensary favorably and were surprised by the raid (Brady, 2001).

Even after the closure of the high profile Oakland Cannabis Buyers Cooperative, activists and entrepreneurs continued to open dispensaries in the state. Most storefront dispensaries remained largely concentrated in the greater Bay Area until 2006. By 2003, there were between ten and twelve dispensaries operating in downtown Oakland, which became known as Oaksterdam. Although the numerous dispensaries brought needed revenue to new restaurants, cafes and shops that sprung up with an increase in visitors, City Council member Ignacio De La Fuente sought to cut down on the number of dispensaries in the area (Casey, 2003). In the process of regulating Oaksterdam, the City of Oakland became the first in the state to issue concrete guidelines for the local governance of dispensaries. These regulations prohibited on-site smoking and placed a cap of four dispensaries for the city of roughly 435,000 people. Oakland instituted its dispensary regulations through Ordinance No. 12585 on February 19, 2004 (Oakland City Council, 2004), and then used civil law to force eight of the city’s twelve dispensaries to close (J. Jones, personal communication, October 7, 2011). By formulating regulations, city officials sought to balance the interests of citizens with those of medical cannabis providers, while recognizing the value that well-run dispensaries provided to medical cannabis patients.

Through continuing to author and pass city-level ballot initiatives, activists in Oakland and Berkeley continued to shape the local political context. In 2004, activists in Berkeley and Oakland authored ballot initiatives to assert more control over the local regulation of cannabis and medical dispensaries. In Oakland, activists sponsored Measure Z to move beyond medical marijuana by calling for plans to tax and regulate all adult cannabis use. In Berkeley, several dispensary operators banded together to lobby the Berkeley City Council to pass a new dispensary ordinance in April of 2004. The group mobilized a protest of 30 people at the April 20th meeting of the council, but ultimately had to rely on a ballot initiative that November (Artz, 2004).

While Berkeley’s initiative was defeated, Oakland approved Measure Z by super majority. The creation of a Measure Z Task Force to oversee the implementation of the initiative had a lasting effect; task forces and commissions would form in San Francisco and Berkeley in 2009. In the aftermath of the 2004 ballot initiatives, dispensaries in the Bay Area continued to operate in a similar manner. There was no upsurge in the number of dis-

pensaries, and Berkeley and San Francisco followed the lead of Oakland in instituting dispensary regulations in 2005.

At the state level, the California legislature passed State Bill 420 in 2003, and it took effect in 2004. Ultimately this law clarified the legal basis for dispensaries and called on county health departments to implement a voluntary state identification card program. After the bill took effect in 2004, the number of dispensaries outside the Bay Area began to steadily increase. The development of early regulations kept the number of dispensaries in the birthplace of medical marijuana relatively low when compared to Los Angeles. In addition to limiting the number of dispensaries in a given city, regulations typically limit the hours that dispensaries can be open, the location of dispensaries, and their proximity to schools and parks. Regulations also codify which local agencies are responsible for enforcement; for example, in San Francisco the Department of Public Health is responsible for the enforcement of regulations.

Since 2004, Oakland has served as a unique laboratory for medical marijuana law, city regulations, new taxation schemes, and a cannabis trade school named Oaksterdam University. Oakland is also home to Harborside Health Center, the largest dispensary in the state. Beginning in 2008, Harborside and its owner Steve D'Angelo began to increase the media profile of their growing and highly photogenic dispensary. In the summer of 2009, Oakland became the first city in the state to institute a special local business tax on dispensaries. Oakland also served as the headquarters for the unsuccessful 2010 Proposition 19 campaign to legalize and tax marijuana in California.

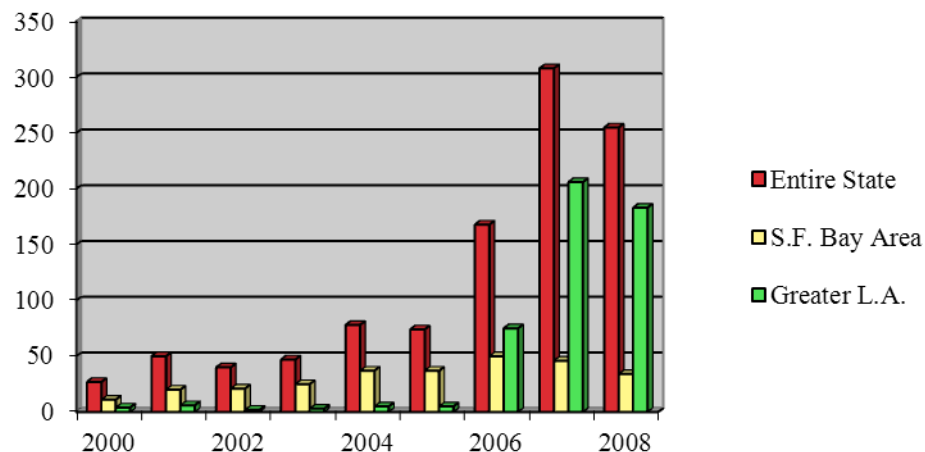
In the summer of 2010, the city councils in Berkeley and Oakland sought to expand their abilities to tax and regulate medical marijuana production and provision in the event that Proposition 19 was approved. These two cities had been the most progressive and groundbreaking with regard to medical marijuana governance, eventually allowing activists a hard-won seat at the regulatory table. Oakland officials may have pushed the envelope too far by debating the idea of city-sponsored and taxed mega-grows. Oakland City Attorney John Russo expressed his concerns about the mega-grow plan in a letter to US Attorney Melinda Haag in January 2011 (Elinson, 2011). In a letter dated February 1, 2011, US Attorney Melinda Haag warned Oakland officials that sanctioning the growing of marijuana for either medical or non-medical purposes would be viewed as being complicit in a federal crime (International Business Times, 2011). Haag's threat turned out to be the opening salvo in a federal effort to roll back the regulatory gains made in California's more medical marijuana friendly cities. The federal effort to quash dispensaries was not officially announced until October 2011. By threatening local officials who were seeking innovative approaches to the production and taxation of medical marijuana, Haag was re-asserting the primacy of federal law, which highlights that the political opportunity structures that medical marijuana proponents confront have a layered quality.

