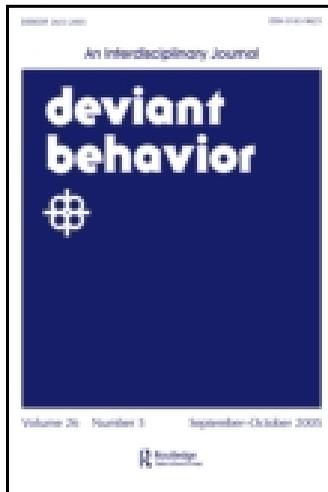


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Still Dazed and Confused: Midlife Marijuana Use by the Baby Boom Generation

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National drug use surveys show the baby boom generation using marijuana in record numbers. We test hypotheses based on social learning, rational choice, and strain theories to explain marijuana use among adults aged 50–64 with an intersectional lens to consider racial and gender group differences. Social learning perspectives, pointing to pro-marijuana attitudes and norms acquired through culture, and rational choice approaches, in which marijuana use is perceived as a low-risk activity, are both strongly supported. Strain generated by mental and physical health problems emerges as a relevant factor for marijuana use among specific racial and gender minority groups of older adults.

Mainstream media outlets have picked up on an apparent rise in marijuana use among middle-aged adults. “When the Baby Boomers hit middle age,” announces one news article, “they brought along their buds and their bongs” (Elliott 2010). Such colorful article titles as “Balding, Wrinkled, and Stoned,” “Shuffleboard? Oh, Maybe Let’s Get High Instead” from *The New York Times*, and, from the perspective of an adult child of middle-aged parents, “More Americans Over Age 50 are Smoking Marijuana Than Ever Before. Are My Parents One of Them?” reflect an increasing awareness of this trend in the mainstream media (Engber 2009; Kluger and Ressler 2006; Sedensky 2010). Marijuana is now “increasingly popular” among what writers are calling both “the AARP set” and the “Woodstock generation” (“Baby Boomers Still Getting High” 2013). Popular depictions of grey-haired pot smokers have ranged from retired empty-nesters picking up marijuana in their newly acquired free time, to free-wheeling hippies who never put away their pipes, and to older adults turning to pot to relieve health problems associated with aging (Krueger 2013). More ominous statements have also publicized this trend in terms of public health concerns, such as this foreboding headline: “Legions of pot-smoking hippies from decades past have apparently morphed into middle-aged Americans who carry with them a potentially large-scale drug problem” (Lazar 2010).

More Americans over 50 appear to have ever used marijuana, and increasing numbers of them have used marijuana within the past year. In order to evaluate potential trends in older adult marijuana use we analyzed data from the National Household Survey of Drug Use and Health from the years 2000 through 2011 to determine if the percent of members of this age cohort who

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have ever used marijuana and who have used it in the past year is, in fact, increasing. As shown in Figure 1 about one-half of Americans in the 50 to 64 year old age cohort report having ever used marijuana, up from only 23.5% in 2000. Additionally, an increasing percentage of those who have ever used marijuana have used it within the past year (see Figure 2).

According to national drug use survey data, marijuana use in adults aged 50–64 is approaching 4%, compared to 0.7% in the 65 and older group (Blazer and Wu 2009). Moreover, among adults aged 50 to 54 and 55–59, this rate has been shown to be 6.1% and 4.1%, respectively (SAMHSA 2009). Baby boomers, the massive cohort of adults born between 1946 and 1965, are reporting rates of marijuana use that are higher than ever before recorded in their age bracket (Colliver et al. 2006; Gfroerer et al. 2002; Patterson and Jeste 1999). Predictions for future drug use prevalence are also significant: high rates of lifetime drug use among the baby boom generation, combined with the large size of that cohort, suggest that the number of elderly persons

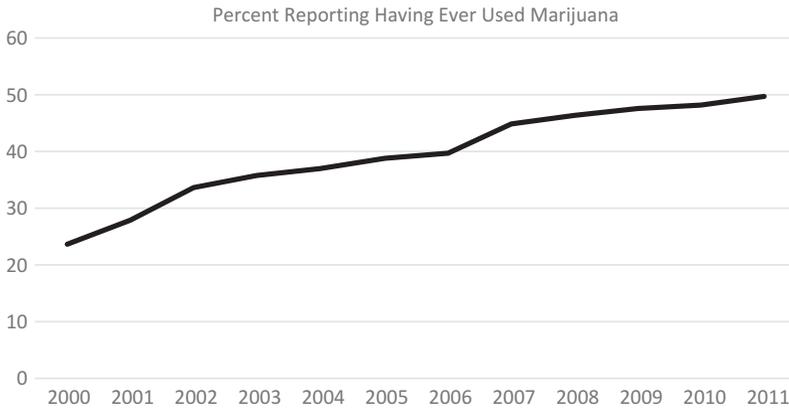


FIGURE 1 Trends in adults aged 50 to 64 reporting having ever used marijuana, 2000 to 2011.

