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Gaining Buy-In by Incorporating Manager Sentiment Towards Cannabis When Amending Organizational Drug and Alcohol Policies

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Abstract

This article examines the differences between federal, state, and jurisdictional recreational cannabis laws and how these differences are creating challenges and risks for organizations. Research for this article was conducted by surveying 118 managers and supervisors from varying businesses across the U.S. to gauge their perspective on what components of a drug and alcohol policy are important to them. Realizing managers and supervisors may not be knowledgeable of rapidly evolving state, district and jurisdictional cannabis laws, a brief training was provided to managers and supervisors after which they were asked to answer some of the same questions to see if their responses were affected. This research revealed that manager and supervisor perceptions of changing cannabis law should in fact necessitate a careful review, and most likely an amendment of their organizations drug and alcohol policies. Organizations that review and amend their drug and alcohol policies to align with changing cannabis laws, and that consider manager and supervisor perceptions will maximize their potential for proper implementation and management of their drug and alcohol policy to ensure compliance and most importantly employee safety.

Keywords: Cannabis Legalization, Recreational Cannabis, Employer Cannabis Policies, Workplace Safety and Cannabis

1. Introduction

The current trend within the U.S. is the state, district, and jurisdictional legalization of recreational cannabis and it is anticipated this trend will continue. As more and more states legalize recreational cannabis, which is in direct contrast with federal law (see Appendix E), employers are faced with the challenge of navigating and managing this contradiction. How do organizations ensure they do not discriminate against employees' rights or violate federal or state cannabis law, all while ensuring they protect their employees by maintaining a drug-free workplace and preventing/identifying active cannabis impairment in the workplace?

Statement of the Problem

The aim of this study is to help provide guidance to organizations as to the amendment of their drug and alcohol policies, and to ensure those policies do not discriminate against employees or prohibit employers from being able to keep their employees safe. This study addresses the following:

- With the increasing trend of states, districts, and jurisdictions legalizing recreational cannabis, coupled with laws prohibiting employers from taking adverse action against employees for off-duty cannabis use, how do employers ensure the safety of their employees in the workplace?
- How do employers who operate in multiple states, or nationwide, ensure their drug and alcohol policies do not discriminate against employees for using cannabis while off-duty in states that have legalized and protected this right?

Since 2012, 23 states, as well as the District of Columbia and Guam, have legalized recreational cannabis. A 2023 Quest Diagnostics study revealed that post-accident cannabis drug tests have increased each year since 2012 [1]. With increased legalization and use of cannabis, and laws restricting employers' ability to test employees for cannabis use, organizations will need to amend their current drug and alcohol policies so as not to discriminate against employees. They must do this while ensuring they maintain a drug-free workplace, so their employees are safe.

2. Theory

With numerous jurisdictions passing laws to legalize recreational cannabis, those laws vary greatly in the way they are written. Combined with the fact that cannabis is illegal under federal law, employers may lack the understanding and fail to amend their drug and alcohol policies properly, resulting in potential discrimination against employees and violation of those laws that are enacted. Organizations that operate in multiple states, or in the vast majority of U.S. States, face greater risk of violating these new laws. Potential violations may cause harm to organizational culture or to the organizational brand.

With the increasing legalization of recreational cannabis and complexity of varying laws and regulations, this research will help provide guidance to organizations when amending drug and

alcohol policies in ensuring they do not discriminate against employees' rights or violate law while ensuring their ability to keep their employees safe within the workplace.

3. Hypotheses

Several hypotheses were explored in this research.

Null Hypothesis: Due to changing state cannabis laws, organization drug and alcohol policies (unless federally regulated) should focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe.

Alternative Hypothesis: Due to changing state cannabis laws, organization drug and alcohol policies (unless federally regulated) shouldn't focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe.

Null Hypothesis: Organization drug and alcohol policies should include a focus on employee education and the dangers of being impaired while on duty.

Alternative Hypothesis: Organization drug and alcohol policies should not include a focus on employee education and the dangers of being impaired while on duty.

Null Hypothesis: Workplace drug and alcohol policies should include after incident drug and alcohol testing, regardless of whether impairment is suspected and even when federal regulations do not require it.

Alternative Hypothesis: Workplace drug and alcohol policies should not include after incident drug and alcohol testing, regardless of whether impairment is suspected and even when federal regulations do not require it.

Null Hypothesis: Workplace drug and alcohol policies should include after incident drug testing, but only when potential impairment is suspected, or federal regulations require it.

Alternative Hypothesis: Workplace drug and alcohol policies should not include after incident drug testing, but only when potential impairment is suspected, or federal regulations require it.

Null Hypothesis: Workplace policies that mandate cannabis pre-hire testing, when not federally required, unnecessarily limit the pool of qualified candidates when hiring for positions.

Alternative Hypothesis: Workplace policies that mandate cannabis pre-hire testing, when not federally required, do not unnecessarily limit the pool of qualified candidates when hiring for positions.

Null Hypothesis: As states legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, risk the chance of discriminating against employees' rights under certain state laws.

Alternative Hypothesis: As states legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, do not risk the chance of discriminating against employees' rights under certain state laws.

Null Hypothesis: Organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy, should consider allowing previous employees who were termed, (due to a positive test alone e.g., random test and not for reasonable suspicion) to reapply.

Alternative Hypothesis: Organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy, should not consider allowing previous employees who were termed, (due to a positive test alone e.g., random test and not for reasonable suspicion) to reapply.

Null Hypothesis: Organizations that move from a cannabis test-based policy to an impairment detection-based policy can keep team members safe while not discriminating against employee rights.

Alternative Hypothesis: Organizations that move from a cannabis test-based policy to an impairment detection-based policy cannot keep team members safe while not discriminating against employee rights.

4. Significance of the Study

States, districts, and jurisdictions across the U.S. are legalizing recreational cannabis, which is in direct contrast with federal law. Leaders in organizations are faced with difficult decisions on how to keep their employees safe while ensuring they do not violate employee rights or violate state, district, or jurisdictional law.

The results of this study can be beneficial to employers across the U.S., as most organizations will need to amend their drug and alcohol policy due to various jurisdictions legalizing recreational cannabis and prohibiting employers from testing employees in certain situations. Employers are faced with conflicting laws whereas states, districts, and jurisdictions are trending towards legalizing recreational cannabis, while cannabis with >3% THC remains illegal under federal law. This study will help leaders in organizations to improve their level of understanding of the changing cannabis landscape across the U.S. and gain an understanding of manager and supervisor sentiment of this trend.

This study will identify the following manager and supervisor perceptions:

- Do managers and or supervisors feel organizational drug and alcohol policies, unless federally required, should focus more on cannabis impairment detection training rather than cannabis testing?
- Do managers and or supervisors feel organizational drug and alcohol policies should have a component that focuses on employee education and the dangers of being impaired while on duty?
- Do managers and or supervisors feel drug and alcohol policies should include after incident drug and alcohol testing even if impairment is not suspected and not federally required?
- Do managers and or supervisors feel drug and alcohol policies should include after incident drug and alcohol testing when impairment is suspected or when federally required to test?
- Do managers and or supervisors feel that when workplaces mandate cannabis pre-hire testing when not federally required to do so, unnecessarily limit the pool of qualified candidates?
- Do managers and or supervisors feel that employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, risk potentially discriminating against employees' rights?
- Do managers and or supervisors feel that organizations that amend their drug and alcohol policies and move away from test-based policies to impairment-based policies should allow previously termed employees (termed for testing positive but not due to suspected impairment in the workplace) be able to reapply?
- Do managers and or supervisors feel that organizations that move away from a test-based cannabis policy to that of an impairment detection-based policy can keep employees safe while not discriminating against employees?

Understanding the changes in cannabis law and understanding manager and supervisor sentiment will allow for organizations to amend their drug and alcohol policies to avoid

employee discrimination, keep organizations compliant with the changing laws, align with manager and supervisor sentiment, and most importantly, keep their employees safe.

Summary

The legalization of recreational cannabis within states, districts, and jurisdictions has exploded across the U.S. over the past decade, all while cannabis remains illegal under federal law. The difference in these laws has created legal pitfalls for organization policies and for managers and supervisors who need to administer those policies. The results of this study will help leaders in organizations, across the U.S., to understand the need and dangers if they do not review and most likely amend their drug and alcohol policies. Understanding and incorporating manager and supervisor sentiment when amending organizational drug and alcohol policies will ensure greater buy-in and success in the implementation and management of these policies.

5. Literature Review

In order to understand how managers and supervisors are addressing changes in company drug and alcohol policies, in conjunction with the legalization of recreational cannabis within states, districts, and jurisdictions, it is necessary to explore the literature from several angles. First, this article will discuss how lack of consistent legalization and lack of cannabis impairment standards serve as the source of uncertainty and frustration for managers and supervisors. This article will then examine how increased cannabis use in states where it has been legalized has correlated to more cannabis-related incidents in the workplace, necessitating consideration of company policies and the ways that managers and supervisors enforce those policies.

