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## “Quite a Profoundly Strange Experience”: An Analysis of the Experiences of *Salvia divinorum* Users

Fiona Hutton, Ph.D.<sup>a</sup>, Bronwyn Kivell, Ph.D.<sup>b</sup>, and Otis Boyle, B.A.<sup>c</sup>

<sup>a</sup>Senior Lecturer in Criminology, Institute of Criminology, Victoria University, Wellington, New Zealand; <sup>b</sup>Senior Lecturer, School of Biological Sciences, Victoria University, Wellington, New Zealand; <sup>c</sup>M.A. Student, Institute of Criminology, Victoria University, Wellington, New Zealand

### ABSTRACT

*Salvia divinorum* (an intense hallucinogen) is currently illegal in New Zealand under the 2014 Psychoactive Substances Amendment Act. Despite this, there is a scarcity of research surrounding *Salvia divinorum* and its effects in a New Zealand context. To explore the experiences of *Salvia divinorum* users, an anonymous questionnaire was advertised through flyers placed in locations where young adults congregate. A total of 393 people took part in the online questionnaire in 2010–2011, while salvia was legally available in New Zealand; 167 respondents had used salvia. Thematic analysis was used to analyze the resulting open-ended questionnaire data and three key themes were identified: the effects of salvia; the importance of set and setting; salvia use and pleasure/not-pleasure. Recreational use of salvia was situated within a broader drug landscape, with participants being drug experienced and “drug wise” (Measham, Aldridge, and Parker 2001). Use of salvia also appeared to be intermittent, with its use referred to as a novel experience. Thus, the recent criminalization of salvia under the 2014 Act may see a significant decline in use as experienced drug users look elsewhere for novel drug experiences.

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### KEYWORDS

Drug effects; drug use; pleasure; salvia; set and setting

Contemporary recreational use of salvia<sup>1</sup> started to gain notoriety in the Western world in the 1990s (Miller et al. 2011). In 1994, the active psychoactive compound present in *Salvia divinorum*, salvinorin A, was identified (Siebert 1994). Salvinorin A is a potent and selective activator of the kappa opioid receptor (Roth et al. 2002), making salvia unique and unlike other known hallucinogens that predominantly activate the serotonergic system. A study investigating the effects of salvinorin A in hallucinogen users demonstrated that salvinorin A produced a unique profile of subjective effects compared to other hallucinogens, reflecting its unique chemistry (Maclean et al. 2013). Prevalence rates reveal that salvia is emerging as a significant choice of recreational drug in the United States. In 2005,<sup>2</sup> 4.4% of students reported using salvia at least once in the 12 months prior to being surveyed (Lange et al. 2008). Further U.S. studies indicated that although rates of use are low in comparison to more popular recreational drugs—77.4% of participants in one study had never heard of salvia before (Khey, Miller, and Griffin 2008)—certain populations have high concentrations of use; primarily White affluent males in college (Khey, Miller, and Griffin 2008; Lange et al. 2008). Among those who had used salvia, 51% reported they would

not try the substance again (Khey, Miller, and Griffin 2008), and a qualitative study of salvia use by Kelly (2011) noted that users found taking salvia to be a very intense experience, which meant that they viewed it as a novel, “one-off” experience. In New Zealand, data were not collected about salvia use in any of the national drug use surveys. However, the 2007/2008 Drug Use in New Zealand Survey noted that 4.4% of young people aged 18–24 had used LSD and synthetic hallucinogens (Ministry of Health 2010), with salvia likely being included in this category. A study by Wilkins and colleagues noted that 20% of “frequent methamphetamine users,” 49% of “frequent ecstasy users,” and 23% of “frequent injecting users” had tried salvia (Wilkins et al. 2014). Therefore, salvia use in New Zealand is relatively low (New Zealand Drug Foundation 2012), and generally confined to drug-experienced groups.<sup>3</sup>