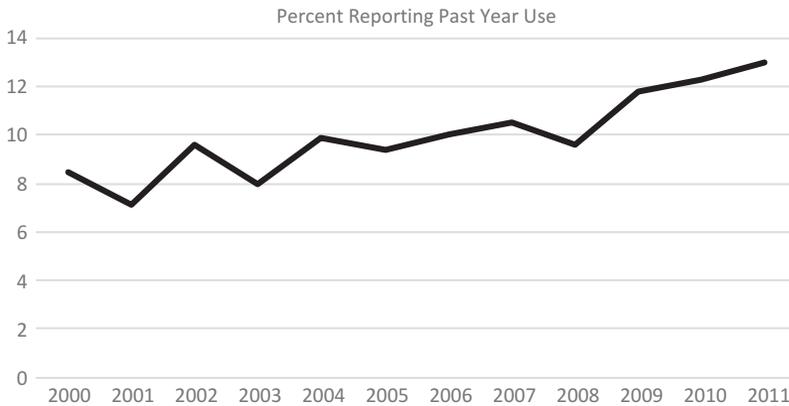


FIGURE 2 Past year marijuana use among adults aged 50 to 64 who have ever used marijuana, 2000 to 2011.

using drugs will increase within the next two decades. Projections for the year 2020 point to unprecedented numbers of older adult drug users (Colliver et al. 2006; Han et al. 2004).

What are the reasons for this uptick in marijuana use? One explanation may be cultural, related to the norms and values they adopted in their youth. Baby boomers grew up during the late 1960s and 1970s, an era in which drug culture peaked in the United States. This exposed them to permissive cultural norms of drug use (Davis 2004; Kandel et al. 2001; Nielsen 2010) that they may have carried over into older adulthood. This explanation, we could call it, is the “dazed and confused” thesis. In this view, baby boomers are products of their cultural environment, with norms and values to match.

Alternatively, perhaps these baby boomers do not see marijuana use as a risky endeavor: finally at a stage in their lives when they can relax, comfortably situated in their homes without struggling to establish themselves in a new career or focused on taking care of young children, they may see the pleasures of marijuana use outweighing the negative consequences associated with it. As one older pot-smoking woman put it, “We’re not trying to buy a place, we’re not trying to get enough money to live on, [and] we’re not trying to raise a family. . . . It’s just very mellow” (Engber 2010:1). No longer concerned with setting a good example for children or having drugs within reach of minors, and perceiving the decreased criminalization and increased availability of medical marijuana in many states, boomers may feel they are at a stage in their life when the benefits significantly outweigh the risks of marijuana use. Unlike youth who must find places to get high, these individuals own their own homes. Many grandparents, notes one older adult in a *New York Times* article, are no longer afraid of being caught by their employers; “it [marijuana use] doesn’t make a difference,” they say (Krueger 2013:1).

A third possible explanation for marijuana use among middle-aged Americans is directly related to their life cycle stage and the strains and stresses related to aging. This would reflect the new trend in American society toward the greater availability of medical marijuana (Office of National Drug Control Policy 2013): individuals of all ages are turning to marijuana as a way to alleviate strain related to health problems. Perhaps these older adults, experiencing health problems that come as part of aging, find marijuana useful for coping with the stressors of older age, related to both physical and mental health. In this view, older Americans may be getting high as a treatment for health problems associated with the physical deterioration of older age or as a coping mechanism for mental health problems that plague them.

In this article, we test explore potential factors associated with marijuana use among baby boomers. Our hypotheses are derived from three theories of social deviance: social learning theory, rational choice theory, and strain theory. We consider these as possible explanations for the recent spike in marijuana use among older adults. These are classic theories widely used to explain deviance and drug use. We aim to understand if they are useful for understanding drug use among older adults.

However, we also aim to understand how these three theories may apply differently to distinct groups within the older population. We utilize a diversity model that involves an intersectional approach—intersecting race and gender, to create racial minority and gender minority groups—in order to account for how various social groups within the baby boomers, such as racial and gender minorities, may be using marijuana for distinctive reasons. Are these theories the same in utility for the various racial and gender minority groups? We test for patterns in how the theories explain marijuana use among these groups. By parsing out various racial and gender groups using an intersectional model that interacts with age, we anticipate finding distinctive patterns of marijuana use that reflect social group differences.

LITERATURE REVIEW

No social scientific literature to date systematically identifies and tests motivations for marijuana use among middle-aged individuals. Research on motivations for marijuana use has overwhelmingly focused on teenagers and young adults (e.g., Akers and Lee 1999; Allen et al. 2003; Lin and Dembo 2008; Meldrum et al. 2013; Petraitis et al. 1995). Variation in marijuana consumption among different populations has been demonstrated; for example, males tend to have higher rates of marijuana use than females (SAMHSA 2009; Verissimo et al. 2013); unemployed individuals tend to use marijuana more frequently than employed people; and unmarried people use marijuana more than married people with strong attachments (Maume et al. 2005). Marijuana use has been shown to vary across such categories as racial and ethnic minority groups (Vaughn et al. 2008; Wallace 1999; Wallace and Bachman 1991) and by sexual minority status (Lanfear, Akins, and Mosher 2013). Thus, such factors as age, status group membership, peer association, social identity, and social location influence an individual's propensity to use or to refrain from marijuana use.

Previous research has established three key perspectives to explain patterns of drug use: social learning theory, rational choice theory, and strain theory. In social learning theory, deviant behavior is learned through social interaction: differential association with others shapes a person's definitions of certain behaviors, or the meanings that they attach to certain acts (Akers 1979, 1985; Pratt et al. 2010; Sellers and Winfree Jr. 2010). Beliefs and attitudes toward deviant or criminal activity are acquired through processes such as behavioral conditioning, imitation, and modeling; these attitudes are incorporated into one's belief system and adopted as one's own over time. Thus, an individual is more likely to engage in a deviant activity when embedded in a social environment in which the behavior is condoned, with exposure to people who display behavioral patterns and hold attitudes favorable to the specific deviant activity.