5.1. Lack of Consistency and Lack of Standards Causes Significant Problems

Two major issues are significant challenges for managers and supervisors who are concerned about cannabis impairment in the workplace and changes in federal, state, and jurisdictional recreational cannabis laws. The first major challenge is the complete lack of consistency, from state to state, in cannabis laws, combined with the reality that cannabis is still a federal Schedule I drug and thus illegal. The second major challenge, stemming from the first, is that this means there is a complete lack of a nationally recognized cannabis impairment standard, and very little understanding of cannabis impairment in general. These two issues are extremely relevant to the research at hand.

With several states at various levels of legalization of medicinal and/or recreational cannabis, companies which cross state borders are particularly challenged to adhere to appropriate laws and treat their employees fairly. To illustrate this issue, DISA, a third-party administrator that offers safety and compliance solutions for businesses, publishes a map regularly which lists the status of cannabis legalization across the country, seen below [2]. According to DISA, there are currently only four states within the U.S. that cannabis is currently fully illegal, and they are: Idaho, Wyoming, Kansas, and South Carolina. But other variants include:

- Cannabis is fully legal and decriminalized.
- Medical cannabis is legal and decriminalized.
- Medical cannabis is legal but not decriminalized.
- Cannabis is fully illegal and decriminalized.
- CBD is legal but not decriminalized.
- Cannabis is fully illegal and not decriminalized.

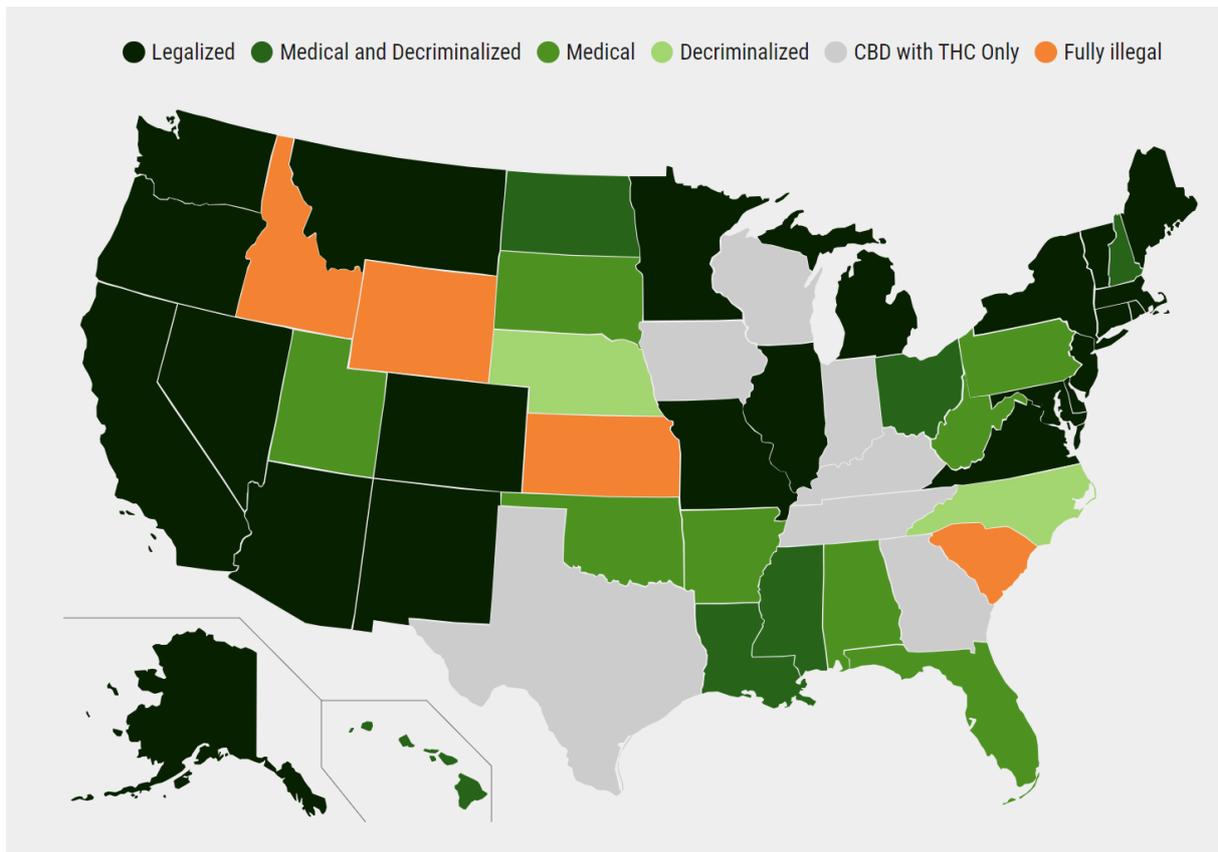


Fig. 1. Source DISA Marijuana Legality by State Map [2]

These varying state laws can create confusion for businesses operating within the U.S., and especially if an organization operates in multiple states within the U.S. Additionally, cannabis laws are changing rapidly, and several states have recreational cannabis on the ballot where voters will be deciding if cannabis should be legal in their state. The constantly shifting nature of cannabis legalization from state to state makes it all the more important for large companies to have flexible policies which consider managers' and supervisors' opinions to maximize buy-in.

The other major challenge for managers and supervisors handling cannabis-related issues is that there is a complete lack of a nationally recognized cannabis impairment standard. Little research has been done on the impairing effects of cannabis on the human body. This is mostly due to cannabis being classified as a Schedule I drug by the Federal Government and the need for federal licenses to obtain, store and use cannabis for research purposes. What is currently known is that when a person uses cannabis, the level of cannabis detected in their system is not closely related to their level of impairment. Psychoactive effects of delta-9-tetrahydrocannabinol (Δ 9-

THC), which causes impairment, begin immediately after smoking cannabis and typically reach peak levels within 30 minutes, with impairment lasting hours after last ingestion e.g., approximately 4-6 hours [3].

Current cannabis testing methods can detect cannabis within a person's system within minutes after smoking cannabis to several weeks after use. Testing levels peak almost immediately after ingestion and then drop off rapidly. It has been reported that test levels of cannabis can drop as much as 80-90 percent from peak testing levels within 30 minutes from last ingestion. This means that a person could be impaired by cannabis but test at a low level. Conversely, a person could test positive days to weeks after cannabis ingestion but would not be impaired. Current testing methods do not allow for a reliable correlation between when cannabis was consumed to actual impairment. Current testing methods are a great indicator that a person has consumed cannabis, but a poor indicator of the length of time since cannabis was consumed [3].

Due to limited research and current testing methods, there is currently no nationally recognized cannabis impairment standard to indicate impairment, like that of Blood Alcohol Concentration (BAC). This makes issues of pre-employment testing complex, and also makes impairment testing impossible. As a result, training for managers and supervisors to see the side effects of impairment is the current best option for managing impairment issues in the workplace while also adhering to state laws regarding cannabis-related workplace discrimination (see Appendix D).

Concerns about these two challenges have been voiced for over a decade. A 2015 report published in the Sage Journal discussed the difficult position employers were in when caught between federal laws prohibiting cannabis use and state laws that have legalized cannabis. This was an early example of scholars noting that there was currently no nationally recognized cannabis impairment standard, meaning that the detection of cannabis metabolites in an employee's system could not indicate acute cannabis impairment and would be inadequate to prove impairment [4].

5.2. Increased Cannabis Use, Impacts, and NSC Recommendations

With changes in federal, state, and jurisdictional recreational cannabis laws having an effect on the way citizens can legally interact with cannabis, it would not be surprising to see increases in the use of cannabis in these areas. A Gallup poll conducted in July of 2023 consisting of 1,015 adults over the age of 18 were polled asking if they have ever tried cannabis and if they currently use cannabis. 50% of respondents affirmed that they had tried cannabis, with 17% of respondents answering that they regularly smoke cannabis. Interestingly, the percentage of Americans who smoke cannabis has nearly doubled since 2013 when only 7% of adults answered yes to smoking cannabis [5].

What appears to essentially be a doubling of cannabis use in areas where it has been legalized will have real-world safety implications. According to a 2020 study reported by the National Institute on Drug Abuse, employees who tested positive for marijuana had 55% more industrial accidents, 85% more injuries, and 75% greater absenteeism compared to those who tested negative [6].” These statistics are alarming for any manager and supervisor concerned about cannabis impairment in the workplace.

Additionally, Quest Diagnostics, the world's leading workforce drug testing provider, released a report in May 2023 examining post-accident test results. The report highlighted the fact that post-accident cannabis positive test results, within the United States, were at a 25-year high. The Quest Diagnostics report also revealed a steady increase in post-accident cannabis positive tests every year since 2012. From 2012 to 2022, post-accident cannabis positive tests increased by over 204% [1]. Recreational cannabis was first legalized in Washington State and Colorado in 2012 (hence the decade of data), but several other states have legalized it since.