Los Angeles

Los Angeles represents a middle ground in the spectrum of regulatory approaches to medical cannabis. In effect, the hands-off approach has generated a regulatory vacuum in the second largest metro area in the US. Essentially, city leaders have been reluctant to embrace

either a regulatory or prohibitionist approach to dispensaries. This impasse was created as some City Council members favored regulation, while others favored prohibition. This approach has led to a steady increase in the number of dispensaries, with little to no oversight in how they operate and whether they are living up to the spirit of Prop. 215 and SB 420.

Figure 1 Medical Cannabis Dispensaries by State and Region 2000 to 2008



This chart shows the number of storefront dispensaries that were operating in the Bay Area, Los Angeles and the state of California over an eight-year period. These numbers are lower than those found in other sources (Geluardi, 2010; Jacobson et al., 2011). To compile these totals I used the “wayback machine” feature on the website Internet Archive (internetarchive.org). Internet archive is a digital archive of film, video, and printed materials, that also features an archive of website captures dating back to the mid-1990s. I used this feature to visit the archived “captures” of California NORML’s website. I visited the list of dispensaries and delivery services on California NORML’s website for each year’s capture and then counted all the dispensaries that the site listed by these two regions. I eliminated the names of obvious delivery services from the count, so these numbers refer specifically to dispensaries with physical addresses.

The Los Angeles dispensary boom did not begin until late 2005. Prior to 2005, there were only four dispensaries operating in Los Angeles County. According to the website of California NORML, between two to four dispensaries operated in Los Angeles from 1999 to 2004. Los Angeles County’s largest early dispensary was closed in October 2001. The Los Angeles Police Department was hostile to the operation of dispensaries, and in 2006 LAPD Chief Bratton declared dispensaries magnets for crime (Jacobson et al., 2011). Despite this climate, the number of dispensaries began to grow in the year after SB 420 went in to effect in 2004. In 2005, the California State Board of Equalization started to collect sales tax on medical cannabis sold through dispensaries, which lent more legitimacy to dispensaries at the state level.

In Los Angeles, the process of regulating dispensaries has been long and arduous. In 2006, as the number of dispensaries was rising and many were operating according to the dictates of the free market (with ubiquitous neon green pot leaves appearing in storefront windows in the tourist friendly areas of Santa Monica and West LA), medical cannabis activists with Americans for Safe Access were trying to influence city leaders to institute dispensary regulations. Although the city drafted an Interim Control Ordinance in August 2007, City Attorney Rocky Delgadillo abruptly dissolved the city's medical cannabis working group in December 2007 and embraced language that sought to invalidate the legality of selling medical cannabis (McDonald & Pelisek, 2009).

The Interim Control Ordinance, No. 179027 prohibited new dispensaries from opening and required all operating dispensaries to register with the City. According to the ordinance, "an inter-departmental task force, led by the Planning Department" would work to "establish viable regulations" for dispensaries in Los Angeles (Los Angeles City Council, 2007). While the City Council was meeting to discuss the ordinance, the DEA raided 10 dispensaries in Los Angeles. This raid sent the message that the DEA did not want the city to regulate (and further legitimize) dispensaries in the city. Although the ordinance forbade the opening of new dispensaries, it gave existing dispensaries 60 days to register with the city clerk, by presenting several documents including a State Board of Equalization seller's permit. The requirement to abide by the State Board's requirements demonstrates how a change at the state level broadened the local political opportunity structure for dispensaries in Los Angeles. Under the moratorium, 186 dispensaries that proffered the proper documents and registered with the city before an October 2007 deadline were allowed to remain open. The ordinance was worded to allow for dispensaries that had not registered with the City to claim a "hardship exemption." Although the moratorium was intended to curb the rapid growth of dispensaries, it effectively spurred hundreds of operators to open dispensaries by claiming the "hardship exemption." By June 2009, city officials estimated that 533 dispensaries had opened after the passage of the interim control ordinance claiming the exemption, in addition to the 186 that were permitted to operate.

There was little impetus for Los Angeles city leaders to take the lead on instituting regulations (J. Jones, personal communication, October 7, 2011; McDonald & Pelisek, 2009). In the smaller cities of San Francisco, Oakland and Berkeley, officials were more responsive to activists and aware of the importance of medical marijuana provision to their constituents. Additionally the wide margins of victory for local and state initiatives communicated widespread popular support to elected officials. In Los Angeles, dispensaries clustered in certain districts of the city and were virtually absent in others. This arrangement contributed to polarization on the City Council around the issue of regulating dispensaries (McDonald & Pelisek, 2009). In nearby West Hollywood, city officials placed a moratorium on new dispensaries in 2005, closed several that had opened, and capped the number of dispensaries allowed in the small city at four (Hoeffel, 2009b).

When new City Attorney Carmen Trutanich took over in July of 2009, he also pursued a strict interpretation of Prop. 215 and SB 420, subscribing to the legal theory that the laws did not permit the sale of medical cannabis. Trutanich and LA County District Attorney Steve Cooley collaborated to block the adoption of dispensary guidelines that were favorable to activists in the medical marijuana community. Some of the chief stick-

ing points centered around on-site consumption, and the use of multiple independent suppliers as opposed to growing all cannabis on site or at one location. Cooley and LA county Sheriff Leroy Baca had encouraged many cities in the county to ban the operation of dispensaries entirely. Cooley and Trutanich influenced the council's approach to ordinances in 2009. By November 2009, the city council had reviewed five draft ordinances and decided against using any of them (Hoeffel, 2009b).