While models of behavior typically focus on primary groups of parents and peers, secondary groups such as neighbors or even characters depicted in film, television, and popular media can influence a person's definitions of deviance and his or her tendency to engage in deviant activity (Akers 1979; Pratt et al. 2010; Sellers and Winfree Jr. 2010).

Rates of marijuana use among teenagers are often explained through social learning theories (Allen et al. 2003; Lin and Dembo 2008; Petraitis et al. 1995; Pratt et al. 2009). Akers and Cochran (1985) found social learning to best explain teenage marijuana use when compared to social bonding and strain theory. Tendency to use marijuana in low-income minority neighborhoods is affected by social learning of pro-drug norms from peers (Flom et al. 2001). Among the elderly, social learning is seen to explain alcohol use; norms and behaviors of a senior's primary social group and his or her definitions of alcohol significantly predict alcohol consumption (Akers et al. 1989).

Boeri and colleagues (2006) draw on social learning theory to analyze patterns of hard drug use among "baby boomers." However, they fail to incorporate a cultural cohort analysis beyond simply labeling the group as baby boomers, entirely ignoring the norms, values, and beliefs associated with that generational cohort in relation to drug use. Social learning theory points to a cultural model that takes into account a person's environment or milieu in influencing their norms and values. Baby boomers grew up during the late 1960s and 1970s; an era in which drug culture peaked in the United States. Rates of marijuana use, along with illicit drug use more generally, were at their height, exposing young adults to mainstream cultural values that

were relatively permissive toward marijuana use (Cao and Zhao 2012; Compton et al. 2005; Davis 2004; Jacobson 2004:1484; Kandel et al. 2001; Patterson and Jeste 1999). Baby boomers have been shown to hold distinctly more liberal sociopolitical attitudes and values than previous cohorts in a variety of political and social arenas as well as in attitudes toward drug use overall and toward the legalization of marijuana (Alwin 1998; Danigelis et al. 2007; Nielsen 2010). Viewed through a social learning lens, members of the baby boom cohort adopted pro-marijuana norms and values that they are carrying over into adulthood.

A second approach, strain theory, is another classic theory widely used to understand patterns of crime, deviance, and drug use. General strain theory has received much support since its introduction in 1992, and is one of the leading theories of crime (Brezina 2010). In this view, deviant behavior such as drug use is a response to experiences of stress; the behavior is a coping mechanism designed to reduce or escape strains faced by the individual (Agnew 1992, 2001; Aseltine et al. 2000; Brody 2001). Coping mechanisms to deal with strains can range from engaging in theft to obtain money to the use of drugs to alleviate negative emotions resulting from the particular strain. In this perspective, the coping strategy is both a rational response to alleviate the stressor as well as an emotional reaction to the strain. Strains conducive to crime or drug use include such factors as chronic unemployment, marital problems, the failure to achieve selected goals, discrimination, residence in economically deprived neighborhoods, lack of money, desire for masculine status, or criminal victimization (Agnew 2013).

While some strains are clearly more likely to overwhelm a person, strains can be both objective and subjective (Froggio and Agnew 2007). Following the stress literature, a stressor can be an event or condition that would overwhelm most individuals in that situation, or an experience that is perceived as overwhelming. These strains increase tendency toward deviant behavior and crime through their effects on emotional states; it is the emotional reaction to the stressor that has the impact. People with few options for legal coping will be more likely to turn to crime or deviant behaviors in order to alleviate strain. For example, individuals without health insurance may be more likely to turn to illegal drugs as a way to alleviate their mental, physical, or emotional stress than those with medical insurance, who can seek out traditional medication for their ailments.

Membership in a minority group may be related to increased strain and therefore related to greater risk for drug use. Research points to the use of marijuana as a coping mechanism for life stress resulting from perceived unfair treatment, or discrimination, based on one's race or ethnicity. Borrell et al. (2007) demonstrate the link between experiences of racial discrimination and health behaviors; they suggest that recreational use of marijuana may be a way for minorities to cope with life stress resulting from perceived unfair treatment on account of their race. Ganem (2010) shows that males and females may experience different types of strain; gender may be an intervening factor in reaction to various strains ranging from victimization to strains of managing interpersonal ties and friendships to failure to achieve material success.

Stress is a risk factor and motivator for marijuana use and misuse; individuals may use marijuana for tension reduction, as a way to relax and relieve psychological distress (Hyman and Sinha 2009). Marijuana is also sought out to treat a wide variety of physiological ailments, from nausea caused by chemotherapy (Tramèr et al. 2001) to generalized pain (Bottorff et al. 2013; O'Connell and Bou-Matar 2007). Negative life events and trauma are shown to be related to marijuana use (Hyman and Sinha 2009). Research demonstrates a relationship between anxiety disorders, psychological distress, and both marijuana use and dependence (Aggarwal et al. 2013; Buckner et al. 2012).