According to the report, "in the general U.S. workforce, states that have legalized recreational and medical marijuana use exhibit higher positivity rates than the national average. States that have not legalized marijuana appear to have positivity rates below the national average [1]." The 2020 National Institute on Drug Abuse Report, the 2023 Gallup Poll and the 2023 Quest Diagnostics study also show a significant increase in cannabis usage in the past decade, creating concerns for employers who need to make sure employees are not impaired while on-duty.

These marked increases in cannabis consumption and workplace incidents related to cannabis consumption have not gone unnoticed by safety organizations who are charged with advising and making recommendations to businesses and companies struggling with safety concerns. Safety professionals will need to advise organizations on how to ensure employee safety due to increased legalization and use within the U.S.

A 2021 National Safety Council (NSC) Cannabis Survey pertaining to increased state legalization of cannabis explored how companies were managing the legal and cultural changes. But the NSC found that less than half of organizations they surveyed even had a written cannabis policy. They also determined that more than half of employers that eliminated THC testing reported an increase in incidents or workplace performance concerns. Employers also stated that they believed that employees would feel comfortable telling their supervisor if they were too impaired to work - even though less than half of employees responding to the survey reported they would feel comfortable doing so [7].

In conjunction with the survey, the National Safety Council made several recommendations to companies, including:

- Establish a clear, fair cannabis policy that prevents impairment in the workplace and provides support for employees.
- Build a safety-focused, trusting culture for employees to report cannabis use.
- Advocate for increased access to employee assistance programs (EAPs) and health care benefits for those with substance use disorders.
- Train supervisors to recognize and respond to impairment in the workplace [7].

Additionally, the NSC's Marijuana at Work: What Employers Need to Know advisory report discusses the impact of the legalization of cannabis and its effect on the workplace. The report heavily encourages companies to create strong organizational policy regarding cannabis, including:

- Proper training for managers and supervisors.
- Access and support for helping employees.
- Clearly defined cannabis use parameters for employees.
- Clearly defined rules for testing.

- Clearly defined rules for how positive test results will be handled.

The NSC report outlines proactive measures for organizations to take to stay compliant with changing laws and most importantly keep employees safe while in the workplace [8].

Summary of Literature Review

Many of the challenges faced by managers and supervisors relating to cannabis impairment stem from the lack of consistency in laws from state to state, as well as a lack of cannabis impairment standards. While support for legalization has been clearly identified, recent studies are also beginning to indicate an increase in cannabis use and increase in positive cannabis tests in employees that have been involved in workplace incidents. Increased legalization and increased use have led to an increase in after incident positive cannabis tests. While these tests do not prove employees were impaired, it does give pause for considerable concern for organizations. Previous pre-hire testing blanket policies now put employers at risk of violating employee rights, violating state or jurisdictional law, and damaging the organizational brand. There is a growing need to amend drug and alcohol policies with a focus on detecting and determining cannabis impairment in the workplace to ensure employee safety. With increasing state legalization of recreational cannabis, combined with increased acceptance of cannabis use and managers and supervisor perceptions of cannabis, employers will need to act swiftly by reviewing and amending their drug and alcohol policies.

6. Methodology

This research required a minimum of 100 participants. In order to participate in the research, participants were required to be at least 18 years of age with no maximum age limit. Participants could be male or female, working full or part time, and having the responsibility of managing or supervising at least one direct report, all living and working within the United States. Participants could not be prisoners, vulnerable groups, nor minors. Nor could respondents be affiliated with drug or alcohol manufacturers, distributors, representatives or in any way related to family members who work in these industries. Participation in the survey was strictly voluntary and participants were not compensated in any way. Participants for the survey were recruited through email and social media e.g., LinkedIn, Facebook, and Twitter.

The research was conducted using a single electronic survey conducted through SurveyMonkey. The research results included a total of 118 participants, all of which acknowledged that they met the research population's background requirements. The survey consisted of 40 questions, with 12 questions pertaining to this study, of which seven questions were asked again, after brief training and information were provided to participants. The 40-question survey, and brief training, took approximately 22 minutes to complete.

This research was designed to evaluate manager and supervisor sentiment towards organizational drug and alcohol policies pertaining to cannabis. Questions evaluated managers' and supervisors' sentiment towards the need for organizations to amend their drug and alcohol policies so as not to discriminate against employees, violate law, and ensure employee safety

within the workplace. Managers and supervisors were asked some of the same questions after brief training, and sharing of resource material to determine if their sentiment would change.

The research survey started on March 20, 2023, and concluded on April 15, 2023. Participants were asked to participate in the research survey to help gain an understanding of managers and supervisors' sentiment towards drug and alcohol policies pertaining to cannabis. Organizations can use this information to amend their drug and alcohol policies to not only be compliant but to ensure buy-in from managers and supervisors who are tasked with managing organizational policy.

6.1. Data Collection Questions

Participants for this article's research study completed 12 survey questions. Four questions were geared towards developing the survey profile and eight questions pertained to manager and supervisor perceptions of workplace drug and alcohol policies with a focus on cannabis. The survey questions, which can be found in (Appendix A), were administered as follows: questions one through four required participants to choose from a set of questions to gather facts about the participants e.g., age, gender, location, and type of business in which they work.

Questions five through twelve were administered using a 7-point Likert scale. The 7-point Likert scale was chosen to allow participants the ability to have a neutral position, and also account for a more accurate picture of manager and/or supervisor perceptions as compared to participants using a less specific 5-point Likert scale. Managers and supervisors answered survey questions, in which they then took part in brief cannabis training and sharing of resource material, and were then asked to answer question number five, seven, eight, nine, ten, eleven, and twelve again to see if the brief training and sharing of resource material influenced their responses.

6.2. Data Analysis

Significant effort was given to ensure the reliability of the data collected. Prior to taking the survey, respondents were required to acknowledge that they were at least 18 years of age and currently managing or supervising at least one employee. As respondents answered the survey questions, they were required to answer each question, or the survey would not allow them to continue. By ensuring each question was answered, this added to the validity of the data when results were compared against each other.

Data gathered from respondents in this qualitative research was analyzed using the following methods: ANOVA test to test for the mean of more than two variables and t-test to test for the mean of two variables. These two test methods were used to analyze the variance and statistical significance between manager and supervisor responses to survey questions before and after they received brief training and access to information to educate respondents on cannabis law. The p-value of these two tests allowed for the understanding of the significance and effect on respondent outcomes before and after training. Manager and supervisor responses to survey

<i>Work environment</i>		
Warehousing and distribution	66	56
Office setting	19	16
Manufacturing	12	10
Construction	5	4
Others	16	14
<i>State</i>		
Wisconsin	34	29
Texas	10	8
California	7	6
New Hampshire	7	6
Iowa	6	5
Illinois	6	5
Massachusetts	5	4
Florida	4	3
Pennsylvania	4	3
Ohio	3	3
Michigan	3	3
Colorado	3	3
Minnesota	3	3
Nevada	3	3
New Jersey	2	2
Georgia	2	2
Maine	2	2
Missouri	2	2
Kentucky	2	2
New York	2	2
Arizona	1	1
Indiana	1	1
Tennessee	1	1
Kansas	1	1
Vermont	1	1
Maryland	1	1
Connecticut	1	1
Rhode Island	1	1

Question No. 5

Please indicate your level of agreement with the following statement: Due to changing state cannabis laws, organization drug and alcohol policies (unless federally regulated) should focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe.

The following figure shows that 47% of managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe, due to changing state cannabis laws. The proportion who agreed to this statement had increased considerably to 69% after managers and supervisors were introduced to brief training and educational information. This increase is also visible in their associated mean scores. The mean score was 4.15 ($SD = 1.843$) in pre-training and 4.98 ($SD = 1.695$) in post-training. The difference in mean scores between pre and post training was found to be significant ($t(117) = -4.244, p < 0.0001$) (see Table II). Therefore, we conclude that the brief training and educational information has changed manager and supervisor agreement level to organization drug and alcohol policies that should focus more on supervisor cannabis impairment detection due to changing state cannabis laws.

