

## Cannabis Legalization and the Policing of Boating Under the Influence in Washington State: Exploratory Research on Marine Officers' Perceptions

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### ABSTRACT

*In 2012, Washington State legalized recreational cannabis. The challenge of policing cannabis-related motor vehicle operator impairment emerged as an issue in the wake of legalization. There has been less focus on exploring the topic of boating under the influence (BUI), which is regrettable given the popularity of boating. The National Association of State Boating Law Administrators and the National Safe Boating Council (NASBLA), in concert with the U.S. Coast Guard, have identified cannabis-impaired boating as a major problem and are using resources from the Sports Fish Restoration and Boating Trust Fund to address it. To explore this topic, we conducted 17 semi-structured qualitative interviews with local and state law enforcement marine officers and their supervisors and trainers in Washington, as well as NASBLA-certified BUI trainers. These interviews explored the marine officers' experiences since legalization, as well as their perceptions of marijuana legalization on public safety. Results drawn from the interviews indicate that marine officers are very concerned about the threats to public safety and responsible boating practices arising from cannabis-impaired boating and feel that enhanced training and funding is needed to better detect impairment and enforce BUI laws. Public policy, police training, and best practices implications arising from these interviews are discussed.*

**KEYWORDS:** BUI, DUI, Cannabis, Police, Law Enforcement, Impairment.

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### Introduction

Washington State's legalization of recreational cannabis in 2012 generated a number of public safety-related concerns. Legalization opponents predicted an upsurge in cannabis usage that would lead to increases in crime rates and impairment-related driving (Dills et al., 2016; Shepard & Blackley, 2016). Such concerns have prompted a significant amount of research examining the impact of legalization on a variety of public safety and public health matters.

Among the most prominent topics emerging in the wake of legalization has been the ongoing challenge of policing cannabis-related impairment for persons Driving Under the Influence of Intoxicants (DUI) (Woo et al., 2019). Less work, however, has explored the issue of Boating Under the Influence (BUI), which is regrettable given the popularity of boating in many parts of the country. The National Association of State Boating Law Administrators (NASBLA) and the

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National Safe Boating Council (NSBC), in concert with the U.S. Coast Guard (USCG), have identified cannabis-impaired boating as a major problem and are using funds from the *Sports Fish Restoration and Boating Trust Fund* created in 1950 [IRS code section 9503(c)(3), section 9503(c)(4), or section 9602(b)] to address it (Alonzo, 2014).

A better understanding regarding the extent of BUI as a problem, particularly as it pertains to the ability of law enforcement to document and address the issue, is necessary to help mitigate deaths, injuries, and property loss on the nation's waterways; a prevalence which is known to be under-reported and therefore not fully documented (Geisler, 2003). One report noted that of the limited number of BUI investigations conducted in Oregon during 2018, over 92% of these were conducted in just two counties, and 30% involved cannabis (Freeman, 2019). This situation differs starkly from both DUI and FUI (Flying Under the Influence) incidents, which are broadly and more thoroughly investigated on the nation's road and airways, particularly when injuries and fatalities are present. For instance, approximately half of the 2,550 fatalities occurring on Washington state roadways from 2013-2017 involved impaired driving as the result of drugs and alcohol (WTSC, 2018, p. 5). In contrast, aviation accidents involving intoxicants are held to be "extremely rare." Moreover, random testing of 12,480 U.S. pilots in 2015 found that only ten were under the influence of intoxicants (CBS, 2016).

To begin to address BUI impairment concerns, this study explores the experiences of officers dealing with boating operator impairment. Seventeen semi-structured interviews were conducted with local and state law enforcement marine officers and their supervisors and trainers in Washington. These interviews also included three NASBLA-certified BUI trainers. The interviews explored the marine officers' experiences since legalization, as well as their perceptions of the impact of cannabis legalization on public safety. Although several studies of cannabis impairment and DUI have been conducted in recent years, marine officer perceptions related to their experiences, training and resource needs, and obstacles to successful BUI prosecution have largely gone uninvestigated. Hence, in addition to reporting results gleaned from marine officer interviews, this study presents a brief synopsis of state impairment law and federal jurisdictional authority and reviews the literature on cannabis-related impairment. It delves into leisure boating culture revelry, noteworthy law enforcement training and resource constraints, and serious impediments to the documentation of cannabis impairment by law enforcement officers.

## **Literature Review**

### **Impairment Effects**

A number of studies have focused on documenting the impairment effects of cannabis on motor vehicle operators. In a frequently cited publication, Battistella et al. (2013) reported that smoking cannabis significantly decreased psychomotor skills and negatively affected cognition, including for persons with quite low blood THC levels. In their analysis, 31 healthy male volunteers aged 18-30 years took part in a controlled dosage study wherein their psychomotor skills were analyzed with respect to acute exposure effects; interactions among blood levels of cannabinoids and changes in brain network activations were carefully documented. Occasional cannabis smokers were shown to have globally altered main brain network activity involving cognition even in quite low THC concentrations.