Thus, there are different ways to operationalize strain, from physical and emotional ailments and to objective life stressors. Marijuana use may be a coping mechanism to deal with problems through illegitimate means, as a form of self-medication. Perhaps older adults are self-medicating as a treatment for health problems associated with the physical deterioration of older age or as coping mechanism for mental health problems they face. This perspective is consistent with the expanded availability of legalized medical marijuana within a growing number of U.S. states (Sacco and Finklea 2013).

The third key theory, the rational choice model of deviant behavior and drug use, explains an individual's decision to use a drug as the result of a rational cost–benefit analysis in which the actor perceives the benefits of engaging in the activity to be greater than the risks associated with it (Akers 1990; Gul 2009; Pillavin et al. 1986; Wright et al. 2004). The rational choice model argues that incentives and constraints affect behavior; people engage in or refrain from deviant behavior based on their subjective yet rational calculations of reward, risk, and punishment. Deterrence in the form of laws criminalizing drug use is a strategy designed to maximize the costs of engaging in the behavior, thus reducing the prevalence of the behavior. However, criminalization has been shown to have less-than-perfect results in eliminating marijuana consumption, since recreational marijuana use continues to remain widespread within the United States despite criminalization in many states (Bostwick 2012).

In the case of drug use, rewards of the activity may be inherent in the experience of using the drug. In the case of marijuana, the rewards would include the pleasures experienced during drug consumption. Risk, on the other hand, is based on a subjective perception of factors (evaluated by the drug user) that include the likelihood of getting caught and the level of negative sanctions, both formal sanctions such as arrest or informal sanctions such as disapproval by peers, if one were to get caught (Bottorff et al. 2013). The lower the perceived risk and the less one believes they are likely to get caught, the greater the chance that the person will engage in the drug-using behavior (Bostwick 2012; Pillavin et al. 1986). Perceptions of risk related to marijuana use may change over the life course; while teens are afraid of getting caught by legal authorities and parents, older adults may find that they can smoke marijuana in private settings that do not expose them to significant risk of getting caught.

We test all three of the classic and widely used theories of drug use and deviance to explain marijuana use among middle-aged baby boomers. We incorporate an intersectional approach of race and gender into the analysis to see how well each theory measures up in explaining marijuana use among various status groups. Whether older Americans hold liberal norms and values reflecting their youth experiences, or they are using marijuana to cope with the strains and stresses of aging, or they simply do not perceive marijuana to be a risky activity, marijuana use is occurring at record rates among middle-aged adults today.

THEORETICAL FRAMEWORK AND HYPOTHESES

In this study, differences in gender, race, and other demographic characteristics will interact within each theoretical model. For instance, people from stigmatized racial and ethnic groups may experience higher rates of strain as a result of discrimination, since distinct social groups experience different levels of strain due to variation in social experience. Individuals may have different levels of coping skills or be affected by various health factors as determined by their

membership in various gender and/or racial groups, which ultimately impacts the salience of each theory in explaining their marijuana use. Thus, we can expect that demographic differences such as gender, race, and income within the older adult group will interact within these theoretical constructs. Additionally, we hypothesize that double-minority status (minority and female) group members will exhibit the strongest effect of the three theoretical constructs on midlife drug use. The hypotheses presented below reflect the foci of our study, with the first set of hypotheses derived from social learning theory:

- H₁: Adults who are ambivalent about marijuana use by their peers are more likely to have used marijuana in the past year.
- H_{1A}: Ambivalence about peer marijuana use has the weakest effect on white men.
- H_{1B}: Ambivalence about peer marijuana use has a stronger effect on minorities (black men or white women) than it does on white men.
- H_{1C}: Ambivalence about peer marijuana use has the strongest effect on double minorities (black women).

From a social learning perspective, baby boomers hold norms and attitudes that support marijuana use. The historical era in which these boomers acquired their beliefs as young adults has been shown to have been very liberal in social and political values (Davis 2004; Jacobson 2004; Danigelis et al. 2007), particularly with respect to drug use. This cultural influence may have carried over into adulthood, leaving middle-aged adults to get high later in life without perceiving their marijuana consumption to be a deviant activity. Thus, higher rates of older adult marijuana use may reflect a generational pattern of learned normalization of marijuana consumption, in which pro-marijuana values adopted as young adults have not been replaced by norms hostile to marijuana use. Next, we present hypotheses derived from strain theory:

- H₂: Adults who are experiencing health issues are more likely to have used marijuana in the past year.
- H_{2A}: The presence of health issues has the weakest effect on marijuana use by white men.
- H_{2B}: The presence of health issues has a stronger effect on minorities (black men and white women) than it does on white males.
- H_{2C}: The presence of health issues has the strongest effect on double minorities (black women).

General strain theory argues that drug use is a reflection of stress or strain in one's life. In this view, deviance is a result of strain: it is a way of coping with problems through illegitimate means (Agnew 2013). Aging can be seen as a strain: it creates physical health problems that may be alleviated through coping mechanisms. Strain is also connected to race and residence in low-income neighborhoods; the challenging environments that many racial minorities live in, as well as experiences of racial discrimination due to stigmatization, can produce greater levels of stress, and being low-income can be stressful too (Boardman et al. 2001; Borrell et al. 2007; Verissimo et al. 2013). Anxiety and depression are a form of stress or reflect stress; individuals may seek out any means to alleviate it, including illegal ones for self-medication (Buckner et al. 2011, 2012). Those without health insurance would be more likely to do so, as they are unable to obtain affordable, legal medications for their health problems.