On January 26, 2010, the Los Angeles City Council (2010) finally passed Ordinance No. 181069, which generated controversy among dispensary and patient advocates immediately (Guerrero, 2010; Hoeffel, 2010a). The intended impact of the ordinance was to cut the number of dispensaries in LA from roughly 500 to a little over 200. According to a suit filed by Americans for Safe Access and two dispensaries, the ordinance "severely restricts access to medical marijuana by effectively forcing plaintiffs, as well as the vast majority of collectives in the city, to close their doors" (as quoted in Barboza, 2010).

Americans for Safe Access and an organization called the Greater Los Angeles Collective Alliance (GLACA) hosted a small rally at Los Angeles City Hall in September 2010 to protest the ordinance. The sponsors of the event were disappointed by a low turnout of approximately 80 people at the event. According to prominent LA activist Yamileh Bolanos, "I think it's awful that there's so much lack of concern by the patients of Los Angeles" (as quoted in Hoeffel, 2010b). The lack of mobilized activists who were willing to protest may reflect how complacent Los Angeles cannabis patients had become in an environment where access to cannabis was prevalent, and patients primarily saw themselves as consumers and not activists. Contributing to a lack of activism, many dispensary operators in the city did not have the historical background in activism that some of the longest-tenured operators in the Bay Area had. In the context of little mass activism and a city government that was not supportive, professional advocates used lawsuits to advance the interests of dispensary operators.

On December 10, 2010 Los Angeles County Superior Court Judge Anthony Mohr granted an injunction that barred the City from enforcing aspects of its dispensary ordinance. In response to the injunction, the Los Angeles City Council passed an amended ordinance on January 21, 2011 that employed a lottery to select 100 dispensary operators from a pool of operators that were operating prior to the 2007 moratorium. Dispensary advocates sued the City for the lottery feature of the revised plan, calling it unfair and ignorant of the spectrum of dispensaries operating in the city (Hoeffel, 2011). As the conflict over dispensaries raged on throughout 2011, the City Council put an initiative, Measure M, on the ballot to tax dispensaries in April 2011. It passed with 59% of the vote and allowed the City to collect a 5% tax on gross receipts at dispensaries (Powell, 2011). Advocates did not write the initiative, and both dispensary advocates and dispensary opponents alike opposed it. In the wake of failed ordinances and successful legal challenges from advocates, City Council member Jose Huizar proposed banning all dispensaries outright in late November 2011. In July 2012, the City Council voted unanimously (14-0), to prohibit dispensaries, except for those that submitted adequate paperwork in late 2007 (Linthicum, 2012). This decision came in the midst of an increasingly extensive federal crackdown to close dispensaries in California.

When comparing the city of Los Angeles to Bay Area cities, key elements of local political opportunity structures are markedly different. Los Angeles lacked the ballot initiatives that paved the way and signaled to officials that public support was present. Los Angeles also featured officials who were not as open to the goals of the movement. The stance of city attorneys played a crucial role in determining the approach of the city to medical cannabis dispensaries. City attorney Delgadillo and his successor Trutanich chose to embrace a strategy that explicitly sought to block any retail sale of medical cannabis.

San Diego

The City and County of San Diego have been hostile to medical marijuana providers since 1998. San Diego is somewhat of an anomaly among coastal cities in California. In addition to being far less liberal than its neighbors to the north, San Diego also hosts several large military installations. The electorate of San Diego County voted for George Bush in 2000 and 2004. Although voters narrowly approved Prop. 215 in 1996, it has proven to be the least hospitable large county for medical marijuana, especially during the tenure of Republican District Attorney Bonnie Dumanis.

San Diego officials launched frequent multiple-dispensary raids and cooperated with federal law enforcement agencies to go after medical marijuana dispensaries. Although hundreds of dispensaries and collective cultivation sites have been raided since the early 1990s, in San Diego County the DEA and local law enforcement agencies have raided multiple dispensaries on at least five different occasions since 2005 (California NORML, 2008). Similar to Los Angeles County, the specific actors holding office in San Diego have played a key role in maintaining an inhospitable political opportunity structure. Other factors that contribute to San Diego's unfavorable political opportunity structure include a lack of local laws (achieved through ballot initiatives) that codify the regulation of dispensaries, police and sheriff's departments which favor the prohibition of dispensaries and cooperation with federal authorities, City Council members unsympathetic to dispensary regulation, and a lack of City Council resolutions in favor of medical cannabis and medical cannabis dispensaries.

San Diego DA Dumanis has made the opposition to medical marijuana dispensaries a hallmark of her administration. She has repeatedly used county law enforcement to shut down dispensaries. Unlike other parts of the state (with a few exceptions), local and federal law enforcement agencies continued to raid dispensaries even after US Attorney General Eric Holder announced on March 18, 2009 that federal law enforcement agencies would only take action when state laws were being broken. Following this pronouncement, which became known as the Ogden Memo, federal agencies reduced medical marijuana enforcement in California until October 2011, when they reversed course and pursued an aggressive crackdown.

Unlike their counterparts in the Bay Area, first the San Diego Narcotics Task Force and then the San Diego Police Department targeted early medical marijuana activists in 1998 and 1999, raiding two separate marijuana gardening collectives operating in the county (Bock, 2000). Next, San Diego adopted guidelines for dispensaries in 2003, but they were largely restrictive and intended to prevent dispensaries from operating. After SB

420 went into effect in 2004, the number of dispensaries in San Diego began to grow. By 2005 there were an estimated 29 dispensaries in San Diego County, according to the DEA (McDonald, 2005). Shortly after the Supreme Court's decision in *Raich v. Ashcroft*, which held that the federal government did not recognize the legality of medical marijuana in the eleven states that allowed its use, the DEA raided 13 dispensaries in San Marcos and San Diego, in concert with local law enforcement agencies including the San Diego Police Department and San Diego Sheriff's deputies (McDonald, 2005).