In New Zealand, there has been minimal consideration of salvia as a drug of concern, with the Associate Health Minister in 2008 stating that salvia was “low risk,” and that “evidence shows it is a psychoactive drug that should be regulated” (The Dominion Post 2008). Within the context of the legal high controversy,<sup>4</sup> there is virtually no research on salvia use within New

Zealand and, internationally, literature on salvia is scarce. Rosenbaum, Carreiro, and Babu (2012, 25) concluded that “further research is needed to elucidate both the consequences of *S. divinorum* use, as well as the therapeutic potential of salvinorin A.” In considering the risks of salvia use, researchers also note that:

The potential harms from salvia use remain unclear... with regard to the published literature there are no toxicological studies indicating a pattern of medical harm resulting from salvia use. However there have been clinical case reports in which salvia is indicated to have played some sort of role in a negative outcomes such as paranoia and cognitive impairment. (Kelly 2011, 47)

Despite the scarcity of research, all new psychoactive substances—apart from classified drugs, medicines, foods, alcohol, and tobacco—became controlled drugs in New Zealand with the implementation of the 2014 Psychoactive Substances Amendment Act (hereafter the 2014 Act), including *Salvia divinorum*.

### **Drug effects: *Salvia divinorum***

Most of the studies concerning salvia explore the effects of the drug on the user. *Salvia divinorum* has been reported as the most potent, naturally occurring psychoactive substance (Roth et al. 2002), and the defining feature of smoking salvia<sup>5</sup> is the rapid onset of intense visual hallucinations (Bucheler et al. 2005; Gonzalez et al. 2006; Kelly 2011). The onset of effects begins within minutes of ingestion and hallucinations last from five minutes to half an hour, with a plateau and eventual subsidization over the following hours (Kelly 2011; Siebert 1994). The experience of smoking salvia is different depending on dose, set and setting, although common themes users experience have been identified: becoming objects; various sensations of motion, or of being pulled or twisted by a force of some kind; uncontrollable hysterical laughter; overlapping realities and the perception that one is in several locations at once (Siebert 1994, 55). Users also note the intensity of the hallucinogenic experience, with sensations of entering another reality (Gonzalez et al. 2006), as well as being disconnected from their own bodies (Bucheler et al. 2005). Negative effects of using salvia have been noted in some studies, such as dizziness, tiredness, mental slowness, grogginess, physical exhaustion, and heaviness of head (Gonzalez et al. 2006, 160). As salvia use is generally confined to small pockets of youth populations (Kelly 2011; Khey, Stogner, and Miller 2014; Stogner et al. 2012; Stogner and Miller 2013), research focusing on the risks of salvia use is scarce. Respondents in Gonzalez et al.’s (2006, 159) study

noted lack of control over the experience, and the aforementioned negative effects as issues that could be considered “risky.” However, pleasure in drug use is an underresearched issue and is pertinent to our study and the debates surrounding Novel Psychoactive Substances (NPSs).

### **Drug use and pleasure**

One aspect absent from the Misuse of Drugs Act 1975, as well as the 2013 and 2014 Acts, is the consideration of the motives for drug use. The six principles included in the 2013 Act to be considered by the regulatory authority all focus on risk and likelihood of harm. To focus solely on the harms is to ignore the lived experience of drug use. The demand from drug users for illicit substances is not often addressed in drug legislation, despite the fact that an understanding of the subjective motives for drug use, including pleasure, is an essential part of any coherent response to drug use (Moore et al. 2008). Those who use illicit substances commonly cite the pursuit of pleasure as a primary motivation (Fitzgerald 2002; Levy et al. 2005; Maclean 2005). Although different drugs produce unique types of sensations, the desire to seek new sensations, new psychological and cognitive states, is often cited as the enduring motivation for drug use (Duff 2008). It is this pattern of drug use that describes the occasional and recreational drug user (Buchanan 2008, 250).<sup>6</sup>

According to Duff (2008, 384), functional explanations of pleasure in drug use that focus on the balance of risks versus benefits fail to capture the distinctive corporeal and sensory pleasures “that are experienced in and through the enhancement of sociability, closeness or confidence.” However, pleasures related to drug use are deeply embedded within the contexts and spaces in which drug taking occurs (Measham, Aldridge, and Parker 2001). Spaces that lack formal supervision and radiate unique “intensive” properties are of particular appeal as drug use spaces, such as clubs, private homes, and outdoor settings (Duff 2008). Although drug users often struggle to articulate the feelings associated with these spaces, and exactly how they are intertwined with the pleasures of drug use, they were unequivocal in their connection (Duff 2008). Therefore, drug, set and setting are key issues in considering the experiences of salvia (and other drug) users.