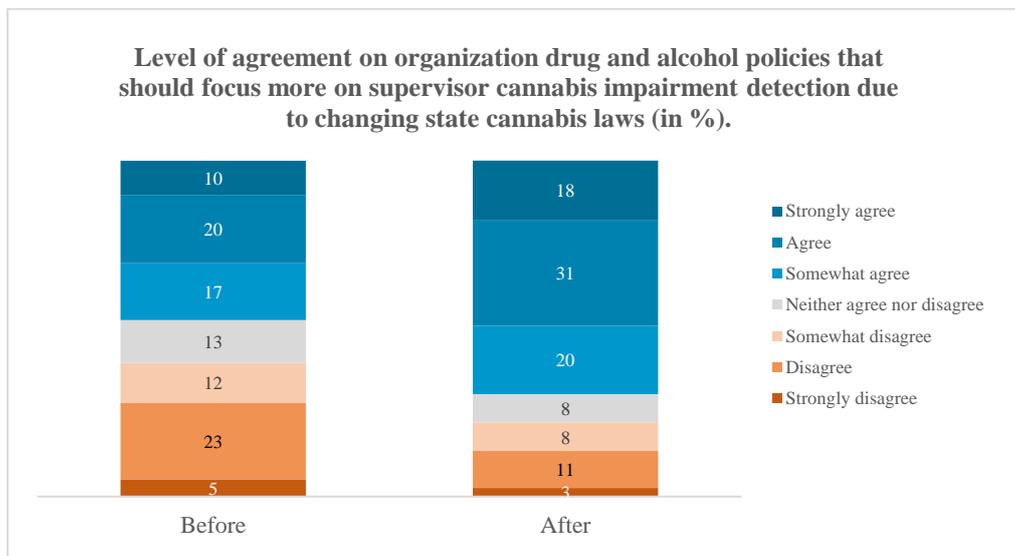


Fig. 2. Agreement Level on Cannabis Detection Training Before and After Training

TABLE II: Difference in Mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	47%	4.15	1.843	-0.831	-4.244	117	<0.0001

After 69% 4.98 1.695

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see the level of agreement on organization drug and alcohol policies that should focus more on supervisor cannabis impairment detection due to changing state cannabis laws across the respondents' profile. The increasing trend in manager and supervisor perception towards this statement, after managers and supervisors were introduced to brief training and educational information not only observed by total, but also across age group and gender. Significant differences by age group were found in both pre ($F = 3.922, p = 0.023$) and post ($F = 3.397, p = 0.037$) training. Their agreement levels appeared to decrease as age group increased. Females appeared to have higher agreement level than males in both pre ($t = -0.910, p = 0.365$) and post ($t = -0.189, p = 0.850$) training, but the differences were not statistically significant.

TABLE III: Summary Statistics and Significant Differences Before and After Training

	Before						After					
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test		
					statistic	p-value				statistic	p-value	
Age group												
<=42 years old	40	68%	4.80	1.81	3.922	0.023	85%	5.45	1.32	3.397	0.037	
43-58 years old	56	38%	3.82	1.78			64%	4.91	1.84			
59-68 years old	22	36%	3.82	1.82			55%	4.32	1.73			
Gender												
Male	94	46%	4.07	1.86	-0.910	0.365	70%	4.97	1.73	-0.189	0.850	
Female	24	54%	4.46	1.79			67%	5.04	1.57			

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Question No. 6

Please indicate your level of agreement with the following statement: An organization's drug and alcohol policy should include a focus on employee education and the dangers of being impaired while on duty.

The following figure shows that the vast majority of managers and supervisors 95% somewhat agree, agree, or strongly agree that an organization's drug and alcohol policy should include a

focus on employee education and the dangers of being impaired while on duty. Only about 3% somewhat disagreed, disagreed, or strongly disagreed with this statement.

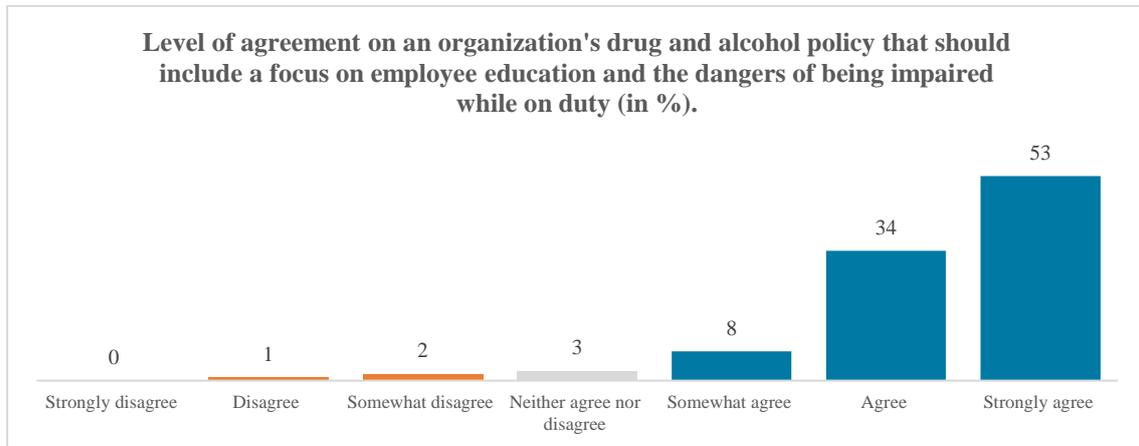


Fig. 3. Agreement Level That Drug and Alcohol Policies Should Focus on Employee Training

Further analysis was conducted to see the level of agreement on organization’s drug and alcohol policies that should focus on employee education and the dangers of being impaired while on duty across the respondents' profile. The agreement levels on this statement are consistently high among age group and gender. No significant differences were found by across these groups.

TABLE IV: Summary Statistics and Significant Differences Before and After Training

	n	T3B	Mean	SD	ANOVA/t-test	
					statistic	p-value
Age group						
<=42 years old	40	95%	6.35	0.95	0.028	0.973
43-58 years old	56	95%	6.30	1.03		
59-68 years old	22	95%	6.32	0.78		
Gender						
Male	94	95%	6.34	0.99	0.414	0.679
Female	24	96%	6.25	0.79		

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Question No. 7

Please indicate your level of agreement with the following statement: Workplace drug and alcohol policies should include after incident drug and alcohol testing, regardless of whether impairment is suspected, and even when federal regulations do not require it.

The following figure shows that 75% of managers and supervisors somewhat agree, agree, or strongly agree that workplace drug and alcohol policies should include after incident drug and alcohol testing, regardless of whether impairment is suspected, and even when federal regulations do not require it. The proportion who agreed to this statement had decreased considerably to 59% after managers and supervisors were introduced to brief training and educational information. This decrease is also visible in their associated mean scores. The mean score was 5.21 ($SD = 1.729$) in pre-training and 4.62 ($SD = 1.830$) in post-training. The difference in mean scores between pre and post-training was found to be significant ($t(117) = 3.602, p < 0.0001$) (see Table V). Therefore, we conclude that the brief training and educational information has changed manager and supervisor agreement level on including after incident drug and alcohol testing in workplace drug and alcohol policies.

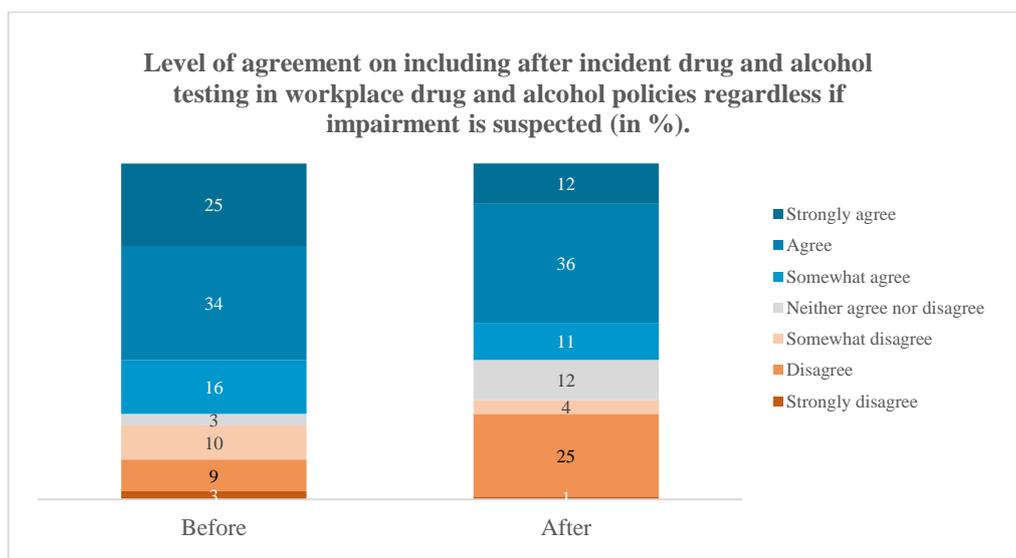


Fig. 4. Agreement Level for After Incident Testing Before and After Training

TABLE V: Difference in Mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	75%	5.21	1.729	0.593	3.602	117	<0.0001
After	58%	4.62	1.830				

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see the level of agreement on including after incident drug and alcohol testing in workplace drug and alcohol policies across the respondents' profile. The decreasing trend in agreement level towards this statement after managers and supervisors were introduced to brief training and educational information not only observed by total, but also across age group and gender. Middle-aged adults showed the highest agreement level of 80% ($M = 5.55, SD = 1.67$) in pre-training, but their agreement level dropped to the age group with the lowest degree of agreement at 52% ($M = 4.36, SD = 2.02$) after managers and supervisors were introduced to a brief training with educational information. Males appeared to give the strongest agreement level over females in both pre and post training.