Such cognitive degradation has been cited by opponents of cannabis legalization, who support zero-tolerance policies that prohibit the presence of any amount of THC in the blood while driving (Battistella et al., 2013). Additional research cited by Daniello (2017) indicates that for persons who used cannabis less than daily, psychomotor impairment often persists past eight hours

from initial use. In the case of chronic frequent users of cannabis, significant persistent long-term psychomotor impairment has been demonstrated even after three weeks of documented abstinence from cannabis consumption (Daniello, 2017). Similar significant psychomotor and neuro-cognitive impairment effects involving occasional and chronic cannabis users were further confirmed in well-designed National Institute of Drug Abuse (NIDA)-funded research conducted by Desrosiers et al. (2015).

Desrosiers' team (2015) assessed differences between two groups of cannabis plant material smokers – 14 frequent and 11 occasional cannabis users – with respect to driving-related psychomotor, neuro-cognitive, subjective, and physiological effects. Their study revealed that known-dose cannabis smoking of products at THC concentrations normally found among cannabis users impaired psychomotor function at a heightened effect level for occasional users as compared to frequent cannabis users; possible tolerance effects among the latter (reduced brain receptor sensitivity over time, as is common for many prescription medications) likely account for a shorter period of impairment duration for chronic users (Sewell et al., 2013; Ramaekers et al., 2011; and see meta-analysis conducted in Colizzi and Bhattacharyya, 2018).

Jenkins' (2015) article on cannabis-related impairment takes note that chronic cannabis users may present with an elevated THC blood level yet show no signs of impairment. In stark contrast, infrequent users may test well under the threshold limit (i.e., 2, 3, or 5ng/ml in differing U.S. states and nations in the EU) and still be highly impaired. Hitherto, many cannabis-using drivers fail to recognize the impairing effects of cannabis, acting under the common belief that once their “high” is done it is safe for them to drive. In fact, research has shown that cannabis users are more than twice as likely to experience a crash than non-users, at least in part due to this misperception by frequent users that marijuana is not impairing their ability to drive when it in fact does so (Hartman and Huestis, 2013).

Hartman and Huestis (2013) have noted quite correctly, however, that even though increased blood THC concentrations are associated with increased crash risk, there is no direct correlation between driving impairment and THC concentration. In contrast to blood alcohol content (BAC) and its cognitive and neurological effects, Sullum (2019) and others have noted that because there is no consistent relationship between THC in the blood and THC in the brain, THC blood levels do not correspond directly to degrees of impairment. Moreover, individual responses to THC are known to vary, and such variations are particularly notable in occasional cannabis users. For regular users, the development of tolerance and learning over time to control the effects of THC make the degree of impairment experienced more predictable and adaptive behavior (e.g., driving with marked caution, avoidance of high traffic areas, etc.) more likely (Ortiz, 2018; Sullum, 2019).

A follow-up study by Hartman et al. (2016) suggested that high-dose THC consumption resulted in both high inter-individual variability and overlap across doses during driving experiences, and that such outcomes largely precluded meaningful dose-based analysis. Nonetheless, despite the difficulty of establishing a dose/impairment level connection, the overall effect of cannabis consumption on longitudinal control at recreational doses was found to be present. Operator abilities were impaired, and cannabis-consuming research subjects exerted additional effort and required longer reaction times in their driving assessments compared to motor vehicle operators who were substance-free (Hartman et al., 2016). It should be noted, in fairness, that in virtually all studies done on the comparison of adverse effects on driving that involve alcohol and cannabis, the effects of alcohol on driving have been shown to be much more severe than those associated with cannabis (Compton & Berning, 2015; Hartman et al., 2016; Woo et al., 2019).

## Boating Culture

The propensity for some individuals to operate boats while impaired has been a national problem for decades, a problem which is thought to arise in good measure due to a pleasure boating culture that promotes boating-based partying with intoxicants. In their article about a fatal boating accident, Black and Meyer (2012) noted the existence of laws that prohibit operating a boat while intoxicated being enforced in the social context of a leisure boating culture which features an emphasis on partying, loosened inhibitions, enjoyment of the outdoors, and a social setting which often results in impairment of passengers and operators alike. This culture may also be a partial reflection of the partying ethic observed among some organizations and product manufacturers involved in the outdoor and adventure industry (Zuefle, Pugh, & Robinson, 2002). A recent news report by Platt (2019) reflects this widely shared party culture ethos associated with boating, noting that “on the water, . . . everybody thinks it's okay to have a beer, everybody thinks it's okay to smoke a joint” (p. 6).

Similarly, Freeman’s (2019) recent media release reported an increase in “boating-while-high” on Oregon waterways. Freeman (2019) noted that over 30% of boating impairment cases in two southern Oregon counties involved cannabis intoxication (p. 1). Moreover, it is rather noteworthy that Oregon’s cannabis-involved BUI cases are nearly always accompanied by coincident ample alcohol consumption (Freeman, 2019). The existence of “float and toke” business operators has also contributed to the impairment of rafting trip participants and has resulted in the filing of federal charges associated with possession and intent to distribute cannabis (Freeman, 2019).

Charter yachts are experiencing increased legal and insurance risks associated with clients bringing cannabis on board, in violation of both federal law and charter contracts. According to Kavin (2018), the cannabis situation aboard charter yachts is expected to worsen as Oregon’s state-level legalization of marijuana in 2014 leads to greater access. Charter yacht captains who are caught with cannabis on board face charges that can result in the loss of their operator’s license and even seizure of their yachts. Furthermore, if their yachts cross state lines with cannabis aboard, yacht captains may be charged with federal trafficking offenses.