The raids came a month after the San Diego County Board of Supervisors voted 3 to 2 against implementing a provision in SB 420 that called on all county health departments in the state to provide voluntary identification cards to patients in each county (McDonald, 2005). Patient and dispensary advocates had worked with the legislature to draft SB 420, and they sought the provision of county ID cards to make it easier for local law enforcement officials to identify legally qualified patients. According to activists with Americans for Safe Access, the timing of the raids sent the message that local government officials were working against the state law (McDonald, 2005). A second multiple-agency task force raid, featuring cooperation between the DEA, the San Diego Police, and the San Diego Sheriff's Department, took place nine months later on July 5, 2006. That multi-agency raid closed eleven dispensaries and resulted in the arrest of six people on drug trafficking charges (10 News, 2006).

In 2006, San Diego County Supervisors sued the California Department of Health over the provision of ID cards as mandated by the Medical Marijuana Program Act of 2003 (SB 420). San Diego NORML filed a countersuit that was joined by several national drug policy reform organizations, including the ACLU Drug Policy Reform Project, the Drug Policy Alliance, and Americans for Safe Access, later that summer. In December 2006, a San Diego Superior Court Judge ruled against the county's challenge and argued that federal law did not pre-empt the county from providing ID cards in line with the Medical Marijuana Program Act (Americans for Safe Access, 2010).

While the County was fighting to prevent the provision of ID cards (presumably on symbolic grounds), the DEA and a San Diego County Narcotics Task Force conducted another raid on four dispensaries on August 5, 2008. After the US Supreme Court refused to hear an appeal of the *County of San Diego v. San Diego NORML* case, and the county began to issue ID cards in September 2009, a San Diego County Narcotics Task Force and the DEA raided 14 dispensaries in San Diego County. The raids used maximum theatricality, employing SWAT style tactics and even forcing a wheelchair-bound man into a police car. This particular raid is noteworthy for its symbolic timing with respect to the three-year-long battle to avoid the provision of ID cards, and it was the first major raid on multiple dispensaries that occurred after the Ogden Memo of March 2009. Although raids had been the preferred tactic of San Diego law enforcement for dealing with dispensaries, the City of San Diego pursued a different tack in early 2011, using zoning laws to hamstringing the ability of dispensaries to operate without banning them outright (California NORML, 2011).

City governments hostile to dispensaries began to use zoning law, dispensary bans, and dispensary moratoria in 2007 (Americans for Safe Access, 2011). Numerous smaller cities moved to ban dispensaries outright, and other small cities moved to use city and

county zoning guidelines to effectively eliminate the possibility of dispensaries opening. Zoning law has been one of the chief tactics that city attorneys and city governments use to curtail the formation of new dispensaries. In order to move beyond the intransigence of cities on allowing new dispensaries to open, activists have led ballot initiative drives both proactively and reactively. In 2011, the City of San Diego played host to a political chess match between city officials intent on restricting medical marijuana dispensaries and advocates and organizations that sought to encourage the legitimacy and regulation of dispensaries.

On March 28, 2011, the City of San Diego approved (5 to 2) Dispensary Regulations that medical marijuana organizations deemed too restrictive (Cadelago, 2011a; Conlan, 2011). According to California NORML director Dale Gieringer (California NORML, 2011), the regulations relegated dispensaries to an industrial district in the city that was difficult for many patients to reach. According to Gieringer (as quoted in California NORML, 2011), “Both L.A. and San Diego...badly botched the job [of regulating dispensaries], by trying to go overboard on killing the industry.” In response to the unworkable city regulations, an organization affiliated with San Diego NORML and a new organization called California Patients’ Rights (CPR) spearheaded a referendum to repeal the ordinance. California Patients’ Rights was formed to raise funds for the professional gathering of signatures to place a referendum on the city ballot. Referendums are one tactic in the repertoire of the medical marijuana movement. Faced with a powerful referendum drive, the City Council of San Diego voted to repeal their March regulations on July 24, 2011 (Cadelago, 2011b). In late August of 2011, San Diego City Attorney Jan Goldsmith announced that all dispensaries in the city would be subject to civil suits that would effectively close them (Cadelago, 2011c).

Conclusion

On October 7th, 2011, the four US attorneys charged with enforcing federal law in California made a coordinated announcement that they would pursue an aggressive strategy to close medical marijuana facilities in the state. During the following week, US attorneys sent out letters to the landlords of dispensaries throughout the state. These letters had a far more chilling effect than lawsuits and even raids on the operation of dispensaries. The crackdown has resulted in the closure of nearly 500 dispensaries across the state, including several in San Francisco and Berkeley and hundreds in Los Angeles and San Diego Counties (Onishi, 2012).

While the limits of favorable local political opportunity structures in guarding against an unfavorable federal context have been exposed by the federal crackdown, the crackdown has played out quite differently in the three cities discussed above. Despite the ability of the Department of Justice to close dispensaries in the cities with the most favorable local political opportunity structures (Brooks, 2012), local officials in the Bay Area have voiced their opposition to the crackdown, while leaders in Los Angeles and San Diego have used the shift in federal policy to pursue an aggressive agenda of closing dispensaries (Onishi, 2012). In August 2012, the Los Angeles City Council followed its vote to ban dispensaries with a vote that instructed the Los Angeles Police Department to

cooperate with the DEA and other federal law enforcement bodies in closing dispensaries in the city (Orlov, 2012). In San Diego, US Attorney Barbara Duffy also encouraged free weekly papers to discontinue the sale of advertising to medical cannabis dispensaries and doctors (J. Jones, personal communication, October 7, 2011). The response of local officials to the federal crackdown demonstrates that both local and national political opportunity structures bound the operation of dispensaries.