TABLE VI: Summary Statistics and Significant Differences before and After Training

	Before						After					
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test		
					statistic	p-value				statistic	p-value	
Age group												
<=42 years old	40	68%	4.80	1.77	2.335	0.101	60%	4.68	1.64	1.651	0.196	
43-58 years old	56	80%	5.55	1.67			52%	4.36	2.02			
59-68 years old	22	73%	5.09	1.69			73%	5.18	1.56			
Gender												
Male	94	78%	5.34	1.69	1.609	0.110	61%	4.72	1.83	1.233	0.220	
Female	24	63%	4.71	1.81			50%	4.21	1.79			

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Of special note is the fact that there was a significant decrease in manager and supervisor perception that employees should be tested if impairment was not suspected after receiving the brief training. This shows that educating managers and supervisors changed their perceptions of the need for drug testing after gaining confidence through the training process.

Question No. 8

Please indicate your level of agreement with the following statement: Workplace drug policies should include after incident drug testing, but only when potential impairment is suspected, or federal regulations require it.

The following figure shows that 53% of managers and supervisors somewhat agree, agree, or strongly agree that workplace drug policies should include after incident drug testing, but only

when potential impairment is suspected, or federal regulations require it. The proportion who agreed to this statement had increased to 58% after managers and supervisors were introduced to brief training and educational information. This increase is also visible in their associated mean scores. The mean score was 4.24 ($SD = 1.986$) in pre-training and 4.47 ($SD = 1.782$) in post-training. However, the increase in post-training was not statistically significant ($t(117) = -1.295, p = 0.198$) (see Table VII). Therefore, we conclude that the brief training and educational information did not change manager and supervisor agreement level on including after incident drug testing in workplace drug policies.

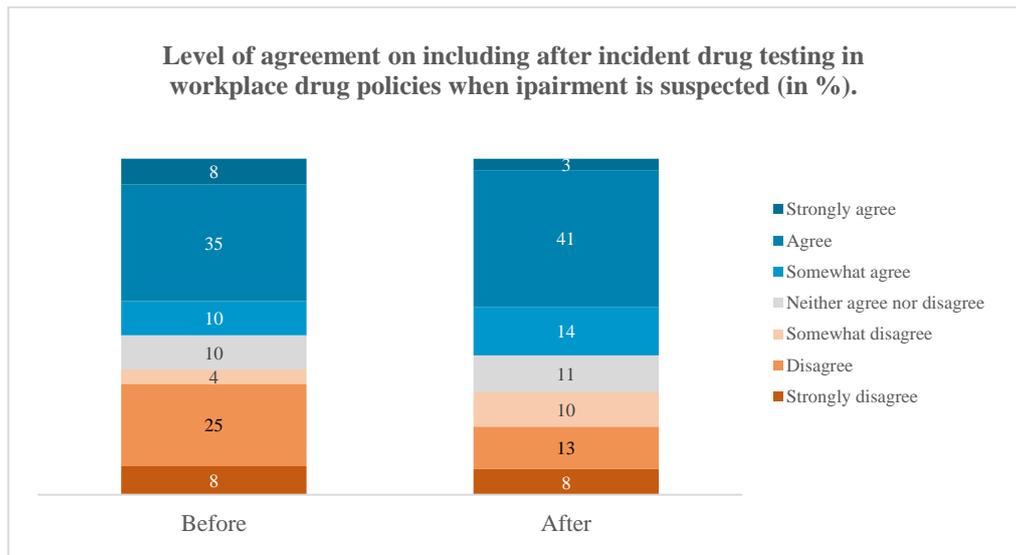


Fig. 5. Agreement Level on Testing Before and After Training

TABLE VII: Difference in mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	53%	4.24	1.986	-0.237	-1.295	117	0.198
After	58%	4.47	1.782				

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see the level of agreement on including after incident drug testing in workplace drug policies across the respondents' profile. Young adults showed the highest agreement level in both pre ($M = 4.78, SD = 1.58$) and post ($M = 4.68, SD = 1.42$) training than other age groups. However, these differences between age groups were not statistically significant in both pre and post training. Females consistently indicated stronger agreement than males in both pre and post training, but a significant different between males and females was observed in pre-training only ($t = -2.886, p = 0.005$).

TABLE VIII: Summary Statistics and Significant Differences Before and After Training

	Before						After					
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test		
					statistic	p-value				statistic	p-value	
Age group												
<=42 years old	40	65%	4.78	1.58	2.669	0.074	58%	4.68	1.42	1.228	0.297	
43-58 years old	56	43%	3.84	2.14			63%	4.54	1.95			
59-68 years old	22	55%	4.27	2.10			50%	3.95	1.89			
Gender												
Male	94	48%	3.98	1.97	-2.886	0.005	55%	4.35	1.86	-1.498	0.137	
Female	24	71%	5.25	1.73			71%	4.96	1.37			

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Question No. 9

Please indicate your level of agreement with the following statement: Workplace policies that mandate cannabis pre-hire testing, when not federally required, unnecessarily limit the pool of qualified candidates when hiring for positions.

The following figure shows that 53% of managers and supervisors somewhat agree, agree, or strongly agree that workplace policies that mandate cannabis pre-hire testing, when not federally required, unnecessarily limit the pool of qualified candidates when hiring for positions. The proportion who agreed to this statement had increased to 61% after managers and supervisors were introduced to brief training and educational information. This increase is also visible in their associated mean scores. The mean score was 4.32 (*SD* = 1.974) in pre-training and 4.87 (*SD* = 1.977) in post-training. The increase in post-training was found to be statistically significant ($t(117) = -3.223, p = 0.002$) (see Table IX). Therefore, we conclude that the brief training and educational information has changed manager and supervisor agreement level to this statement.

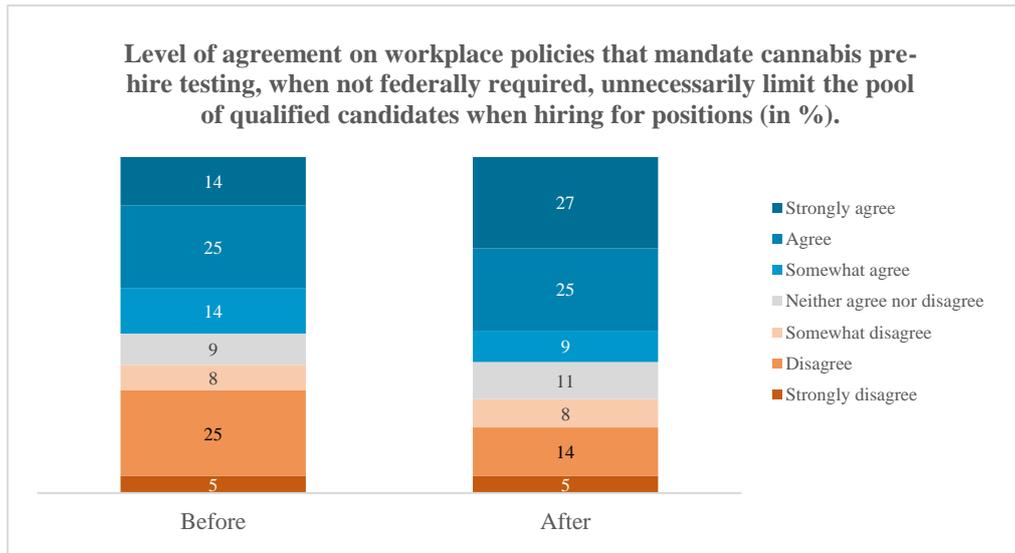


Fig. 6. Agreement Level that Unnecessarily Limit Pool of Candidates Before and After Training

TABLE IX: Difference in mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	53%	4.32	1.974	-0.551	-3.223	117	0.002
After	61%	4.87	1.977				

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see if respondents felt that workplace policies that mandate cannabis pre-hire testing, when not federally required, unnecessarily limit the pool of qualified candidates when hiring for positions across the respondents' profile. Young adults consistently indicated the highest agreement level in both pre and post training. The difference in agreement level on this statement by age group was found to be statistically significant in pre-training only ($F = 3.616, p = 0.030$). Females indicated stronger agreement in pre-training but lower agreement in post-training as compared to males. However, these differences were not statistically significant.

TABLE X: Summary Statistics and Significant Differences Before and After Training

	Before						After					
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test		
					statistic	p-value				statistic	p-value	
Age group												
<=42 years old	40	63%	4.95	1.75	3.616	0.030	68%	5.18	1.89	1.497	0.228	
43-58 years old	56	45%	3.88	2.05			61%	4.89	2.01			
59-68 years old	22	55%	4.32	1.94			50%	4.27	2.00			
Gender												
Male	94	50%	4.27	2.02	-0.609	0.544	63%	4.88	2.04	0.109	0.913	
Female	24	63%	4.54	1.79			54%	4.83	1.74			

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Question No. 10

Please indicate your level of agreement with the following statement: As states legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, risk the chance of discriminating against employees' rights under certain state laws.