Thus, strain theory may explain marijuana use among older adults today. Marijuana use among baby boomers may reflect self-medication by older adults who are using marijuana to alleviate

physical and/or mental health problems. As this population ages, they experience increasing health issues, which become a serious factor in their daily lives. Greater incidence of illness in older age, both acute and/or chronic illness, may be occurring. Many Americans lack adequate access to affordable health care, in some cases due to a lack of health insurance. This makes treatment for medical issues inaccessible, preventing older adults from seeking medical treatment. Medical marijuana has been increasingly promoted and recognized as an alternative to traditional Western medical treatments (Grant et al. 2012; O'Connell and Bou-Matar 2007; Reiman 2007; Reinerman et al. 2011); older adults may use marijuana as a way to cope with chronic pain or ongoing mental illnesses such as anxiety or depression. Medical marijuana is legal in a growing number of states, and distribution is prevalent (Bostwick 2012; Cerda et al. 2012). In this view, marijuana use by older adults may be a response to stress or strain in their lives; getting high is a way to temporarily alleviate the deleterious effects of these problems.

While strain theories have generally been poor predictors of overall substance use and abuse (White et al. 1986), Cloward and Ohlin's (1960) double failure hypothesis suggests that retreatist (possibly substance-using) gangs are formed by "double failures"—individuals who are unsuccessful in both criminal and non-criminal endeavors. These individuals may turn to drugs to compensate for status deprivation. Agnew (1992) described drug use as inner-directed delinquency, more prevalent among those who blame themselves for their lack of success under conditions of adversity. Tied to depression, adults at this stage of life may feel that they have not accomplished what they had hoped to earlier in life, and turn to drugs as a means of coping (see also Erickson's (1950) concept of stagnation). Agnew (1992) also points out that these individuals are likely to have at least a minimal predisposition to deviance. Lastly, we consider hypotheses based on rational choice theories:

- H₃: Adults who believe that the benefits of using marijuana outweigh the costs are more likely to have used marijuana in the past year.
- H_{3A}: Belief in the benefits of marijuana use outweighing the cost has the weakest effect on marijuana use by white men.
- H_{3B}: Belief in the benefits of marijuana use outweighing the cost has a stronger effect on marijuana use by minorities (black men and white women).
- H_{3C}: Belief in the benefits of marijuana use outweighing the costs has the strongest effect on marijuana use by double minorities (black women).

In a rational choice model of drug use, baby boomers are getting high in record numbers because they perceive marijuana use to be a low-risk endeavor with a significant pleasure reward. As opposed to teenagers, for example, these adults likely have their own homes and their own cars, in which they can light up in private, with little danger of being caught by law enforcement. No longer watched over by their "parents" (a deterrence for teens), or starting off in their marriages and raising families, baby boomers today are perhaps more likely to have an "empty nest" home, in which they are no longer responsible for taking care of young children. In this perspective, baby boomers who are getting high perceive marijuana use to be a low-stakes activity, one in which the pleasures of smoking marijuana are perceived to be higher than the hazards associated with it. Thus, these adults are making a rational choice to engage in a behavior that offers greater rewards than risk. This is supported by the significant trend toward decriminalization and legalization of marijuana in recent years; about one-half of all states have decriminalized, legalized, or enacted medicinal marijuana laws (Sacco and Finklea 2013). This influences their perceptions and

creates an environment of perceived low risk, to which boomers may be responding by picking up their pipes.

DATA AND METHODOLOGY

Data for this study represent a subset of 50–64-year-old subjects taken from the 2010 National Household Survey of Drug Use and Health (United States Department of Health and Human Services 2013). This is a multistage area probability sample and includes data from all 50 states and the District of Columbia. The sample was stratified on three levels: state, Field Interviewer regions, and area segments of adjacent census blocks. The universe represented by the study includes the noninstitutionalized civilian population of the United States aged 12 and older.

The data set was then modified to include only those subjects who reported having ever used marijuana. Agnew (1992) states that individuals who turn to drugs as a coping mechanism most likely have a predisposition to deviance; these data reflect older adults who have, at least at some point, shown a willingness to engaged in deviant, even illegal behavior. This resulted in a total sample of 1695 subjects. This sub-sample will not reflect the general population, as it has been modified to include only those subjects who report having ever used marijuana. Table 1 reflects the demographic characteristics of the sample.

OPERATIONALIZATION AND MEASUREMENT

The dependent variable in this study is whether or not the respondent has used marijuana in the past year. This variable is dichotomized to reflect either “has” or “has not” used marijuana. Data from the survey indicates that 48.7% of respondents aged 50–64 (approximate birth years 1946 to 1960) have used marijuana at least once in their lifetimes. Only subjects who have used marijuana ($N = 1,694$) are included in this study. The rationale behind this is that the focus of the study is a comparison of the factors associated with status group reasons for using marijuana later in life, rather than having or not having used it at all. As noted in Table 2 about one in eight members of this cohort have used marijuana within the past year, suggesting that, while most “age out” of marijuana use, for some marijuana has either continued throughout the life course or has been re-adopted later in life.