My three-city comparison demonstrates that three models of dispensary regulation emerged from three different political opportunity structures in California, and that activists were able to further open political opportunity structures with varying levels of success. In the San Francisco Bay Area activists and officials created a “pro-regulation” model. Activists expanded the political opportunity structures of San Francisco, Oakland, Berkeley, and Santa Cruz, through city and county ballot initiatives, lobbying, rallies, and participation in city task forces. Ballot initiatives provided signals to local politicians that the electorate supported medical cannabis, which allowed officials to work with activists to shape dispensary regulations that balanced the needs of city governments, citizens, and cannabis patients.

In Los Angeles a “*laissez-faire*” model arose from a lack of political will and a consequent excess of entrepreneurial zeal. With no local ballot initiatives, ambiguous city council resolutions, and divisive city politics, the free market became the chief regulatory mechanism for dispensaries, and their number grew rapidly. The high number and overly commercial appearance of LA’s dispensaries ultimately hurt the wider medical marijuana movement’s public image, and left patients ill-equipped to use social movement tactics to lobby for balanced regulations.

San Diego adopted a “prohibitionist model” to dispensaries. With no local ballot initiatives, hostile city and county officials, no viable regulations, and overly punitive law enforcement agencies, activists were not able to influence a hostile political opportunity structure. This arrangement resulted in a repressive climate of frequent multi-agency raids.

Ultimately federal law enforcement officials are attempting to eliminate the ability of state and local governments to regulate dispensaries and other forms of medical marijuana provision. By working to close dispensaries and actively dissuading local officials from working to regulate them (Kreit, 2012), the Department of Justice and DEA seek to dismantle the dispensary system in California and other medical marijuana states. Despite these efforts, support for medical marijuana and the legalization of all forms of adult marijuana use have never been more popular in the US (Newport, 2011). Although a ballot initiative to legalize, tax, and regulate marijuana for adults in California failed in 2010, voters approved similar measures in Colorado and Washington in November 2012 (Savage, 2012).

Although political context was important in determining the early growth of the medical marijuana movement, the efforts of activists were crucial in shaping the form the movement took and in actively shaping future political opportunity structures. By emphasizing the role of activism and other forms of agency, this article contributes to a richer understanding of political opportunity structures as dynamic as opposed to static. Future social movement research can benefit from a focus on how activism shapes political opportunities.

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Book Reviews

***Too high to fail: Cannabis and the new green economic revolution.* By Doug Fine. 2012.**
New York: Gotham Books. 319 pp. Hardcover \$28.00 list. ISBN: 978-1-592-40709-5

By Maia Ryan

Too High to Fail is a book written by Doug Fine offering first-hand narration of his experiences living and researching the role cannabis plays in Mendocino County, California. Fine follows one particular cannabis plant named “Lucille” through the entire growth, harvest and distribution process; starting from the genetic lab and ending with a patient (legally recommended medicinal marijuana in the state of California). Throughout his journey, Fine comes in contact with various “players” involved in the cultivation and preservation of the county’s cannabis economy including farmers, county law enforcement, dispensary owners, cannabis co-op business owners, and patients who find the drug useful for their medical needs. The author specifically focuses on a working model of cannabis legalization and regulation—Mendocino County’s 9.31 permit program, which allows farmers to grow up to 99 medicinal cannabis plants through a zip-tie regulation system. This medical marijuana-based program allows cannabis distribution to patients with clinical referrals.

The book makes a few major claims. To begin, Fine explores how the U.S. economy would largely benefit from the taxation of cannabis. Our national debt could decrease significantly if all of the businesses and buyers involved in the cannabis trade were required to pay taxes for a variety of products made from the plant. The author aims to show the futility of the federal classification of cannabis as a Schedule I drug, when research has shown it to have legitimate healing properties. Even considering the potential benefits of hemp as a nutritional supplement, hardy building material as well as an alternative fuel resource emphasizes the absurdity of denying that cannabis has any characteristics that yield productive utility, as the Controlled Substances Act implies.

Secondly, Fine posits that legalizing the drug on a federal level is the best way to regulate it because cannabis is not going to disappear. The plant has been widely used in human societies for centuries, at the least. In fact, it is getting more widely used, so much so that more than half of Americans favor legalization (p. XXII). He addresses the massive amount of federal funds that are being wasted in the “Drug War” and how this strategy is failing to decrease the cultivation and/or distribution of the drug, not to mention the violence surrounding the black market culture. Fine claims that lives are being ruined for confusing State vs. Federal policies that sentence some people to jail, often by a matter of chance (or profiling), for the possession, cultivation, and use of a seemingly harmless plant.

These major claims are then reiterated incessantly throughout the rest of the text and then loosely corroborated with opinions and quotes derived either from the scattered thoughts of the author or other pro-cannabis supporters. Sometimes the author references perceivably hard facts, however, the sources are scant and must be further researched since the book does

not offer a formal bibliography. There are also footnotes in the text, but they do not represent scholarly citations. The book is meant to be a comedic, yet serious account of the interactions the author has within the “redneck hippie” world of the marijuana industry in Mendocino County. He defines the cannabis-focused capitalistic endeavor as a “ganjapreneur mindset,” or in other words, combining advocacy with ambition and having a good time all the while (p. 58). It seems that the author himself took this approach in writing the book because the tone largely reads as an opinion piece embellished with instances of rhetorical partisan repartee. The major issues he raises concerning the positive aspects of cannabis are poignant, however the execution of a deeper analysis is needed for more established credibility concerning marijuana research.