In an attempt to better understand motivations underlying the practice of BUI, Miller and Stogner (2015) explored the traits of younger adults who have experienced intoxication while boating. They analyzed survey data collected among 1,082 university students at a public university in the Southeast self-identifying as young adult boaters (Miller & Stogner, 2015, p. 72). Survey subjects were drawn from classes randomly selected from a stratified matrix; subjects were found to be relatively affluent, taking part in water sports most of the year. They reported frequently using alcohol and other psychoactive substances, including cannabis, both separately and in combination (Miller & Stogner, 2015). More than 25% of the students reported operating a motorized vessel after consuming alcohol, with 14.3% doing so after three or four drinks, and 4.9% after five or more drinks (Miller & Stogner, 2015, p. 74). Moreover, 5.9% reported operating a motorized vessel after consuming cannabis, while 3.9% reported combining alcohol and cannabis at least once while driving a powered boat (Miller & Stogner, 2015, p. 74). Operating a vessel while “buzzed” was reported by 35% of the cannabis users, and BUI (noticeably impaired) by almost 24% (Miller & Stogner, 2015, p. 76). Nearly three times as many males self-reported boating under the influence than females (23.7% vs. 8.7%, respectively) (Miller & Stogner, 2015, p. 76). After controlling for other factors, being male was the only trait that predicted BUI after five or more alcohol drinks, with BUI more prevalent than DUI.

## **BUI Impairment Penalties and Enforcement**

In Washington state, a boat operator whose blood concentration contains more than five nanograms (ng) of active delta-9-tetrahydrocannabinol (THC) per milliliter of blood (5 ng/ml) is considered impaired (DeVoe, 2018). Exceeding this legal threshold for active THC is evidence *per se* of impairment (Banta-Green et al., 2016). THC is known to cause systemic effects in many body systems related to the safe operation of vehicles or vessels, and like alcohol, tranquilizers, opiates, and hallucinogens, it can produce a variety of anxiolytic, sedative, analgesic, and even psychedelic reactions (Ashton, 2001). Boat operators and drivers alike may be evaluated lawfully for impairment through a combination of detailed police and eyewitness observations, standard field sobriety tests, and Drug Recognition Expert (DRE) assessments (Banta-Green et al., 2016). Under Washington state law (WASL, 9.92.020), persons operating a vessel while under the influence of cannabis are subject to a gross misdemeanor charge, with penalties ranging up to 364 days in jail, or a fine of up to \$5,000, or some combination thereof. Incarceration penalties increase as the number of DUI/BUI convictions increases.

Federal jurisdiction in Washington extends to navigable waters, which include coastal waterways, inland rivers and streams, and lakes, rivers and streams in all national parks and national forests (DeVoe, 2018). Federal law continues to prohibit the production, distribution, sale, possession and use of cannabis. Federal law subjects a person who operates a vessel while under the influence of alcohol or a dangerous drug to a civil penalty of not more than \$5,000 (Akpinar, 2020). Cannabis remains classified under federal law as a DEA Schedule 1 dangerous drug under the *Comprehensive Drug Abuse Prevention and Control Act of 1970* (DEA, 2020).

Although there are heightened concerns related to cannabis possession, consumption, and impairment while boating, most states with legalized cannabis have not reported increases in the number of BUI cases (Jenkins, 2015). Exceptions to this general rule are present in some counties, which appear to be the result of concentrated BUI enforcement by specific agencies. Of the 39 BUI cases investigated and officially reported by marine law enforcement officers across the Pacific Northwest, 36 originated in two southern Oregon counties where such concentrated BUI enforcement conditions exist (Freeman, 2019).

According to Geisler Jr. (2003), BUIs account for deaths, injuries, and property loss on many of the nation's waterways, with many BUI incidents going unreported. The prevalence of under-reported BUI occurrences has not yet been documented, and some observers such as Jenkins (2015) maintain that Washington's BUI enforcement officers have not observed "much of an increase [in] marijuana use among boaters they've encountered on Washington's waterways" (p. 3). This finding was also supported in Lehman's (2018) article, which posited that the legalization of recreational marijuana in 2012 has not resulted in any dramatic increase in the number of BUI arrests in Spokane County or the rest of the state. Of course, both Lehman (2018) and Geisler Jr. (2003) noted that the ability to enforce BUI laws is severely constrained by the limited number of BUI-certified officers. Moreover, Jenkins (2015) argues that BUI cases pose significant logistical problems for marine officers operating in remote locations lacking technicians able to draw blood for drug-presence analysis. Additionally, Washington has only approximately 200 officers trained as drug recognition experts (DREs) who are available to respond to cannabis-related BUI enforcement cases (Jenkins, 2015).

Officers who do suspect cannabis impairment by BUI operators face several obstacles in determining impairment and the substance(s) involved. The capacity of police to detect, test for, and then link substance consumption to impairment is limited (McKnight et al., 1999; Leadbeater et al., 2017). According to Carro (2016), law enforcement officers have experienced considerable difficulty in determining levels of 'under the influence' and the associated reasons for its observed

presence. Officers are required to identify the type of drug(s) involved and estimate the quantity used, as well as determine from their interaction with the person detained the time since any intoxicants were last consumed. The officers are expected to document the level of impairment observed using the Standardized Field Sobriety Tests (SFST) or Advanced Roadside Impaired Driving Enforcement (ARIDE)-based indicators of drug-based impairment (Carro, 2016). Any conclusions the officers reach about the specific effects of cannabis are commonly complicated by the fact that many drivers and boaters detained for suspected impairment have used cannabis in combination with alcohol (Leadbeater et al., 2017).