The following figure shows that 41% of managers and supervisors somewhat agree, agree, or strongly agree that as various jurisdictions legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, risk the chance of discriminating against employees' rights under certain state laws. The proportion who agreed to this statement had increased to 57% after managers and supervisors were introduced to brief training and educational information. This increase is also visible in their associated mean scores. The mean score was 3.79 (*SD* = 1.899) in pre-training and 4.64 (*SD* = 1.976) in post-training. The increase in post-training was found to be statistically significant ($t(117) = -4.717, p < 0.0001$) (see Table XI). Therefore, we conclude that the brief training and educational information has changed manager and supervisor agreement level to this statement.

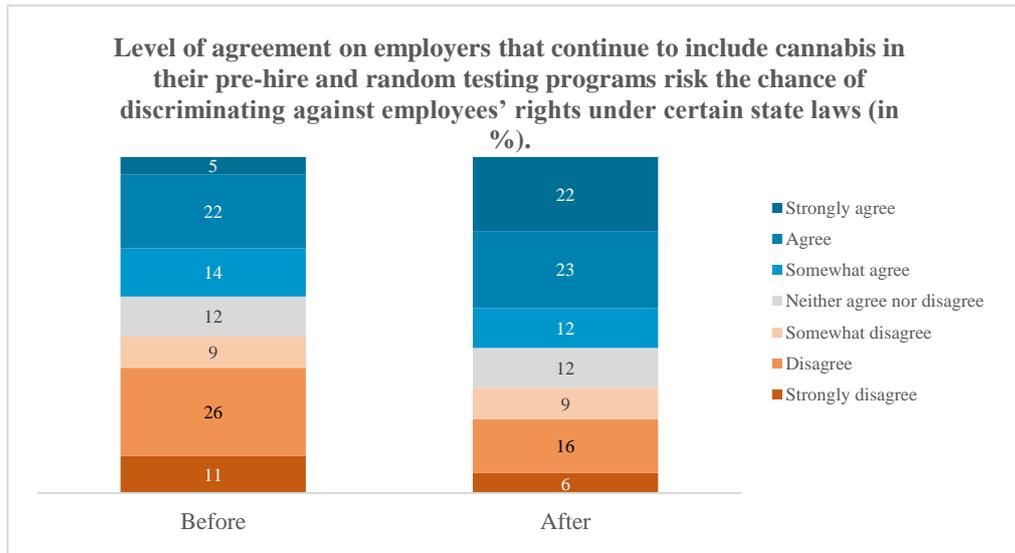


Fig. 7. Agreement Level that Risk Discriminating Against Employees Before and After Training

TABLE XI: Difference in Mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	42%	3.79	1.899	-0.856	-4.717	117	<0.0001
After	57%	4.64	1.976				

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see the level of agreement on employers that continue to include cannabis in their pre-hire and random testing programs risk the chance of discriminating against employees' rights under certain state laws across the respondents' profile. Young managers and supervisors consistently indicated the highest agreement level in both pre and post training. The difference in agreement level on this statement by age group was found to be statistically significant in pre-training only ($F = 7.132, p = 0.001$). Females consistently indicated higher agreement levels in both pre and post training; however, these differences were not statistically significant.

TABLE XII: Summary Statistics and Significant Differences Before and After Training

	Before						After					
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test		
					statistic	p-value				statistic	p-value	
Age group												
<=42 years old	40	63%	4.63	1.75	7.132	0.001	70%	4.93	1.73	0.615	0.542	
43-58 years old	56	29%	3.21	1.74			50%	4.52	2.19			
59-68 years old	22	36%	3.73	2.05			50%	4.45	1.84			
Gender												
Male	94	40%	3.65	1.93	-1.586	0.115	56%	4.62	2.06	-0.293	0.770	
Female	24	46%	4.33	1.71			58%	4.75	1.65			

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Question No. 11

Please indicate your level of agreement with the following statement: Organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy, should consider allowing previous employees who were termed, (due to a positive test alone e.g., random test and not for reasonable suspicion) to reapply.

The following figure shows that 37% of managers and supervisors somewhat agree, agree, or strongly agree on allowing previous employees who were termed to reapply for organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy. The proportion who agreed to this statement had increased considerably to 56% after managers and supervisors were introduced to brief training and educational information. This increase is also visible in their associated mean scores. The mean score was 3.58 (*SD* = 1.896) in pre-training and 4.34 (*SD* = 1.822) in post-training. The increase in post-training was found to be statistically significant ($t(117) = -4.754, p < 0.0001$) (see Table XIII). Therefore, the brief training and educational information has changed manager and supervisor agreement level on allowing previous employees who were termed to reapply for organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy.

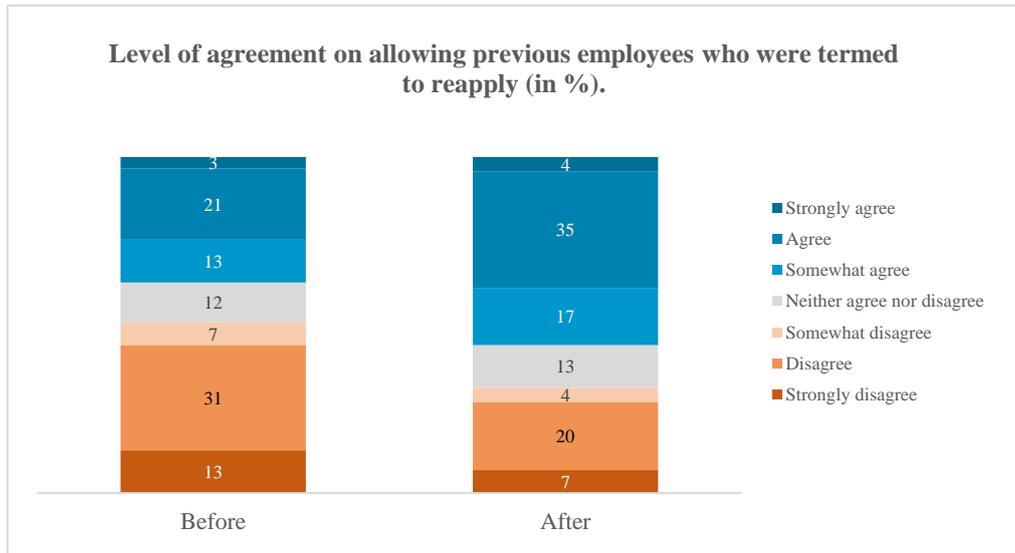


Fig. 8. Agreement Level for Allowing to Reapply Before and After Training

TABLE XIII: Difference in mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	37%	3.58	1.896	-0.763	-4.754	117	<0.0001
After	56%	4.34	1.822				

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see if respondents supported allowing previous employees who were termed to reapply. Young managers and supervisors consistently indicated the highest agreement level in both pre and post training. The difference in agreement level on this statement by age group was found to be statistically significant in pre-training only ($F = 4.614, p = 0.012$). Females consistently indicated higher agreement level in both pre and post-training; however, these differences were not statistically significant.

TABLE XIV: Summary Statistics and Significant Differences Before and After Training

	Before						After				
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test	
					statistic	p-value				statistic	p-value
Age group											
<=42 years old	40	53%	4.28	1.91	4.614	0.012	65%	4.75	1.58	2.333	0.102
43-58 years old	56	27%	3.13	1.75			55%	4.29	1.91		
59-68 years old	22	36%	3.45	1.95			41%	3.73	1.88		
Gender											
Male	94	33%	3.41	1.91	-1.848	0.067	53%	4.28	1.87	-0.735	0.464
Female	24	54%	4.21	1.74			67%	4.58	1.64		

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

Question No. 12

Please indicate your level of agreement with the following statement: Organizations that move from a cannabis test-based policy to an impairment detection-based policy can keep team members safe while not discriminating against employee rights.

The following figure shows that 56% of managers and supervisors somewhat agree, agree, or strongly agree that organizations that move from a cannabis test-based policy to an impairment detection-based policy can keep team members safe while not discriminating against employee rights. The proportion who agreed to this statement had increased to 69% after managers and supervisors were introduced to brief training and educational information. This increase is also visible in their associated mean scores. The mean score was 4.50 ($SD = 1.748$) in pre-training and 4.90 ($SD = 1.532$) in post-training. The increase in post-training was found to be statistically significant ($t(117) = -2.599, p = 0.011$) (see Table XV). Therefore, the brief training and educational information has changed manager and supervisor agreement level on organizations that move from a cannabis test-based policy to an impairment detection-based policy that can keep team members safe while not discriminating against employee rights.