The author briefly mentions in the section of the book entitled, “Introductory Position Paper,” that there are also negative consequences concerning cannabis, yet a comprehensive critique of those disadvantages is relatively limited (p. XXXI). Adding substantial content addressing the drawbacks of cannabis would strengthen the book by providing a full examination of the drug and pointing to potentially important research needs. Academically speaking, a chapter or two from the book might be useful for college students in an introductory progressive debate class, provided that they are trendy enough to understand the author’s eclectic lingo. However, this book makes a valuable effort in illustrating a county model for cannabis legalization and regulation that could inform nation-wide policy and practice.

***World wide weed: Global trends in cannabis cultivation and its control.* By Tom Decorte, Gary R. Potter & Martin Bouchard, Editors.** 2011. Surrey, UK: Ashgate. 293 pp. Hardcover \$104.95 list; also available as an e-book for about \$85.00. ISBN: 978-1-4094-1780-4

By Lora J. Bristow

This book features 16 chapters, each of which is a peer-reviewed empirical study on marijuana cultivation and/or state attempts to control cultivation. It is interdisciplinary, with researchers utilizing methods and theoretical frameworks from economics, criminology, sociology, social work, and even one study combining botany, forestry, ecology, and geography. The studies themselves feature both quantitative and qualitative methods, including aggregation and analysis of existing governmental data, innovative statistical analysis, case studies, ethnography, interviews, participant observation, and surveys. They are not directly comparative; rather, each looks at a particular topic in a specific location and context. Studies range from use of a micro perspective, for example motivations, methods, and career paths of individual growers in a specific area, to a macro perspective, such as national trends. They include consideration of the interplay between cultivation and governmental responses to it in the form of legal policy and enforcement. As to be expected given the title, it is also international, with authors from Canada, Spain, Denmark, Belgium, Finland, the UK, the Netherlands, Australia, the US, New Zealand, and research conducted in these countries as well as Morocco and the Caribbean. Chapter authors include well-established experts in the field and emerging researchers working in academia and governmental organizations like the United Nations. They are both male and female, and many chapters are produced by collaborative teams.

Indeed, the book itself came about after networking and collaboration at annual conferences of the European Society for Social Drug Research and the International Society for the Study of Drug Policy, which resulted in the formation of the Global Cannabis Cultivation and Research Consortium (GGCRC), whose members were invited to submit work. The GGCRC hosts a website (<http://worldwideweeds.nl>) that features information on current research as well as links to an online survey, the International Cannabis Cultivation Questionnaire (ICCQ), which the Consortium is conducting to gather information from small-scale marijuana growers throughout the world. There is even a link to a YouTube video explaining the survey, which notes the aim of countering stereotypes of growers and exploring the realities. Of note, the GGCRC invites any interested researchers who might like to use data from this survey to contact them for access. The website also provides a list of articles and books authored by Consortium members on cannabis cultivation and policy, as well as links to members' personal websites.

The book is tied together by themes and questions raised in the Preface, written by Peter Reuter, and an introductory chapter by the editors, with some beginning answers and further suggestions for research provided in a closing chapter, also by the editors. They theorize the current globalized spread of marijuana cultivation as due to widespread and growing demand for marijuana, indoor and outdoor opportunities for cultivation in any location, willing cultivators, and failed state and international policies to control cultivation.

Marijuana differs from other plant-based drugs (cocaine, opiates) and its cultivation differs from other crimes. Although variation is seen in regions and nations, patterns are clear. Marijuana is the most used drug in the world; about half of all persons born after 1960 in the US and after 1980 in the UK report some use (p. xv), while the UN estimates about 3-4% of adults worldwide are current users (p. 4). Production has shifted to industrialized nations; in fact, Bouchard (2007) found that up to 1% of the population of Quebec is estimated to be involved in cultivation. Small scale growers take pride in their craft and often express ideological beliefs about not only their right to grow, but the righteousness and aesthetics of their product. A strong culture surrounds marijuana cultivation, as evidenced in cannabis competitions, festivals, magazines, books, websites, and clubs. The shift to increased domestic cultivation has been accompanied by shifts in state policies, with quasi-legal markets arising in some places and the possibility of legal markets becoming more distinct (note the legalization of recreational use in November 2012 elections in Washington and Colorado).

The book opens with chapters on the English-speaking Caribbean (Axel Klein) and Morocco (Kenza Afsahi) as examples of traditional producing countries, which examine some of the economic, social, and ecological impacts of marijuana cultivation and how these have been shaped by global drug policies. These chapters demonstrate the correlation of increased cultivation in areas where the local economy has collapsed and a pattern of underdevelopment is seen in terms of supports for local residents.

The next section of the book features studies of local small scale cultivation in Europe and North America. In Chapter 4 (Helle Vibeke Dahl and Vibeke Asmussen Frank), a study of Danish marijuana users who report their use as medical parallels the public arguments made for medical marijuana in the US as well as the doubts about its legitimacy. In Chapter 5 (Pekka Hakkarainen and Jussi Perälä), a study of recent increases in cultivation in Finland utilizes a conception of six “shared worlds for moral justifications” (p. 78) to come to agreement as a framework for the arguments the growers put forth about their activity. Chapter 6 (Tom Decorte) considers the myths and realities of indoor cultivation, THC content, contamination by chemicals, and other quality factors and their corresponding impact on health and psychological effects of use and small scale cultivation in Belgium. Cultivators report desire for marijuana that is less potent and more pure as a major factor in their decision to grow their own rather than rely on what they can purchase in Dutch coffee shops. Chapter 7 (Martin Bouchard and Holly Nguyen) classify cultivators in Montreal/Quebec and Vancouver as Professional, Pro-Am, Amateur, and Average Career, based on combinations of skill level and commitment, and include detailed case studies of two cultivators, one a Vietnamese woman. Chapter 8 (Aili Malm, Rebecca Nash and Samuel Vickovic) use police data on cultivators in British Columbia to map and analyze co-offending networks in terms of shape, frequency, composition, and structure. Chapter 9 (Ralph Weisheit) summarizes cannabis cultivation and eradication efforts, particularly in California, from the 1980s to present as well as legislation on medical marijuana from 1996 to 2010 across the US, and predicts that senior citizens may become an important voting bloc in support of further medical marijuana access as they experience conditions for which marijuana has been shown to be effective. Chapter 10 (Xabier Arana and Virginia Montañés Sánchez) discusses the emergence of non-profit collective production Cannabis Social Clubs in Spain’s uncertain legal environment, where personal, private cultivation and consumption is not punishable, but public consumption and possession can be.