Unlike alcohol-related impairment, where officers can test a suspect's BAC with a PBT (portable breath test device) or a calibrated stationary breath test instrument, the testing of cannabis or other drugs occurs through a combination of field sobriety tests and blood and urine analysis conducted after a search warrant is issued by a judge upon a showing of probable cause. Currently, there are no breathalyzer tests for cannabis, and only limited use of oral fluids testing for cannabis in suspected DUI cases (Freeman, 2019). These cannabis-impairment assessment processes are quite time consuming; these are key factors contributing further to the limited enforcement coverage upon the waterways noted above (Geisler Jr., 2003).

Bosker et al. (2012) conducted a placebo-controlled study to assess SFST officer effectiveness in determining alcohol user and chronic cannabis user impairment. They made use of an oral fluid THC testing device known as the Drager Drug Test 5000. The Drager device is designed to test oral fluid samples for the presence of known impairing drugs, including cannabis. The Drager device does not quantify an individual's level of impairment; it is simply a drug-screening tool. Daniello (2017) notes that SFST determines impairment while the oral fluids testing identifies what may be causing the impairment. Bosker et al. (2012) observed that the SFSTs were effective in alcohol impairment detection, but only partially sensitive to impairment from cannabis among chronic users. They speculate that the limited sensitivity of SFSTs was due to the fact that the test was designed for use with alcohol impairment and the very same indicators of alcohol impairment work for novice cannabis users; however, they do not work well for chronic cannabis users. This may well be due to two factors, their heightened tolerance and their learned compensatory behaviors with respect to driving after using marijuana (Bosker et al., 2012).

## **Resource Limitations**

The time-consumption effects and resource impacts of evaluating boating operators for impairment are further exacerbated by logistical problems related to removing boats from the waterways after a BUI arrest. According to Lehman (2018), "once officers arrest or cite someone suspected of BUI, they have to find a sober friend or relative to drive the boat to shore, trailer it, or find a safe place to tie it up. That's where BUI arrests are very time-consuming (p. 3)." There are also substantial disparities present in BUI detection and enforcement training between state and local marine officers; disparities likely reflecting differences in funding. In some jurisdictions state marine officers have received a 40-hour block of comprehensive BUI training, while for many municipal marine officers six hours of training is the norm (Geisler Jr., 2003).

## **This Study**

As noted, numerous articles and news stories have addressed the connection between the leisure boating culture and excessive alcohol and drug consumption, and the challenges of effective BUI enforcement. The literature reflects ongoing efforts to educate the public and policymakers about this persistent problem, and to enhance awareness of the reasons why laws on unlawful abuse

of alcohol, cannabis, or other impairing drugs in recreational boating settings are so poorly enforced. Although preliminary research on the impact of cannabis legalization on crime is limited, studies conducted to date tend to indicate relatively stable crime rates in general (Lu et al., 2019). However, noteworthy increases in fatal traffic crashes may be associated with cannabis legalization leading to increased driving (and boating) while impaired (Woo et al., 2019).

Absent from the research literature is any systematic exploration of marine officer perceptions pertaining to cannabis legalization. Washington, being among the first states to legalize recreational cannabis in 2012, serves as an appropriate place to undertake such needed research. This study, involving local and state marine officers as well as NASBLA instructors, is properly viewed as exploratory. The perspectives of these officers based upon years of experience with marijuana legalization were probed using two key questions: 1) What were your BUI experiences like pre-legalization? and, 2) What have your post-legalization experiences with BUI been like?

## **Methods**

### **Participants**

This study reports insights derived from 17 total semi-structured qualitative interviews, including 14 conducted with municipal, county, and state law enforcement marine officers, supervisory personnel, and trainers from Washington state, and three NASBLA-certified BUI trainers. The Washington officers who participated were attending marine enforcement training sessions and volunteered to be interviewed while in training. The purposive sample included five sworn officers (three supervisors and two line officers) from five municipal police departments (two urban, one suburban, two rural), five sworn county sheriff's personnel (three supervisors, two deputies), four sworn officers/troopers from two statewide agencies (one supervisor, one officer, two troopers), and three instructors from the NASBLA training team. Except for the state agencies and NASBLA personnel, eight of the ten local police agencies represented are in western Washington and two are in eastern Washington. No specific information related to gender, age, or years of experience of the marine officers or NASBLA instructors was connected to interview commentaries to assure subject anonymity. Generally, most participants were male; nearly all had 10+ years of law enforcement related experience and ranged in age from 30 to 50.

### **Recruitment Process**

At the start of the training session, all sworn officers or training instructors were invited to participate in individual interviews. No incentives were offered or provided other than verbal and written notice that their participation would assist research related to the impact and effects of cannabis legalization on marine officer operations. Written instructions with a detailed description of the research were presented to each person expressing an interest. Those volunteering to participate were also given an informed consent form requiring their signature. This protocol was reviewed and approved by the Washington State University Institutional Review Board.