### **Drug, set and setting**

Among the queries raised in response to the 2013 Act is the definition of “low risk” (Wilkins 2014). The 2013 Act

included six guiding principles<sup>7</sup> that were required to be considered by the expert advisory committee which understand harm as largely dependent on the drug in question. There is little consideration about the social and behavioral characteristics of drug users, which may predict harmful outcomes from drug use. According to Rhodes (2009, 193), a “risk environment” framework that considers harm contingent on an interaction between the individual (set) and the environment (setting) promotes an understanding of holistic harm reduction. As Becker (1953, 238) noted in his study of cannabis, drug effects alone do not necessarily guarantee a good experience (see also Zinberg 1984). Drug use is affected by other things, like the set (how a person is feeling before using a particular drug) and the setting (what beliefs they/society have about the drug and the environment in which it is taken) (Coomber et al. 2013, 80). Variation in the experiences of drug use are almost universally observed, and these variations are argued to be related to set and setting (Coomber et al. 2013). The individual and how he or she is feeling (the set) is argued to be “a crucial factor in controlled, recreational, unobtrusive drug use” (Dalgarno and Shewan 2005, 264).

Although the literature on NPSs has been expanding, information about the lived experiences of users of *Salvia divinorum* in New Zealand remains unexplored. Given the scarcity of research about salvia use, this exploratory study aims to add to the debates about salvia through an analysis of open-ended questionnaire results. The research questions that this article will address are: what drug effects did respondents report and how were these affected by drug set and setting; what pleasures and risks or harms did they report in their use of salvia; and how did these affect their intended future use of the drug.

## Methods

Our study sought to generate data from which an understanding of the lived experience of salvia users might be developed. The main objective of this study was to better understand who takes salvia, why, and how. Advertisement of the questionnaire (through placement of flyers) was focused within locations in Wellington city where young adults congregate and locations where salvia could be purchased. A total of 393 people took part in the anonymous online questionnaire in 2010–2011 while salvia was legally available in New Zealand. Thematic analysis was used to analyze the resulting open-ended questionnaire data from the following: what effects did salvia have on you; what environment were you in when you take/took salvia; please describe the effects in detail; if you consider

salvia to be dangerous, what do you consider the dangers to be; other comments about salvia that you may wish to share. An open-ended question asking about any warnings participants were given about salvia in response to the closed question “were you aware of any potential dangers of unpleasant effects of taking salvia” was also analyzed. Initial themes were identified independently by two of the authors (FH and OB). Themes were identified through participant’s responses to the questions, as a simple way to organize a large amount of data. Each question generated between 73 and 34 themes. Any piece of text that was thought to exemplify one of the themes was excerpted and identified according to participant number, along with gender and age when available. Responses to the open-ended questions (which not all participants responded to) ranged from a series of descriptive words and phrases—e.g., bright colors, sense of urgency, numb, helpless—to one or two sentences, or one or two paragraphs. Themes from each of the questions were then grouped together and checked for emerging patterns, consistency, and variability between the independent interpretations. These initial themes were refined in consultations between FH and OB to form three overarching themes.

## Results and discussion

Of the 393 participants, 167 (mean age 23), had used salvia. Forty-six (of the 167 salvia users) were females aged 17–40, and 121 (of the 167 salvia users) were males aged 16–51. The mean age of salvia users  $\pm$  SD is 22.64 years ( $\pm 6.25$ ), and for non-users is 23.75 ( $\pm 9.16$ ) years. From the open-ended questionnaires, three key themes were identified that reflected the ways in which participants experienced and navigated salvia use. These were drug effects, set and setting, and pleasure/not pleasure.