The book's third section considers efforts to control cultivation in the industrial world. Chapter 11 (Dirk J. Korf) details "back door" supply of cannabis to coffeeshops in the Netherlands, particularly the increase in high potency domestically produced cannabis, the public perception that this is dominated by criminal organizations, the ways in which drug policy actually supports the growth of these organizations, and the resulting strengthening of law enforcement efforts against cultivation. He also looks at the interaction between normalization, a social process, and drug policy. Chapter 12 (Simon Lenton) looks at Western Australia's efforts to plan and implement a prohibition with civil penalties policy for cultivation of not more than two non-hydroponic plants, rather than a criminal penalty. Chapter 13 (Margaret Kalacska, Pablo Arroyo-Mora, Eva Snirer and Rick Parent) reviews cannabis's botanical and chemical characteristics and growing conditions and how these make various forms of detection and biological control or eradication—by fungi, insects, other plants, animals, or soil contamination by heavy metal—challenging. Chapter 14 (Chris Wilkins and Paul Sweetser) endeavors to use data from New Zealand's aerial cannabis eradication campaign and National Household Drug Survey and longitudinal surveys to calculate likely domestic cannabis production and consumption as well as seizure rates and the factors which inhibit the eradication campaign's effectiveness. Chapter 15 (Gary R. Potter) examines international drug policies and law through the UN and other bodies, the failure of eradication efforts, and their impact on cultivation, including possibly encouraging the spread of cultivation to new areas of the world, and focuses on indoor cannabis cultivation in the UK. He concludes that eradication is difficult not because of socio-economic or geographic factors, but due to characteristics of cultivation itself and the adaptive actions of growers.

This book will be informative for policy makers, particularly those who aim for a harm-reduction model. It adds to our understanding of the complexity, long-term nature, and uniqueness of issues around marijuana cultivation and how this differs from other crimes. It is also useful in the university classroom, as an example of solid interdisciplinary research, using varied methods and representing multiple contexts, on a fairly hard-to-study topic. The studies raise many questions for further research. For example, I found myself wanting to learn more about connections between popular perceptions of marijuana in a specific area and levels of cultivation; multiple meanings and ideologies of marijuana, including marijuana as resistance to colonialism and capitalism; and marijuana cultivation as a response to economic change in an area. These studies, taken together, encourage us to question the current blanket labeling of marijuana cultivation and use as a crime, and expand our research and thinking about marijuana studies beyond the field of criminology.

***Cannabis policy: Moving beyond stalemate.* By Robin Room, Benedikt Fisher, Wayne Hill, Simon Lenton, & Peter Reuter.** 2010. Oxford, UK: Oxford University Press. 233 pp. List price paperback \$59.95. ISBN: 978-0-19-958148-1

By John E. Scharff

This recent text from multiple authors is a report on what is known about marijuana use and effects, and the laws, policy, and sanctions applied to cannabis users from past to current times. The wide reaching work was made possible by the Beckley Foundation and other research grantors who saw the value of the authors assembling a comprehensive analysis of current cannabis policy, how it is implemented, and how it might be changed to accommodate the will of the people. This work thoroughly discusses the health risks from cannabis use, especially to youth who start excessive use at a young age; conversely, there are also many who find cannabis use beneficial. A major premise of this work is to shift cannabis policy to align to the public will and proactively plan regulation and services to lessen use.

The authors appear to use a modernist/functionalist lens revealing how cannabis policy and law application diverge at many locales. The politicization of cannabis policy has produced a polarized stalemate making legal change difficult; positions have become aligned to social control or personal liberties. The juxtaposition is shown in how cannabis has low toxicity compared to alcohol or most other illegal drugs, yet sanctions remain disproportionate to actual risk or harm. The book explores how current law is incongruent to what many people want, or feel is just, but the quandary is international treaty law insists cannabis remain criminalized.

The 1961 Convention (UN, 2007a), of which the US is a signer, requires that marijuana possession, production, or trading, be kept a punishable offense. The book defines the convention as an international drug control regime. The authors assert that legal change, to allow cannabis use, requires either denunciation of the current treaty; or negotiation and ratification of a new one. The writers explain and discuss numerous examples of countries and specific states or areas with unique policies. A consensus seems to be that judicial efforts at prohibition of cannabis have failed when the people desire more permissive laws. A compounding effect of prohibition is that users resort to markets where more dangerous drugs are available.

Due to treaties being the highest law of the land and therefore hard to change, many countries and specific states or locales have skirted cannabis prohibition laws through *de facto* or *de jure* legalization. In *de facto* legalization cannabis use is illegal but usually not sanctioned in practice; *de jure* legalization ranges from decriminalization to de-penalization of medical marijuana use which all vary within themselves. This text culminates with suggestions for possible paths to actionable policy change, and a proposal: the Draft Framework Convention for Cannabis Control.