### **Questions Development**

The questions used to structure the interviews were developed by means of a preliminary Appreciative Inquiry (AI) process employed in focus group settings with groups of both law enforcement officers and supervisory personnel. AI is a participatory methodology used widely in organizational studies and organizational development (OD) initiatives. It emphasizes use of open

dialogue about actual formative lived experiences and captures the core elements of an organization's or profession's living culture (Whitney & Trosten-Bloom, 2003).

The formatting of the questions derived from AI pre-interview stage focus groups involved making use of a three-phase conceptual process that included interviewee *engagement*, *exploration*, and *exit*. According to Then et al. (2014), having these conceptual phases in mind promotes the development of a natural, dialogue-based script for an interview. In this study, the interview guide included the use of engagement, exploration, and exit sequenced semi-structured questions and prompts to induce marine officers' responses based on their own experiences. Such experience-based responses from police officers and their supervisors, when analyzed as a body of interview-based information, provide a strong foundation for policy recommendations and derivation of insight into the challenges of BUI enforcement. Accordingly, the script used in marine officer interviews is summarized as follows:

### **Engagement:**

- 1) Prior to I-502, how was cannabis possession and cannabis-related BUI enforcement handled in your agency?
- 2) Why do you think cannabis possession and BUI enforcement was treated the way it was (serious/not serious) by your agency?
- 3) Now, thinking about post-legalization, how is cannabis possession and how is cannabis-related BUI enforcement handled in your agency?

### **Exploration:**

- 4) Since the passage of I-502, how has the way you do your own job changed?
- 5) Would you argue that I-502 has made things easier for marine officers or more challenging?
- 6) Can you think of any specific incidents where I-502 has made your job more difficult/easier?
- 7) Have you noticed any key changes or issues that you would attribute to the passage of I-502?

### **Exit:**

- 8) As we end the individual interview, I am curious if the passage of I-502 resulted in any unexpected changes that we have not discussed.
- 9) Is there any noteworthy experience, post I-502, that you believe is important to share with agencies in other states who are in the pre-implementation stage or are considering legalization?

## **Individual Interview Facilitator Training, Transcriptions, Data Collection, and Analysis**

Individual interview facilitators were trained as a group and were instructed to adhere to WSU's IRB requirements that interview participation be voluntary and responses be kept confidential, with minimal collection of identifiers attached to respondents' commentaries. All participants were to be asked the same foundational questions, followed by additional questions and prompts as necessary and appropriate. Facilitators were directed to refrain from injecting their opinions into the discussion.

Undergraduate students were recruited to transcribe the individual interview audiotapes. Transcribers were provided class credit for their participation and required to complete the university human subjects training course (online CITI certification) and be trained by a supervising research team member. Transcriptions were cross-checked for accuracy by trained transcribers, and the



transcriber supervisor spot-checked all transcriptions to further ensure the accuracy of and proper redaction of identifying individual and agency information from the transcriptions. Three interviewers conducted the individual interviews. Each interview was conducted by a single interviewer who simultaneously operated audio-recording devices and took notes. The interviews were conducted in private locations and lasted for approximately one hour.

All audio-recordings were transcribed, with one transcriber converting audio recordings into written form, followed by a second transcriber reading and listening to audio recordings to ensure transcription accuracy. Any differences were flagged for review, and any discrepancies were rectified. Initial transcriptions were cross-checked for accuracy by two other trained transcribers. The supervisor of the transcriber team then spot-checked all transcriptions as a further assurance of accuracy. Agency name, participant names, and any references to matters that could reveal the identity of the study participants were redacted from the transcripts to ensure anonymity.

Transcription analysis involved a two-step process in which transcripts were reviewed and a derivative list of themes developed, with accompanying illustrative quotes. Five dominant themes were identified related to the two research questions posed. The themes are presented here as a coherent single body of work reflecting the 17 interviews conducted. No theme comparisons between individual types of interviewees or their agencies are presented here; it suffices to note that diversity in agency size, geographic location, rank, years of experience in marine patrol assignments, and several other aspects of background exist among the 17 persons interviewed. Any such comparison would enhance the risk of participant identification.

## **Findings**

The predominant themes revealed by participants involved: a) impediments to enforcement and adjudication; b) training issues; c) enforcement disparities; d) enforcement perceptions; and, e) resource demands and limitations. Accordingly, interviewees expressed difficulties in drug identification (including cannabis) and related impairment effects, lack of drug testing instruments, prosecutorial declinations, training disparities between agencies, enforcement policy and practices variances, and the conflict between excessive resource demands and organizational limitations to meet public service requirements. Analysis of the Washington marine officer and NASBLA training instructor experiences are presented as follows:

### **1. Impediments to Enforcement and Adjudication**

Study participants revealed numerous difficulties in their efforts to investigate and enforce BUI when cannabis is involved. Officers noted that when alcohol is present with or without cannabis consumption, alcohol can be readily identified due to its odor. In contrast, cannabis may be consumed through several methods other than smoking plant material that are not easily identifiable. Such methods include oils that can be used in cooking and baking, and sprays that can be directed under the tongue. Both methods of consumption are difficult for officers to detect. Officers opined that:

*With boating . . . it's inherently difficult even to enforce BUIs. With alcohol, you can smell it, marijuana you can't unless you're next to them and they have possession. Marijuana THC levels are very high; oil concentrate [effects are] very similar to heroin, so when we see it, we don't recognize it until we really look at it, they look very similar.*

In underscoring the difficulties of identifying cannabis-related boating impairment, one officer related:

*We [police] don't have those tools to really observe or to identify impairment for marijuana. We kind of just tell people 'alright well, just FYI, like you can be arrested for impairment on a boat for marijuana, and you can't do it in public, and you're doing it in public now, so kind of like just cut it out. Alright?*

Officers also revealed differences in determining potential impairment between persons driving motor vehicles such as cars and those operating boats. For instance, officers who look for operator impairment related to cars or trucks typically watch a vehicle's movement on a roadway for a period of time to gather evidence. Vehicles that operate outside of their lane of travel, violate road marking restrictions, or alter their speed for no apparent reason might indicate a level of impairment. As such, one officer stated that with regard to BUI detection,

*Wind, waves, current, and the general philosophy of driving straight, it's not like in a car [when] on a boat. A boat wanders to [the] right and left and as an operator you're constantly countering those [elements]. So, it's not like you can just see someone going between a yellow and white line.*

Another prevailing difficulty noted by officers involves the inability to determine differences in how the outdoor environment affects operator impairment as it pertains to cannabis consumption, or cannabis use in combination with alcohol or other poly-drug usage. There was some understanding that being on the water and being subjected to sun-related temperature effects contributed to boater impairment through variances in body hydration levels and their related physiological reactions to sun and wind exposure. Officers were not knowledgeable as to whether such environmental influences upon operator impairment would be similar to those of alcohol after cannabis consumption. For instance, one officer observed the following:

*In the water, you know, sun affects a boater who's under the influence of alcohol. Does it affect somebody who's under the influence of marijuana the same?*

Law enforcement engagement with prosecutors was described as an important element to successful BUI prosecution. Officers asserted the importance of prosecutors in adjudicating BUI cases in a similar manner to the disposition of DUI cases. In addition, officers stressed an overreliance by prosecutors on *per se* limits rather than recorded observations of impairment when making determinations to prosecute both DUI and BUI cases involving alcohol, cannabis, and polydrug combinations. Moreover, prosecutors who were dependent on *per se* limits to determine whether to prosecute DUI cases were more hesitant yet to adjudicate BUI cases, with which they were largely unfamiliar. Hence, several officers felt that it was important to have sound working relationships with prosecutors – that is, relationships that featured officer and prosecutor communication, trust, and a willingness by prosecutors to adjudicate more difficult cases when officers expressed direct interest in a case.

Officers noted:

*With BUIs, a lot of [prosecutorial] agencies, or a lot of jurisdictions, they kind of get them and go, 'oh what is this?' And so, with my experience, when I have a BUI in a new county or another area, I physically go in and talk to that prosecutor. I introduce who I am, my credentials, my training and I go 'Here's a boating under the influence' and I write that report exactly like they see the DUI reports from the state troopers, their number one agency that submits the DUI's. When I have the BUI look just like that, and I make that eye contact with them, because there's part of that where people are like 'Well its boating. Of course, you drink and boat, well what's the big deal?' And when we have that personal relationship to say this person is impaired, they're just as much of a hazard on the water as they are on the road. So personal relationships with the prosecutors, I see a better result in the prosecution for those cases.*

*Prosecutors sometimes get so fixated on that number [BAC], and it's like, it's not just the number, it's where I'm telling you they're impaired and I can articulate that. When I've had that opportunity to have that relationship with the prosecutor and say this is how they did it and I write my report very well to paint that moving movie as they read that report, we've been successful with that.*

*[Prosecutors] are very attached to that per se limit. We'll have an eval[uation] showing they're impaired, but they're under five nanograms, so they toss it because it's not over the per se limit. But we're showing clinicals and everything are well above, the guy is obviously impaired. But they're new. They just rely on – 'oh they're under five nanograms so that must [mean] they're legal.'*

## **2. Training Issues**

Study participants reported a wide range of training related to the effects of the recreational cannabis law. Some officers had received little to no direction from agency supervisors or administrators related to new statutory provisions pertaining to cannabis, while others had received varied levels of formal training. Training differences were noted between municipal, county, and state agency personnel, with substantial variances in practice being revealed by officers in their cannabis-involved boating impairment enforcement competencies. As an example, one officer stated:

*I didn't understand how it was going to be enforced, how it was going to affect me as a police officer.*

A second officer conveyed his frustration regarding inadequate training when he relayed that there was:

*[A] lack of understanding as far as what's enforceable, what's not enforceable, what to enforce, what not to enforce, there's a lot of unknowns and you know, kind of just muddling through things to a degree. What do I do, how do I deal with this?*

There was a general consensus among officers that understanding cannabis-related laws more fully would help them detect and process persons suspected of operating boats while impaired. Persons consuming cannabis in public, including on water vessels, could in fact be lawfully contacted by officers, which contact might then be used as an opportunity to observe operators for potential impairment. However, inadequate knowledge of the laws caused some officers to steer clear of cannabis-related investigations to the degree possible. This training-related constraint led one officer to opine:

*Police are avoiding dealing with it. I don't think we've had any type of training regarding the legalization of marijuana that I can think of. . . so really nothing about how do you (lawfully) approach situations of somebody smoking in public.*