### Drug effects

The psychoactive effects of salvia were noted as being peculiarly unique from non-hallucinogenic drugs and other hallucinogens, with one participant even describing what she called the *salvia world*:

Time and space are distorted, the surrounding environment disappears to welcome what I like to call the “salvia world.” It can be briefly described as a very unreal dream. (Female, 18 years).

Another noted that it was “quite a profoundly strange experience” (Male, 17 years). Others described “being in a ‘dream-like’ state” (Male, 18 years) or “kind of like

an intense dream, with no real access from outside” (Male, 24 years).

Some users also reported feeling as though they experienced the trip for longer than it actually occurred. For some, “15 minutes seemed to last 35 years” (Female, 18 years), while others “found it extremely terrifying and unsettling. Like I was trapped in some endlessly repeating half of a second for years at a time” (Male, 17 years). An initial effect of salvia, common to most reports, was uncontrollable laughter. Often users reported that there was no external trigger to the laughter, as described in the following:

As the trip began, I felt uncontrollable laughter, although I did not know why I was laughing. This recurred throughout the trip. (Male, 18 years).

Another distinguishing feature of the salvia experience was the feeling of dissociation or “an extreme out-of-body experience” (Male, 22 years). Users reported several strange sensations while using salvia, such as being in two places at once and feeling a physical force acting on their body:

A sensation of weight dragging me downwards out of my body [...]. I experienced feelings of being physically moved around, undergrowth growing and pushing me and my mind travelling towards the sky. (Male 18 years).

The altered state of consciousness produced an array of effects. The majority of participants reported the rapid onset of visual hallucinations after smoking salvia and often used the word “intense” to describe the strong hallucinations that salvia produced (44 participants (26.3%) described the trip as “intense”). This is, in part, due to the rapid onset and short duration of the experience. As one participant described:

Salvia caused a rapid transformation of my consciousness in a way I cannot compare to any other hallucinogen I have experienced. (Gender/age unknown).

Some participants reported perceptions of changes in bodily form, describing how “once my arms turned into tree branches and birds started landing on me” (Female, 19 years). Likewise, a participant noted:

Fell on the floor laughing, thought I was being pulled towards the wall by an unseen force. I struggled against it, then found myself outside standing next to my friend. We both thought we had formed a wall and that my body fitted into blocks of the wall. (Female, 19 years).

The experiences of salvia use are often very intense, and users described the effects as starting very quickly. The hallucinations were often strange, and salvia was described as a unique drug. It was also noted that its

effects were mitigated by the way users smoked it.<sup>8</sup> However, the key issue which participants highlighted that affected their experiences was the environment salvia was taken in, as well as their frame of mind at the time of their use.

### Set and setting

Participants were universally aware of the psychological, physical, and social risks of salvia use. The primary source of knowledge about the risks of salvia came from friends. Participants appeared to put a lot of faith in the knowledge of friends, which included not only the risks, but also the possible benefits, from using salvia. Many people also did personal research on the Internet before using salvia; others reported that they were given information by the “head shop” workers from whom they bought the salvia, as well as the salvia packets themselves. The effort that some participants went to for information about using salvia is described in the following:

I had been warned by friends that this was a very intense experience, some had thought they were dead, or vowed never to take it again as it had been too weird. There were also warnings in the shop and on the Internet while I was researching it. (Male, 19 years).

Amongst the knowledge that smoking plant matter can cause damage to the lungs and that using any drug can pose risks to the user’s mental health, participants were also aware that harms from salvia were contingent upon social context, including interactions between the individual and the environment. Participants universally spoke of the significance of an appropriate *setting* for using salvia. Spaces including the home, a friend’s home, or isolated outdoor settings were favored for salvia use, both for their perceived safety and as socially governable spaces. “At home” was mentioned 32 times, a friend’s house 33 times, and isolated outdoor settings 24 times by participants as places favored for salvia use. As one participant stated:

Any drug can be dangerous, it all depends on your state of mind, where you take it, and what you want to achieve with it... it’s all about set and setting. (Male, 25 years).