Because of variations in demand for cannabis in areas, it is posited that high use areas of the United States and many governments of the world are morphing into “controlled use

regimes.” In these countries or locales the authorities implicitly or tacitly allow a quasi-legal market to meet cannabis need. Cannabis also has influential revenue potential, whether illegal or not. Some laws are bending to shifting social norms, though politicians are reluctant to promote relaxed cannabis laws for fear of appearing soft on crime. The writers further explain that demand or use patterns are not uniform which has caused local jurisdictions or states to make policy remedies addressing explicit use, cultivation, and quality control regulations. The policy proposal also makes suggestions for lessening the use and illegal trade of cannabis. Specific preventative efforts to deny minors access to marijuana are proposed, and treatment availability for all users is proposed as a remedial measure. The authors suggest that such efforts and further research could be financed through regulation of cannabis and the anticipated fees recovered. The proposal has the structure of the tobacco industry regulatory framework but allows cannabis use or availability policy to correspond to local public norms.

Cannabis Policy: Moving Beyond Stalemate makes explicit the intersectionality of policy, politics, and the people’s will as variables in how fast law and social change happens, if at all. The complexity and volatility of the subject makes it a good candidate for an upper-level college text on arguments of logic, values, and social mores. This tome might be even more useful to help students of public policy explore how, or why, policy is formed, implemented, or changed at the macro level.

The authors’ biggest contribution is in informing readers of how many people at the micro level are affected by cannabis policy and why changing it needs to be happen. This work will certainly have value to anyone who wants to be informed about the changing position cannabis has in cultures. The authors report 39.8% of people in the US have tried cannabis, making legality an important issue that needs to be brought into public discussion. The proposal for a new convention on cannabis and the draft presented are reasoned suggestions that need to enter the public and policy makers’ debates.

***Marijuana and economics: Consumption, pricing and legalisation.* By Kenneth Clements & Xueyan Zhao.** 2009. New York: Cambridge University Press. 422 pp. \$105.00
Hardback. ISBN: 978-0-521-88495-2

By Jeffrey Grabinski

With the success of the recent voter-based initiatives to legalize and regulate marijuana in both Colorado and Washington, it is obvious to most that attitudes about this often maligned substance are shifting and policy is following suit. Provided this atmosphere, academics and policy makers alike need to be seriously examining the fundamental aspects of how marijuana functions in our society and how changes in policy will affect their field and society at large. Clements' and Zhao's rigorous treatment of the subject in the context of Australian society is an ideal starting point for economists and policy makers alike. *Marijuana and Economics* seeks to determine what factors affect consumption, how marijuana is priced, marijuana's place in the market and its relationship to other legal and illegal substances, the effects of policy changes, and the uniqueness of the Australian market.

Zhao begins by examining the probability of marijuana use in Australia based on data from a national survey on drug use, conducted every 3 or 4 years. This survey provides a rich data set to be mined for differences in demographic groups and levels of use, and how consumers respond to changes in price. Zhao also looks at cross-drug correlation in order to contribute to discussions of the "gateway" hypothesis, a leading argument for maintaining prohibition policies, because it claims that the use of marijuana acts as a "gateway" to "harder" drug use, e.g. cocaine, heroin, methamphetamine, etc. The authors use econometric tools to show that ignoring the factors determining non-participation can lead to poor policy decisions.

Clements then uses data provided by the Australian Bureau of Criminal Investigation on recorded prices of different forms of marijuana to examine pricing. This investigation shows distinct differences in prices regionally and the authors look at conventional factors such as housing prices and income to try and determine what factors can account for those regional differences. The data also show that prices had decreased dramatically over the period under examination (the 1990s). Clements posits that a shift on how marijuana is produced, going from primarily outdoor to indoor production, can account for the change in price over this time period. Pricing data indicates that purchasing in larger quantities provides a significant discount. Clements shows that the discount is similar to other illicit drugs and not too different from regular consumer goods.

Clements attempts to dig deeper into consumption by trying to measure the price elasticity of demand. Price elasticity of demand is the measure of consumer's sensitivity to changes in price. Understanding how sensitive consumer demand is to price changes is an important question. However, limitations with the data make such a measure difficult. He also attempts to explore the interrelationship between marijuana and alcohol consumption. Again, data limitations do not allow for a definitive answer. Nonetheless, the research sup-

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ports the need for further study of the interrelationship between these two substances and whether they are compliments or substitutes.

Clements and Zhao, together with Yihui Lan, tackle the daunting dilemma of what are the best policy approaches to dealing with marijuana in modern society from an economic standpoint. They first look at the economics of taxation, since they posit that the effects of taxation and regulation are similar to the effects of prohibition in terms of creating higher prices and lower quantities consumed. The authors demonstrate that under taxation and regulation, society would have a net benefit of gaining revenue while reducing expenditures on enforcement or shifting them to other services. Clements et al. also provide evidence that prohibition has not been a highly effective policy in reducing participation levels. The fact that Australia has different policy approaches in different territories provides the researchers with test cases that are used to determine how changes in policy affect consumption patterns. The research shows an initial increase in consumption with the reduction of penalties, but a gradual decrease in consumption over time to levels at or below the original level. Clements et al. seek to determine the risk premium of the marijuana industry. Risk premium in this case is the excessive price charged for marijuana due to its illegality and the risks that entails. Understanding the portion of the price that is attributable to risk in this illegal industry is key to understanding the likely impact on prices from legalization and hence the possible impact on revenues from taxation. The authors make an estimate, but again, the lack of specific reliable data makes a distinct determination impossible.

Lastly, Clements seeks to determine the uniqueness of the Australian society and market to gauge the applicability of this research to other nations. He finds that while tastes change regionally, consumptive behavior based on economic considerations does not. Australians are not unique in terms of market behavior.

Marijuana and Economics is not the only treatment of the subject, but it is the most comprehensive to date. While providing many useful insights into the markets for marijuana, it stimulates even more questions for further research. Requiring advanced statistical and mathematical knowledge, the volume is worth the heavy lifting to better understand this complex subject, especially given the shifts in public opinion today. Policy makers and academics should find this to be an enlightening and useful text when considering how to approach policy discussions and future research regarding marijuana.