Officers with some training related to cannabis legalization felt that their level of training was inadequate, and expressed similar opinions to those of officers with no cannabis legalization training. One officer's description of the problem relayed that:

*When the legislation was passed, we were educated to say marijuana is now legal in these quantities and in these circumstances, so we were provided that training but nothing to change how we would approach any kind of illegal possession in excess of the allowed amounts. There wasn't anything specifically geared toward that, just a matter of. . . okay it's legal now so we're not going to cite for these amounts referred to in these circumstances. There wasn't a lot of time spent on it to be honest with you.*

In an effort to alleviate training shortfalls, an officer illustrated how:

*You take the initiative to go out and dig it [up] yourself. Most of the training I have has been my own research. I've read papers back from the 70s and 80s talking about issues that we are talking about now.*

For officers working in agencies with more developed training related to the detection and apprehension of impaired boat operators, there appeared to be a higher level of confidence in their ability to enforce BUI law. For instance, one officer declared:

*We are the state agency on the water. We're in pretty much every single body of water in the state, and we're getting to the point where most of our, a lot of our officers are BUI trained, or at least are familiar with the boating field sobriety test. So, I mean we're the ones out there looking for [BUI].*

### **3. Enforcement Perceptions**

Study participants shared differences in enforcement foci among officers and agencies pertaining to cannabis-related BUI investigations. Such variances were due in part to the heretofore described agency and personnel training disparities, as well as divergences in public safety strategies between enforcement and water safety and rescue operations. Hence, some marine officers and their agencies had never conducted BUI enforcement and concentrated instead upon

rescue-related emergencies, while others conducted proactive BUI interdiction patrols. As examples, some of the officers observed the following:

*We have never had a BUI in our agency since I have been in charge of the marine patrol. We are doing marine patrols, including impacting some impaired drivers. I personally haven't had one recently where I thought marijuana was a factor, but again our contacts have been down as well. Primarily our interaction is with regard to rescue marine emergencies more so than interdiction.*

*We don't do specific interdiction patrols. We're doing recreational boating safety. We're just making sure you got your fire extinguisher and your lifejacket. That's what our push is about.*

Other officers' comments related directly to their proactive BUI detection and apprehension efforts, including the notable targeting of party areas where cannabis was a known contributor to impaired boating. Marine officers' statements in this regard were as follows:

*With the legalization of marijuana and in these party areas that people go to, I started seeing more increase of people under the influence of cannabis. On average I'm at approximately half dozen BUI's myself and we run about a half dozen boating under the influence emphasis throughout the year. And then I assist with probably a good dozen (more).*

*We go out for the boating under the influence, whether it be alcohol, cannabis, or [other] drugs. Enforcement is we're going (to) find those people who make the poor choice and then see if they're impaired and if they are, arrest them and forward the case to the courts.*

One of the officers revealed the effectiveness of inter and intra-agency multi-officer team approaches to detecting and apprehending persons suspected of operating boats while under the influence of intoxicants, including cannabis. The veteran officer opined that the:

*Most effective [method] statewide . . . is when we do the team approach. We've built a BUI breathalyzer trailer, if you will. It's got a holding cell, it's got a Drager, it's got a narrator to write your reports, its air conditioned, and it's got a generator. We can bring that on site and when you do the team approach of having a couple boats, you have people on shore, someone at the trailer, and you got phone access to apply for the warrant or send the email out to the judge, that is all kind of a one-stop shop, like it is in [redacted] is another example. So, when we bring that mobile unit around, we are a lot more effective of doing boating under the influence enforcement that way, and so I promote the team approach of you have a primary officer and you have a secondary officer. The primary is just right there to observe that person, speak to them. The secondary officer is to watch around for the subject's friends in the boat, or they may have to operate the boat because we're gonna arrest the operator for boating under the influence. And the secondary officer is there as another set of eyes . . .*

#### 4. Resource Demands and Limitations

Study participants described the lengthy processes and extensive use of resources involved with investigating BUI cases. In addition to the heretofore described law enforcement resource demands that surround the effective management of boat operators, passengers, and boats on navigable waters where impairment is suspected, officers also face time-consuming processes related to sobriety testing (i.e., SFSTs), acquiring search warrants, and in determining substance(s) contributing to intoxication. Unlike alcohol-related impairment where a calibrated breathalyzer test may be used to determine BAC levels, when cannabis impairment is suspected, a search warrant is necessary to draw blood and confirm the presence and level (ng/ml) of THC in the blood. Such processes are much more time and resource consuming because officers are required to complete a warrant request (sometimes with the assistance of prosecutors), locate a judge and obtain a judge's signature, obtain a certified professional to draw the blood, process the blood into evidence, and schedule for shipping to the crime lab if necessary. For much of this warrant process, officers continue to oversee the incident site involving persons and boat(s), which is a substantial cost in time and often limits officer availability to initiate other waterborne contacts or respond to calls for service. Officers were consistent in these views as follows:

*When you learn that its maybe a blend, maybe it is alcohol and cannabis or just cannabis, we then apply for a search warrant for the blood. As soon as you get there and alcohol is not primary, it does take a lot longer. I would say on average you're looking at approximately two hours and the longest one I had was nine hours.*