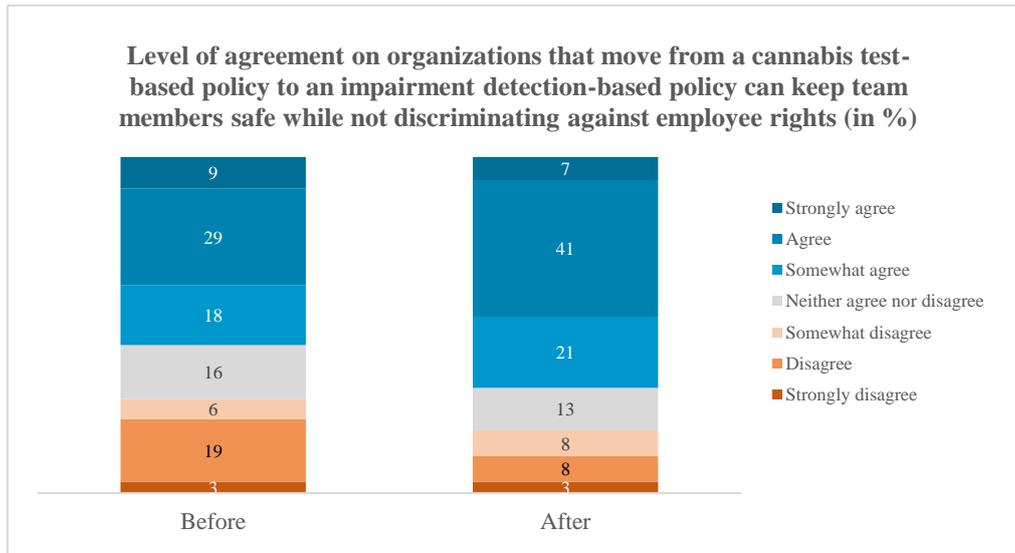


Fig. 9. Agreement Level Detection-Based Policy Can Keep Employees Safe Before and After Training

TABLE XV: Difference in Mean Scores and Paired T-Test Before and After Training

	T3B	Mean	Std. deviation	Mean difference	Paired t-test		
					t	df	p-value
Before	56%	4.50	1.748	-0.398	-2.599	117	0.011
After	69%	4.90	1.532				

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree.

Further analysis was conducted to see the level of agreement that organizations that move from a cannabis test-based policy to an impairment detection-based policy can keep team members safe while not discriminating against employee rights across the respondents' profile. Young managers and supervisors consistently indicated the highest agreement level in both pre and post training. The difference in agreement level on this statement by age group was found to be statistically significant in both pre-training ($F = 4.502, p = 0.013$) and post-training ($F = 3.357, p = 0.038$). Females consistently indicated higher agreement levels in both pre and post training; however, these differences were not statistically significant.

TABLE XVI: Summary Statistics and Significant Differences Before and After Training

	Before						After				
	n	T3B	Mean	SD	ANOVA/t-test		T3B	Mean	SD	ANOVA/t-test	
					statistic	p-value				statistic	p-value
Age group											
<=42 years old	40	75%	5.13	1.51	4.502	0.013	80%	5.30	1.30	3.357	0.038
43-58 years old	56	43%	4.07	1.84			66%	4.86	1.51		
59-68 years old	22	55%	4.45	1.65			55%	4.27	1.80		
Gender											
Male	94	52%	4.41	1.75	-1.047	0.297	65%	4.85	1.59	-0.661	0.510
Female	24	71%	4.83	1.74			83%	5.08	1.28		

T3B (top 3 boxes): total respondents who selected somewhat agree, agree, or strongly agree; SD: Standard deviation; ANOVA is used to compare mean differences between 3 groups; t-test is used to compare mean differences between 2 groups.

8. Conclusions

Question No. 5

Please indicate your level of agreement with the following statement: Due to changing state cannabis laws, organization drug and alcohol policies (unless federally regulated) should focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe.

Of the managers and supervisors surveyed, 69% somewhat agree, agree, or strongly agree that due to changing state cannabis laws, organizational drug and alcohol policies (unless federally regulated) should focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe in the workplace. Prior to the brief training managers and supervisors took part in 47% somewhat agreed, agreed, or strongly agreed that due to changing state cannabis laws, organizational drug, and alcohol policies (unless federally regulated) should focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe in the workplace.

- 85% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that drug and alcohol policies should focus more on impairment detection training than testing employees to keep them safe.
- 64% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that drug and alcohol policies should focus more on impairment detection training than testing employees to keep them safe.

- 55% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that drug and alcohol policies should focus more on impairment detection training than testing employees to keep them safe.
- 70% of male managers and supervisors somewhat agree, agree, or strongly agree that drug and alcohol policies should focus more on impairment detection training than testing employees to keep them safe.
- 67% of female managers and supervisors somewhat agree, agree, or strongly agree that drug and alcohol policies should focus more on impairment detection training than testing employees to keep them safe.

Null Hypothesis: Due to changing state cannabis laws, organization drug and alcohol policies (unless federally regulated) should focus on supervisor cannabis impairment detection training than employee testing to keep employees safe.

Alternative Hypothesis: Due to changing state cannabis laws, organization drug and alcohol policies (unless federally regulated) shouldn't focus more on supervisor cannabis impairment detection training than employee testing to keep employees safe.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 6

Please indicate your level of agreement with the following statement: An organization's drug and alcohol policy should include a focus on employee education and the dangers of being impaired while on duty.

Of the managers and supervisors surveyed, 95% somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should have a focus on employee education on the dangers of being impaired by cannabis while on-duty.

- 95% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should have a focus on employee education on the dangers of being impaired by cannabis while on duty.
- 95% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should have a focus on employee education on the dangers of being impaired by cannabis while on duty.
- 95% of managers and supervisors between 59-68 between years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should have a focus on employee education on the dangers of being impaired by cannabis while on duty.
- 95% of male managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should have a focus on employee education on the dangers of being impaired by cannabis while on duty.
- 96% of female managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should have a focus on employee education on the dangers of being impaired by cannabis while on duty.

Null Hypothesis: Organization drug and alcohol policies should include a focus on employee education and the dangers of being impaired while on duty.

Alternative Hypothesis: Organization drug and alcohol policies should not include a focus on employee education and the dangers of being impaired while on duty.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 7

Please indicate your level of agreement with the following statement: Workplace drug and alcohol policies should include after incident drug and alcohol testing, regardless of whether impairment is suspected, and even when federal regulations do not require it.

Of the managers and supervisors surveyed, 59% somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing regardless of if impairment is suspected, and when federal regulations do not require it. 75% of managers and supervisors had previously agreed to this before the brief training they took.

- 60% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing regardless of if impairment is suspected, and when federal regulations do not require it.
- 52% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing regardless of if impairment is suspected, and when federal regulations do not require it.
- 73% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing regardless of if impairment is suspected, and when federal regulations do not require it.
- 61% of male managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing regardless of if impairment is suspected, and when federal regulations do not require it.
- 50% of female managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing regardless of if impairment is suspected, and when federal regulations do not require it.

Null Hypothesis: Workplace drug and alcohol policies should include after incident drug and alcohol testing, regardless of whether impairment is suspected and even when federal regulations do not require it.

Alternative Hypothesis: Workplace drug and alcohol policies should not include after incident drug and alcohol testing, regardless of whether impairment is suspected and even when federal regulations do not require it.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 8

Please indicate your level of agreement with the following statement: Workplace drug policies should include after incident drug testing, but only when potential impairment is suspected, or federal regulations require it.

Of the managers and supervisors surveyed, 58% somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing but only when impairment is suspected, or federal regulations require it.

- 58% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing but only when impairment is suspected, or federal regulations require it.
- 63% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing but only when impairment is suspected, or federal regulations require it.
- 50% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing but only when impairment is suspected, or federal regulations require it.
- 55% of male managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing but only when impairment is suspected, or federal regulations require it.
- 71% of female managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies should include after incident testing but only when impairment is suspected, or federal regulations require it.

Null Hypothesis: Workplace drug and alcohol policies should include after incident drug testing, but only when potential impairment is suspected, or federal regulations require it.

Alternative Hypothesis: Workplace drug and alcohol policies should not include after incident drug testing, but only when potential impairment is suspected, or federal regulations require it.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 9

Please indicate your level of agreement with the following statement: Workplace policies that mandate cannabis pre-hire testing, when not federally required, unnecessarily limit the pool of qualified candidates when hiring for positions.

Of the managers and supervisors surveyed, 61% somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that mandate cannabis pre-hire testing, when not federally required to test, limit the pool of qualified candidates for open positions within the organization. Note that prior to brief training 53% of managers and supervisors somewhat agreed, agreed, or strongly agreed that organizational drug and alcohol policies that mandate cannabis pre-hire testing when not federally required to test limit the pool of qualified candidates for open positions within the organization.