Participants had consumed salvia in a variety of settings, “in parks, at houses, at the beach, in the city, no major constant, at concerts,” and concluded that “the environment seems to have a direct relationship with how the drug affects me” (Female, 19 years). Those who had unpleasant experiences or a “bad trip” associated the experience with the environment:



I was in a damp room at the bottom of friends flat with only a mattress on the floor. Reminded me of a homeless man's place. Perhaps why the bad trip [sic]. (Male, 18 years).

However, an aspect stressed by participants was the importance of having a "trip sitter" present: "a sober friend to make sure nothing goes wrong" (Male, 18 years). Thirty-three participants (19.7%) mentioned the importance of having a "trip sitter," "buddy," "supervision," or having "a sober friend to look after me" while taking salvia. A further 108 participants (64.7%) said they typically used salvia with friends. The hallucinations were also cited as so overwhelming that a person may lose touch with reality:

There have been a few times when I was not even aware of my surroundings, if there were a fire and I didn't have a sitter that could be dangerous. (Female, 36 years).

Therefore, the following participant was cautious about using salvia around a lot of people, stating:

Most salvia packets suggest that you are in a comfortable environment when taking it, as the hallucinations you experience may cause some people to become anxious. It is certainly not a drug I would take while around a lot of people. (Male, 25 years).

The intensity of the effects of salvia and its reputation for producing strange experiences meant that the users in our study were often experienced "recreational" drug users (Buchanan 2008, 250) who were seeking to experiment with drugs such as salvia. This intensity of experience also meant that salvia use was particularly susceptible to the "setting": salvia use exacerbates *intensively* defined spaces (DeLanda 2005) and their affective environment, producing a tension between the pleasures and risks of salvia use. As pleasure is often a key feature of the drug-using experience, the pleasures (and displeasures) in using salvia were also explored in this study.

### **Pleasure/not-pleasure**

Many of the participants did not find the experience of smoking salvia pleasurable; indeed 24% (n = 38) of respondents described the experience as unpleasant. These participants commonly described salvia as inducing a strong sense of anxiety and paranoia:

At first I was really paranoid that everybody was watching me and knew that I had taken "saliva." Then I felt anti-social, zoned out, wanted to go to sleep. (Female, 22 years).

Others felt that the intensity of the hallucinations were overwhelming or felt trapped in their hallucinations:

Unaware of surroundings, hallucinated that I was "cartoon" as opposed to real. Was under the impression I was a chalk drawing and panicked I was stuck to the ground and would never be able to leave. (Female, 19 years).

However, the majority of participants (42%, n = 70) did find salvia pleasurable, although their responses revealed an experience of pleasure that derived beyond the physiological state induced by salvia. As Duff (2008) noted, drug users sought new experiences and sensations in order to "feel" their body differently. Most participants who reported that salvia was pleasurable described a simultaneous experience of pleasure and not-pleasure. The intensity and unpleasant or scary hallucinations were also something that participants referred to as pleasurable. The quote that follows captures the tensions and contradictions involved in the participant's expressions of pleasure/not-pleasure in relation to using salvia:

I smoked from the bong, taking in a huge hit. The trip came on instantly... words cannot adequately describe my experience. I was being catapulted through the layers of the universe at a million miles per hour, it was terrifying. Needless to say, this was one of the most awesome but terrifying experiences of my life. I said I would never take this drug again, but as of late I have been rethinking my position. (Female, 19 years).

A driving motivation for the use of salvia is that the participants find the visual hallucinations exciting. In describing the experience of taking salvia, participants commonly described the hallucinations and states of dissociation as "awesome," "intense," and "frightening":

With the higher strength, very intense reaching heights of awesomeness and heights of terror, both pleasant and unpleasant at the same time, words can't really describe it. (Male, 22 years).