*BUIs are a nightmare. All the components of the boat, the people in the boat, as the arresting officer you're responsible for that, for the boat and the people, and what do you do if they're unruly or do you have backup? Or processing them and just a lot of complications with it.*

Study participants described funding and resource limitations that seriously constrain their operations. In addition, some personnel and their organizations had expectations that substantial funds would be allocated from the state government following cannabis legalization (I-502). However, additional revenue has not been received, even though cannabis-related enforcement including BUI is often time-consuming and generally requires additional resources. Officers revealed concerns that:

*We don't see anything from it [I-502]. Some of the tax revenue funding was actually supposed to go back to law enforcement. From what I've been told, it's been zero, and I've actually seen that within our court rooms, as well as officers, as well as DREs. If you look at our toxicology system now, I mean we're six months back [i.e., behind]. If that funding was actually going into the state, we would actually have quicker turnaround times. We're always understaffed with fish and wildlife . . . we're very underfunded.*

## 5. Policy Recommendation

Study participants recommended more impairment and BUI training. Some officers avoid efforts to detect and apprehend boating impaired operators because they lack knowledge and competency to both identify cannabis and polydrug impairment, and to process impaired persons for BUI. Officers posited in this regard:

*[Police] need more law enforcement training for marijuana impairment. I think that's seriously needed. . . we need more training all around. . . we're severely lacking in our marijuana detection.*

*I need more people trained in [BUI] because . . . were on patrol, we're gonna go out there and we get a BUI. . . our day is going to be tied up for the rest of the day.*

## Discussion and Conclusions

Participants in this research highlight both the direct and more subtle ways in which cannabis legalization impacts their daily practices. As shared by participants, detecting impairment is inherently more challenging on the waterways because of the nature of watercraft. While these experiences in many ways mirror those faced by other traffic enforcement officers – specifically issues in detecting impairment, the area of operation presents as an added source of complication (Leadbetter et al., 2017; Carro, 2016). As shared by study participants, balancing public safety with public enjoyment is a dualistic dilemma, which when adding in prosecutorial reluctance to charge cannabis possession creates situations where officers operate within a gray area of discretion. Some officers enjoy having this discretion, but others shared how the failure of prosecutors to provide guidance on what cases to bring forward resulted in decisions to issue warnings and focus on educating boaters rather than on employing punitive measures when merited. Moreover, marine officers felt that the apparent unwillingness of prosecutors to charge reinforced their decision to not make arrests.

Operating in this gray area of discretion, compounded by a lack of guidance, lack of training, the perception by some that there is a reluctance by prosecutors to move forward in some impairment cases, clearly worried some interviewees. However, these perceptions were not universal. For some participants, despite general agreement on insufficient training and limited prosecutorial guidance, operating under legal cannabis has merely changed their emphasis. These officers place their emphasis on trafficking, both intentional and accidental. For these marine officers, pre- and post-legalization had no real impact on their actual tasking.

Making sense of these two perspectives, arising as they do out of the new reality of cannabis legalization, requires a consideration of how crucial the understanding of variation among departments, even units, can be. Those agencies and units emphasizing interdiction and trafficking have been minimally affected by cannabis legalization. Dealing in illicit cannabis did not cease with legalization. For these marine officers, guidance or training needs are largely being met. While these officers still operate within a gray area of discretion, as it concerns small quantities, their primary emphasis insulates them from some of the frustration experienced by other officers.

Those most impacted by legalization, occasioning a sense of frustration, are officers who are tasked with balancing public safety needs with fair provision for public enjoyment of a legal substance. As Jenkins (2015) documents in her work on marine officers, operating under legalization has created an increased opportunity for boaters and passengers to be brazenly open in

their use of cannabis. The combination of a dearth of public education, a long-standing “party” culture in boating, a paucity of law enforcement resources, and this openness of use of ever higher potency cannabis under legalization serves to exacerbate the existing challenges for many marine officers. Operating under prohibition was easier when it was a black and white situation. State legalization expanded the gray area in which they now operate, and one in which citizens may operate under the false belief their actions are no longer criminal.

## Study Limitations and Future Research

While our results offer insight into the lived experiences of marine officers, they are not without their limitations. As with any research design employing purposive sampling, these results are not generalizable. They do not represent the lived experiences of all of Washington’s marine officers, nor capture the totality of the lived experiences of each of our individual study participants. These results place heavy emphasis, and sought to document, experiences pre- and post-legalization. While an attempt was made to limit our interviews to cannabis-specific issues, our participants diverged in voicing broader frustrations involving police resourcing, training, and prosecutorial practices.

Our findings suggest that future researchers should replicate this study in other states where recreational cannabis has been legalized and where the same party culture is associated with summer boating. It is very important that the marine officers and the boating public both be better educated on the laws on permissible conditions of use of cannabis under legalization. Given the scale of recreational boating across the country, a public education campaign focused on responsible boating is indicated. As Miller and Stogner (2014) note in their study on BUI, failure to properly consider the demographics and cultural factors contributing to impaired boating will likely lead to ineffective and/or misdirected messaging. Marine officers are an invaluable source of information on the boating subculture, and they most certainly should be a key stakeholder when developing public education campaigns, prevention strategies, and officer training for navigating this “gray water” of BUI enforcement in a cannabis-legal environment.

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