Independent variables include the number of mental health issues, the number of chronic illnesses, the number of acute illnesses, if the perceived benefits of marijuana use outweigh the risks, and norms favorable to marijuana use. The number of mental health issues is measured by a two-time index, with an alpha of .666 and a range of 0 to 2. Survey questions include: Has respondent had anxiety in the past year and Has respondent had depression in the past year. The mean score on the Mental Health issues index is .198, indicating that most respondents did not experience either of these issues within the past year.

The Number of Chronic Illnesses index (alpha .359) includes questions asking if the respondent had experienced any of the following health problems during the past year: asthma, cirrhosis, diabetes, heart disease, high blood pressure, HIV/AIDS, lung cancer, sleep apnea, tuberculosis or ulcers. The range for this index is 0 to 10, with a mean of .564.

TABLE 1
Demographic Characteristics of the Sample ($N = 1,694$)

	<i>f</i>	%
Gender		
Male	870	51.4
Female	824	48.6
Minority Group Status		
Yes	330	19.5
No	1364	80.5
Marital Status		
Not Married	658	38.8
Married	1036	61.2
Veteran Status		
Yes	271	16.0
No	1422	84.0
Has Health Insurance		
No	187	11.0
Yes	1507	89.0
Family Received Public Assistance		
Yes	26	1.5
No	1668	98.5
Work Status Previous Week		
Did Not Work	573	33.8
Worked Part Time	198	11.7
Worked Full Time	923	54.5
Family Income		
Less Than \$20,000/year	230	13.6
\$20,000 to \$49,999/year	475	28.0
\$50,000 to \$74,999/year	327	19.3
\$75,000 per year or more	662	39.1
Education Level		
Less Than High School	161	9.5
High School Graduate	491	29.0
Some College	487	28.7
College Graduate	555	32.8

The Number of Acute Illnesses index (alpha .276) includes questions asking if the respondent had experienced any of the following health problems during the past year: bronchitis, hepatitis, pancreatitis, pneumonia, STDs, sinusitis, stroke, or tinnitus. The range for this index is 0 to 8, with a mean of .196.

Subjects were also asked if they felt that the benefits of marijuana use outweighed the costs. Respondents were asked to rate how risky they thought smoking marijuana once a month was, how risky smoking marijuana once or twice a week was, and how difficult it was to obtain marijuana. The range for this index was 3 to 13, with higher scores indicating lower perceived risks. The mean for this index was 8.6 and the alpha .626.

Norms favorable to marijuana use was measured by a single survey question, asking the respondent if he or she strongly disapproved, somewhat disapproved, or neither approved nor

TABLE 2
Independent and Dependent Variables

<i>Dependent variable</i>	<i>f</i>	<i>%</i>
Used Marijuana in the Past Year		
Yes	210	12.4
No	1484	87.6
Independent Variables	Mean	Std. Dev.
Number of Mental Health Issues (alpha .666) Range 0–2		
Which of the following did R have in the past year:		
Anxiety; Depression	.198	.516
Number of Chronic Illnesses (alpha .359) Range 0–10		
Which of the following did R have in the past year:		
Asthma; Cirrhosis; Diabetes; Heart Disease; High Blood Pressure; HIV/AIDS; Lung Cancer, Sleep Apnea; Tuberculosis; Ulcers	.564	.829
Number of Acute Illnesses (alpha .276) Range 0–8		
Which of the following did R have in the past year:		
Bronchitis; Hepatitis; Pancreatitis; Pneumonia; STD; Sinusitis; Stroke; Tinnitus	.196	.496
Perceived Benefits of MJ Use Outweigh Perceived Costs (alpha .626) Range 3–13		
Risk Smoking MJ once a month; Risk Smoking MJ once or twice a week; How difficult is it to get MJ	8.60	2.367
Norms Favorable to MJ Use	<i>f</i>	<i>%</i>
Neither Approve nor Disapprove	1149	68.0
Somewhat Disapprove	229	13.6
Strongly Disapprove	310	18.4

disapproved of adults using marijuana or hashish. The vast majority (68%) were ambivalent, stating that they neither approved nor disapproved. Nearly one in five (18.4%) strongly disapproved.

There are seven control variables in the study: marital status, veteran status, having health insurance, receiving public assistance, work status, family income, and education level. Four of the variables were dichotomized to reflect the following risk categories: not married, military veteran, does not have health insurance, and family received public assistance. Other control variables included: work status previous week (with “did not work” as a risk factor); family income (with lower family income as a risk factor) and education level (with lower education levels as a risk factor).

RESULTS

Bivariate Results

Table 3 presents the bivariate relationship between marijuana use and the demographic characteristics of the sample. Males were significantly more likely to have used marijuana in the past year than females (14.9% versus. 9.7%), as were minority group members

TABLE 3
Relationship between Marijuana Use and Demographic Characteristics of the Sample

	<i>Used marijuana in the Past 12 months (percent)</i>	
	<i>No</i>	<i>Yes</i>
Gender*		
Male	85.1	14.9
Female	90.3	9.7
Minority Group Status*		
Yes	82.1	17.9
No	88.9	11.1
Marital Status*		
Not Married	83.6	16.4
Married	90.2	9.8
Veteran Status		
Yes	87.5	12.5
No	87.6	12.4
Has Health Insurance*		
No	75.9	24.1
Yes	89.1	10.9
Family Received Public Assistance*		
Yes	69.2	30.8
No	87.9	12.1
Work Status Previous Week*		
Did Not Work	82.2	17.8
Worked Part Time	87.4	12.6
Worked Full Time	91.0	9.0
Family Income*		
Less Than \$20,000/year	73.5	26.5
\$20,000 to \$49,999/year	87.8	12.2
\$50,000 to \$74,999/year	89.6	10.4
\$75,000 per year or more	91.4	8.6
Education Level*		
Less Than High School	78.3	21.7
High School Graduate	86.6	13.4
Some College	87.1	12.9
College Graduate	91.7	8.3

*sig. at $\alpha \leq .05$

(17.9% compared to 11.1%). Other hypothesized risk factors were also significantly associated with recent marijuana use: not being married, not having health insurance, receiving public assistance, not working, lower income and lower education. The only hypothesized risk factor that was not significantly associated with recent marijuana use was veteran status: veterans were no more likely to have used marijuana in the past month than non-veterans.