The enjoyment was derived from the scariness or thrill of the experience:

Scariest moment in my life, but it was enjoyable. I liked the thrill. It's similar to how people would pay to go to a scary film or a scary attraction like the CornEvil<sup>9</sup> maze. (Male, 18 years).

However, even those who reported a pleasurable experience on salvia reported infrequent use, often stating that salvia was more of a novelty drug that was not commonly used more than once. As the experience was often very intense, participants noted that this was an additional reason why they would not take it frequently:

I don't think I have met anyone who has ever wanted to do it more than once, so I don't think it's

particularly harmful for it to be sold in places like [head shop] because people try it once, enjoy it or not, but never want to do it again or at least not regularly, it's too intense. (Male, 19 years).

The novelty of the salvia trip, even if “terrifying,” highlights the appetite that users have for experiencing different states of consciousness. Salvia users deliberately seek out and experiment with this drug to experience new sensations and experiences. It also appears that the experimenting aspect of drug use is pleasurable for this sample of salvia users, and that this experimentation often takes place within the context of polydrug use. The use of salvia was situated within a broader culture of drug use. Participants reported using alcohol ( $n = 65$ , 39%), illegal drugs ( $n = 70$ , 42%), and prescribed medication ( $n = 6$ , <1%) while using salvia.

Despite some participants being overwhelmed by their salvia experiences, 120 participants said that they would take salvia again. Of these 120, 14 participants found the salvia trip unpleasant, while also stating that they would take the drug again. Of those participants who would not take salvia again ( $n = 53$ ), seven noted that they found the experience pleasurable. Therefore, for this sample of salvia users, the notion of pleasure is often indistinguishable from “not-pleasure,” with “terrifying” experiences being cited as thrilling and exciting. Experiencing the intensity of a salvia trip did not deter the majority of participants from taking salvia in the future.

## Conclusion

Limitations of time and funding meant that obtaining a representative sample was not possible, and care should be taken in making definitive statements about other drug-using groups from the data generated. A drawback to using questionnaires is that depth of knowledge is often abandoned in favor of breadth, although the open-ended nature of the questions analyzed here attempted to counterbalance this criticism. The analysis also took a qualitative approach, which sought to explore the meanings that salvia use had for the participants. The value of this approach is the insights provided through documenting the experiences of salvia users, and such explorative studies are often useful as they raise additional questions for investigation. This study provides a platform for further exploration of salvia, as well as other NPSs and their use in New Zealand. Of interest would be to uncover the extent to which salvia users have ceased use since the 2014 Act and, if so, what other substances they have experimented with or continued to use.

A further avenue for research from a biological perspective may also be the tensions between “pleasure/not-pleasure” noted in our study. Drugs that activate the kappa opioid receptor, such as salvinorin A, typically elicit dysphoric, aversive, and unpleasant experiences. However, a recent study has identified the brain region responsible for *both* the positive rewarding effects and negative effects of kappa opioid receptor activating drugs, such as salvia (Al-Hasani et al. 2015). Coupled with the ability of kappa opioids to modulate both dopamine and serotonin levels, more complex models of emotional behavior are likely to be required to explain the emotional effects observed in humans (Lovheim 2012). These suggested avenues of enquiry could potentially shed some light on the use of other NPSs, the effectiveness of prohibition as policy response to drug use, as well as highlighting the attractions, pleasures, and risks that such drug use has.

The recreational use of salvia is indicative of the recent trend of use of NPSs in New Zealand. This recreational use of salvia appears to be situated within a broader drug landscape, with participants being drug experienced and drug wise (Measham, Aldridge, and Parker 2001). The reasons why participants took salvia were complex and contingent upon set, setting, pleasure, and excitement, with salvia use producing a unique drug experience. As Duff (2008, 386) notes, certain ways of “being in the world” are made possible through drug use that are “unthinkable or inaccessible when sober.” This appears, in part, to account for the attraction of salvia for our sample. Salvia hallucinations could also be theorized as a “smooth” space (Malins 2004, 485). This smooth space of the salvia trip may offer the opportunity for transformation and for experiencing the body differently, of being transformative (Malins 2004), which is part of the attraction of this particular drug and what is enjoyable about salvia use. Furthermore, in accordance with previous reports of salvia use, there does not seem to be a trend of continual use in this sample. Studies conducted with college students in the U.S. found that those who use salvia do not tend to continue use of this particular drug over a long period of time (Khey et al. 2008), with Gonzalez et al. (2006, 160) noting that their sample used salvia on an average of two occasions only. There is also no evidence that salvia, or other drugs that activate the kappa opioid receptor, have addictive properties. Although some participants enjoyed the intense hallucinations, some found the experience just a novelty or preferred other psychoactive substances they could acquire just as easily. Those who used salvia in our sample also used a number of other illicit and licit drugs, falling into Khey et al.’s