- 68% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that mandate cannabis pre-hire testing when not federally required to test limit the pool of qualified candidates for open positions within the organization.
- 61% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that mandate cannabis pre-hire testing when not federally required to test limit the pool of qualified candidates for open positions within the organization.
- 50% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that mandate cannabis pre-hire testing when not federally required to test limit the pool of qualified candidates for open positions within the organization.
- 63% of male managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that mandate cannabis pre-hire testing when not federally required to test limit the pool of qualified candidates for open positions within the organization.
- 54% of female managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that mandate cannabis pre-hire testing when not federally required to test limit the pool of qualified candidates for open positions within the organization.

Null Hypothesis: Workplace policies that mandate cannabis pre-hire testing, when not federally required, unnecessarily limit the pool of qualified candidates when hiring for positions.

Alternative Hypothesis: Workplace policies that mandate cannabis pre-hire testing, when not federally required, do not unnecessarily limit the pool of qualified candidates when hiring for positions.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 10

Please indicate your level of agreement with the following statement: As states legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, risk the chance of discriminating against employees' rights under certain state laws.

Of the managers and supervisors surveyed, 57% somewhat agree, agree, or strongly agree that employers that continue to include cannabis in their pre-hire drug testing program risk the chance of discriminating against employee rights. Note that manager and supervisor perceptions were at 51% before brief training.

- 70% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that employers that continue to include cannabis in their pre-hire drug testing program risk the chance of discriminating against employee rights.
- 50% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that employers that continue to include cannabis in their pre-hire drug testing program risk the chance of discriminating against employee rights.
- 50% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that employers that continue to include cannabis in their pre-hire drug testing program risk the chance of discriminating against employee rights.
- 56% of male managers and supervisors somewhat agree, agree, or strongly agree that employers that continue to include cannabis in their pre-hire drug testing program risk the chance of discriminating against employee rights.
- 58% of female managers and supervisors somewhat agree, agree, or strongly agree that employers that continue to include cannabis in their pre-hire drug testing program risk the chance of discriminating against employee rights.

Null Hypothesis: As states legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, risk the chance of discriminating against employees' rights under certain state laws.

Alternative Hypothesis: As states legalize recreational cannabis, employers that continue to include cannabis in their pre-hire and random testing programs, when not federally required to do so, do not risk the chance of discriminating against employees' rights under certain state laws.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 11

Please indicate your level of agreement with the following statement: Organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy, should consider allowing previous employees who were termed, (due to a positive test alone e.g., random test and not for reasonable suspicion) to reapply.

Of the managers and supervisors surveyed, 56% somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that move away from a test-based policy to an impairment detection-based policy should consider allowing previously termed employees (not for reasonable suspicion but test alone) to reapply for a job within the organization. This was up from 37% prior to brief training.

- 65% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that move away from a test-based policy to an impairment detection-based policy should consider allowing previously termed employees (not for reasonable suspicion but test alone) to reapply for a job within the organization.
- 55% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that move away from a test-based policy to an impairment detection-based policy should consider allowing previously termed employees (not for reasonable suspicion but test alone) to reapply for a job within the organization.
- 41% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that move away from a test-based policy to an impairment detection-based policy should consider allowing previously termed employees (not for reasonable suspicion but test alone) to reapply for a job within the organization.
- 53% of male managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that move away from a test-based policy to an impairment detection-based policy should consider allowing previously termed employees (not for reasonable suspicion but test alone) to reapply for a job within the organization.
- 67% of female managers and supervisors somewhat agree, agree, or strongly agree that organizational drug and alcohol policies that move away from a test-based policy to an impairment detection-based policy should consider allowing previously termed employees (not for reasonable suspicion but test alone) to reapply for a job within the organization.

Null Hypothesis: Organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy, should consider allowing previous employees who were termed, (due to a positive test alone e.g., random test and not for reasonable suspicion) to reapply.

Alternative Hypothesis: Organizations that modify their drug and alcohol policies and move away from a test-based policy to that of an impairment detection-based policy, should not consider allowing previous employees who were termed, (due to a positive test alone e.g., random test and not for reasonable suspicion) to reapply.

CONCLUSION = ACCEPTANCE OF THE NULL HYPOTHESIS

Question No. 12

Please indicate your level of agreement with the following statement: Organizations that move from a cannabis test-based policy to an impairment detection-based policy can keep team members safe while not discriminating against employee rights.

Of the managers and supervisors surveyed, 69% somewhat agree, agree, or strongly agree that organizations that move away from a test-based drug and alcohol policy to an impairment detection-based policy can keep team members safe while not discriminating against employees.

- 80% of managers and supervisors 42 years of age and younger somewhat agree, agree, or strongly agree that organizations that move away from a test-based drug and alcohol policy to an impairment detection-based policy can keep team members safe while not discriminating against employees.
- 66% of managers and supervisors between 43-58 years of age somewhat agree, agree, or strongly agree that organizations that move away from a test-based drug and alcohol policy to an impairment detection-based policy can keep team members safe while not discriminating against employees.
- 55% of managers and supervisors between 59-68 years of age somewhat agree, agree, or strongly agree that organizations that move away from a test-based drug and alcohol policy to an impairment detection-based policy can keep team members safe while not discriminating against employees.
- 65% of male managers and supervisors somewhat agree, agree, or strongly agree that organizations that move away from a test-based drug and alcohol policy to an impairment detection-based policy can keep team members safe while not discriminating against employees.
- 83% of female managers and supervisors somewhat agree, agree, or strongly agree that organizations that move away from a test-based drug and alcohol policy to an impairment detection-based policy can keep team members safe while not discriminating against employees.

<p>Null Hypothesis: Organizations that move from a cannabis test-based policy to an impairment detection-based policy can keep team members safe while not discriminating against employee rights.</p>
<p>Alternative Hypothesis: Organizations that move from a cannabis test-based policy to an impairment detection-based policy cannot keep team members safe while not discriminating against employee rights.</p>
<p>CONCLUSION = ACCEPTANCE OF THE HULL HYPOTHESIS</p>

Conclusion Summary

As more and more states, districts and jurisdictions across the U.S. legalize recreational cannabis, coupled with the increasing trend of employee protections prohibiting employers from testing employees for off-duty cannabis use, organizations will need to amend their drug

and alcohol policies or potentially face violation of law and or discrimination suits from employees. This research study surveyed 118 managers and supervisors from across the U.S. and from various industries. This research revealed that managers and supervisors believe that organizational drug and alcohol policies should be amended and cover the following components:

- Incorporate a strong focus on educating employees on the dangers of being impaired by cannabis within the workplace.
- Incorporate a robust cannabis impairment detection training program for managers and supervisors.
- Eliminate test-based drug and alcohol policies and implement impairment detection-based policies (when not federally obligated to test) or develop separate testing groups.
- Limit or eliminate cannabis pre-hire testing so not to limit talent in their organization.
- Allow previous employees who were termed for violating their organizations drug and alcohol policy, (due to off-duty cannabis use), to be able to reapply.

Younger managers and supervisors had a higher agreement level than older managers and supervisors that conducting pre-hire testing would limit the pool of candidates, discriminate against potential candidates, and had stronger agreement than older managers and supervisors that employees should be able to reapply for previous failed tests.

In addition to considering the above manager and supervisor sentiment into the amendment of drug and alcohol policies to meet state, district, and jurisdictional cannabis testing restrictions, organizational drug and alcohol policies should clearly state the following:

- On the job cannabis use will be strictly prohibited.
- Clearly defined off-duty cannabis use parameters.
- Criteria for identifying impairment.
- Educational programming for employees on the dangers of cannabis use in the workplace.
- Manager and supervisor training to detect cannabis impairment in the workplace.
- A central focus of the policy on the safety of all team members.

This research shows that providing brief training and sharing knowledge of changing cannabis laws to managers and supervisors changed their perceptions and beliefs towards their organizations drug and alcohol policy. This research reveals that managers and supervisors support the current trend and passage of recreational cannabis laws, and welcome changes to their policies that focus more on employee safety than blanket testing programs that focus more on compliance. When organizational leaders amend their drug and alcohol policies, while being mindful of federal cannabis laws, they will need to adhere to state, district, and jurisdictional laws. Organizational leaders would be well served to incorporate manager and supervisor beliefs when amending their drug and alcohol policies to ensure greater acceptance and management of their policies. Greater acceptance and management of organizational drug and alcohol policies will lead to a workplace that protects employee rights while ensuring the safety of its employees.

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Author Contributions

Steven Boyd was the investigator for this research. Steven is a doctoral student at Capitol Technology University and conducted this research as part of his degree program. Steven conducted the survey, reviewed the data from the research and wrote this document with all applicable findings, literature, and recommendations.

Dr. Drew Hinton is an Adjunct Professor and OSH Advisory Board Member at Capitol Technology University and serves as Steven's dissertation chair. Dr. Hinton assisted with reviewing the article and providing advice on final revisions.

All authors had approved the final version.