TABLE 4
Significant Factors Associated with Marijuana Use
by Adults Aged 50–64

<i>Risk factor</i>	<i>ExpB</i>
Norms favorable to marijuana use	2.58
Family receives public assistance	
Respondent does not have health insurance	
Lower family income	
Military veteran	
Gender	1.84
Not married	1.65
Minority status	
Lower educational level	
Not currently employed	1.34
Number of mental health issues	
Number of chronic illnesses	
Number of acute illnesses	
Perceived benefits of MJ use outweigh perceived costs	1.44
Nagelkerke R Square	.266

Multivariate Results

Table 4 presents a logistic regression analysis of the relationship between the hypothesized risk factors and recent marijuana use without partitioning out gender and minority group statuses. Taken as a whole, variables significantly associated with past year marijuana use by this age/past substance use cohort include (in decreasing order of significance): holding norms favorable to marijuana use, being male, being unmarried, the perception that the benefits outweigh the risks, and being currently unemployed.

Table 5 partitions the sample across gender and minority statuses. The sample was divided into distinct subsamples: non-minority male, non-minority female, minority male, and minority female. Logistic regression analyses were performed to explore the relative effects of the risk factors and demographic variables on each sub-group.

Our social learning variable, reflecting norms favorable to drug use, had the strongest effect on marijuana use for all sub-groups except minority females, for which it had no significant effect. Lack of health insurance is only significantly associated with marijuana use among non-minority males, while lower family income was only significantly associated with marijuana use by minority females. Veteran status and being unmarried did not have a significant effect for any group. Education was significantly associated with marijuana use by non-minority females only, while unemployment was only associated with non-minority male use. There were differences between the groups in the effects of the strain variables: mental health issues appear to be a factor in non-minority males, while chronic illness was a factor in marijuana use by both minority males and females. Finally, rational choice appears to influence current marijuana use for all groups, with minority males showing the strongest association (ExpB 1.67) followed by non-minority males (ExpB 1.50), non-minority females (ExpB 1.41) and minority females showing the weakest (ExpB 1.37).

TABLE 5
Significant Factors Associated with Current Marijuana Use, by Status Group (ExpB)

<i>Risk factor</i>	<i>Non-minority males (N = 705)</i>	<i>Non-minority females (N = 659)</i>	<i>Minority males (N = 165)</i>	<i>Minority females (N = 165)</i>
Norms favorable to marijuana use	2.91	2.31	3.37	
Family receives public assistance				
Respondent does not have health insurance	2.25			
Lower family income				3.48
Military veteran				
Not married				
Lower educational level		1.46		
Not currently employed	1.48			
Number of mental health issues	1.65			
Number of chronic illnesses			.455*	.199**
Number of acute illnesses				
Perceived benefits of MJ use outweigh perceived costs	1.50	1.41	1.67	1.37
Nagelkerke R Square	.272	.214	.505	.497

*1/x = 2.20; **1/x = 5.03.

DISCUSSION

Taken as an aggregate group (not stratified by gender or minority status), both social learning and rational choice variables are significantly associated with midlife marijuana use, with social learning variables having the strongest effect. Thus, hypotheses 1 and 3 (on social learning and rational choice constructs) appear to be supported. Hypothesis 2, representing variables related to strain theory, on the other hand, is not supported. Strain theory suggests, however, that crime and deviance are just a few of the many coping strategies that people may use to alleviate or eliminate strain; individuals can employ (or consider) multiple coping strategies, both legal and illegal when faced with stressors. Those whose disadvantaged position in society reduces the number of legitimate coping methods available to them (e.g., affordable health care) may turn to non-legitimate coping mechanisms, in this case (illicitly) using marijuana to alleviate physical or mental pain and distress.

Interestingly, all three theoretical variables are significantly associated with male marijuana use in this age group. For both minority and non-minority males, social learning appears to play the greatest role in whether or not they use marijuana at this stage of life. Additionally, at least for males, hypotheses 1A, 2A, and 3A hold true—in each case the effect is stronger (for social learning, strain, and rational choice approaches) in the minority male subpopulation than the non-minority male population.

There is one important difference, however: for minority males the significant strain associated with marijuana use is the number of chronic illnesses, while the significant strain associated with

non-minority male use is the number of mental health issues. Traditionally, poverty is associated with chronic illness, and minorities are more likely to be poor than non-minorities. This may imply that chronic illness is more of a problem in minority communities than mental illness, or it may be that mental illness is not even on the radar. Alternatively, non-minority males may have at least basic physical health care and access to pain maintenance medications (reducing the need to self-medicate); however, either because of cultural stigma or a lack of access to mental health care in general they may opt to self-medicate for mental health problems. Additionally, non-minority males who lack health insurance and/or are not currently employed are more likely to use marijuana. However, none of the control variables are significantly associated with marijuana use by minority males.