(2014) category of “avid” users: those who are more involved in the drug-using culture and who experiment with salvia as one drug among several that are easily available (Khey et al. 2014, 60). Low prevalence rates in the general population noted in U.S. studies may also mask higher prevalence rates in particular groups such as young adults (Stogner et al. 2012, 513), and this is also likely to be the case in New Zealand, with particular groups of “avid” (Khey, Stogner, and Miller 2014) or “recreational” (Buchanan 2008, 250) users experimenting with salvia. Thus, the recent criminalization of salvia under the 2014 Act may see a significant decline in use as experienced drug users look elsewhere for novel drug experiences. Stogner et al. (2012) found that scheduling salvia in the U.S. state of Florida had a dramatic effect on salvia and its use declined rapidly. The authors also note that salvia use may have been affected by the availability of other legal highs, such as synthetic cannabis. In the New Zealand context, all legal highs have been effectively banned by the 2014 Act, removing this option for users of NPSs. Therefore “avid,” “recreational” drug users may use illicit salvia, as well as other illegal drugs, to continue their experimentation. As Khey et al. (2014) note, scheduling salvia may have little effect on “avid” users who will continue to “desire and use salvia regardless of its legality just as they use other illicit drugs” (Khey et al. 2014, 60).

## Notes

1. *Salvia divinorum* is a member of the mint family, indigenous to the Oaxaca region of Mexico, and had traditional uses related to healing (Weitlaner 1952). It has been called by several names, including *Mexican Tripping Weed*, *Sally D*, *Magic Mint*, and *Diviner's Sage*, although it is most commonly reduced to its genus, *Salvia*.
2. Salvia was legal in the U.S. at the time of this study.
3. Although LSD and synthetic hallucinogens were the fourth most popular illicit drug use category in New Zealand among young people (Ministry of Health 2010), indicating that hallucinogens as a group of drugs do have a place in the drug repertoires of New Zealand youth.
4. In New Zealand, the debates surrounding legal highs have been ongoing since 2005, with the banning of BZP-based party pills in 2008, “Kronic” (a legal cannabis substitute) in 2011, followed by the 2013 Psychoactive Substances Act (hereafter the 2013 Act), which created a framework for regulating legal highs. The 2014 Psychoactive Substances Amendment Act (hereafter the 2014 Act) then effectively banned all legal highs, revoking all licenses to sell them previously granted under the 2013 Act.

5. The most common method for contemporary recreational use is through smoking the dried leaf in cannabis paraphernalia such as a “joint” (cigarette), a pipe, or a “bong” (water pipe).
6. The occasional user may experiment or use drugs sometimes if offered and the recreational user will use a drug more often at certain times and places. They both enjoy the desired effect of the drug and do not tend to present a risk to themselves or others (Buchanan 2008, 250).
7. The toxicological effects: risk to public health; potential to cause death; potential to create dependence; likelihood of misuse; and appeal to vulnerable populations.
8. Some participants reported only mild effects. This difference in experiences was linked to different or incorrect ways of smoking salvia. For example, one participant noted that, to get the desired intense effects, a blow-torch-like lighter is needed, rather than a normal Zippo lighter.
9. CornEvil Haunted Horror Maze is an interactive theatre performance in New Zealand, in which visitors negotiate a corn maze at night while actors hidden throughout the maze frighten them.

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