The effects of social learning, strain and rational choice on non-minority female midlife marijuana use are less clear; hypothesis 2B is not supported by the data. Strain (operationalized as health issues) is not associated with marijuana use by this group. Both social learning and rational choice constructs are significantly associated with marijuana use by this subpopulation; however, the effects are weaker than for either non-minority or minority males. Unlike other sub-populations, non-minority women with lower levels of education are more likely to use marijuana. Like the male sub-populations, social learning has the strongest effect, and rational choice the weakest.

Midlife marijuana use by minority women (the doubly disadvantaged) is not related to social learning factors (which have the strongest effect for the other 3 sub-populations) and hypothesis 1C is not supported. Instead, the single most relevant factor is the number of chronic illnesses, and the effect of chronic illness is most pronounced among this group. Hypothesis 2C hypothesized that strain would have the strongest effect for minority women—as doubly disadvantaged they would have fewer coping mechanisms than the other groups. Rational choice is also significantly associated, but less strongly than for the other three groups, contrary to hypothesis 3C.

CONCLUSION AND LIMITATIONS OF THE STUDY

New Jersey has been the most recent state to enact a medicinal marijuana law (targeting children), and with nearly one-half of all states at some stage in the decriminalization process attitudes in the United States toward marijuana use (at least for medicinal purposes) appear to be changing (Ferrigno et al. 2013; Sacco and Finklea 2013). As the U.S. population ages, with large numbers of baby boomers and members of Generation Jones (late baby boomers) entering old- and late-middle-age, the popularity of marijuana as medicine is likely to increase. Our research suggests that marijuana use by older minority group members (especially double-minorities) is associated with chronic, long-term illness and may be viewed as a viable alternative to traditional pain management medications. Perhaps non-minority men in this age group are uncomfortable seeking treatment for mental health problems and prefer to self-medicate. But, for this group, marijuana use is not limited to self-medication, if for no other reason than marijuana use does not carry the social stigma it did for earlier generations. Additionally, adults at this stage in their lives have the freedom to use recreational drugs in the privacy of their own homes and with other like-minded adults, reducing the risk of trouble with the law.

Back in 1978 Cheap Trick released “Surrender.” One of the most famous lines in the song was:

*When I woke up, Mom and Dad are rolling on the couch.
Rolling numbers, rock and rolling, got my Kiss records out. (Werman 1977)*

The idea of anyone old enough to be an older parent or a grandparent getting high more often than not causes laughter (and jokes about hippies) rather than indignation—the assumption being that they are just aging baby-boomers reliving their youth and holding onto the norms of the 1960s and 1970s when marijuana use was considered a relatively minor form of deviance carrying few, if any, negative sanctions. However, many adults in this age group who are using marijuana also report concurring health issues, and to assume that the apparent upswing in marijuana use by people in their 50s and 60s is simply tied to late life rebellion or a newfound empty-nester desire to party may be overly simplistic. Many Americans are without health care, and many midlife adults have found themselves unemployed or prematurely retired (and losing health care coverage) during the recent recession. For some, marijuana may be the only affordable pain management medication available; *Time Magazine* estimates an average legal marijuana habit in Colorado will run about \$1,000 to \$1,800 per year (Tuttle 2013). With painkillers such as Oxycodone costing hundreds of dollars a month without insurance, medicinal marijuana may be a far cheaper alternative to paying out of pocket (Center for Substance Abuse Research 2013). As a public policy issue, marijuana use by adults 50 and older may be more a sign of underlying social problems such as a lack of available and affordable health care and stigma associated with mental illness, and less an indicator of adults who refuse to grow up.

The current study is more exploratory than explanatory in nature, and has some limitations that must be addressed. Data for this study are cross-sectional and as such it is not possible to control for the effect of variables over the life course of the subjects, leaving the researchers to report association but not causation. One of the major disadvantages of secondary data analysis is the loss of contextual variables and the need to tailor research within the limitations of the variables included in the study. Unfortunately, this limits the ability of the researchers to include some control variables that would provide greater context for later-life marijuana use—for example, we were unable to explore individual life-long experiences with marijuana because the NHSDA survey did not include these questions.

As suggested in [Figure 1](#), the percentage of older adults who have ever tried marijuana has increased steadily over time. Additionally, while fluctuating, the rate of past year marijuana use among older adults who have ever used marijuana has increased in recent years ([Figure 2](#)). As the baby boom generation moves through the life course, the use of marijuana and other legal and illegal substances will become an increasingly important public policy issue, likely leading to increased health (both physical and mental) and social costs for the nation. As the subjects in this study were aged 50 to 64 we did not explore the relationship between parental status and marijuana use as most adults in this age cohort will have adult children; however, future studies may want to examine the relationship between having adult children at home and marijuana use by older adults. Longitudinal studies could separate out the relative differences between life-long chronic marijuana users and those who resumed marijuana use later in life. Finally, future studies based on primary research (rather than secondary data research) could add to the findings of this study by exploring the utility of other theoretically derived variables—such as variables based on control conflict theories—for explaining patterns of later-life marijuana use.

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