

EXPLORING THE POTENTIAL IMPACT OF PSILOCYBIN ON THE CONSUMER GOODS INDUSTRY: A STUDY ON USAGE AND TRADEOFFS AMONG COLLEGE STUDENTS

Hansen J Zwanka

Associate Professor, Food Marketing, Western Michigan University, Kalamazoo, Michigan, United States

Abstract: Increased acceptance and usage of psilocybin, or magic mushrooms, has the potential to impact the consumer goods industry, particularly those producing or selling products that could be replaced or used less frequently. This exploratory study aimed to investigate the potential trade-offs and impact of psilocybin on consumer products by surveying college students on their awareness, usage, and preferences of psilocybin and other substances. The study found that psilocybin could potentially replace or decrease the use of other products, such as over-the-counter and prescription drugs, as well as alcohol, in certain circumstances. The survey also revealed some surprising usage and consumption traits among college students, emphasizing the need for greater understanding and research into the impact of psilocybin on society as decriminalization and legalization efforts continue. The study highlights the importance of consumer relevance and disruptive trends in the growth of the consumer goods industry, as well as the potential for natural substances like psilocybin to meet growing consumer demand for whole-body health solutions.

Keywords: Psilocybin, Magic mushrooms, Consumer goods industry, Natural remedies, Intoxicants, College students, Trade-offs, Prescription drugs, Alcohol, Consumer packaged goods companies, Disruptive trends, Decriminalization, Legalization.

1. Introduction

Archaeologically documented since at least 11,000 BC, humans have been using natural substances for their mind-altering, natural healing, recreational release, and chronic ailment abatement properties. Beer was first discovered consumed in Israel in 11,000 BC, Cannabis in Japan in 8,200 BC, psilocybian mushrooms in the Sahara in 6,000 BC, wine in Georgia in 5,800 BC, and opium in Italy in 5,600 BC, to name a few of the more prominent psychoactive and intoxicating substances (Samorini, 2019) ^[17].

With rapid decriminalization and legalization of marijuana, estimates are 12% of the United States population consumes marijuana regularly, sales of marijuana increased 67% in 2020, support for legalized marijuana is at 68% of the population, and the cannabis industry is worth \$61 billion (flowhub, 2021) ^[3]. Cannabis has tremendously impacted the food industry, through cannabis-infused food and beverages, cannabis restaurants, and cannabis as a substitute for alcoholic beverages (Monica, 2021) ^[10]. In 2019, 12% of eighth graders reported marijuana use in the last year, and 36% of twelfth graders had used marijuana in the last year; with 6% using it daily (NIH, 2021) ^[11].

As stigma of cannabis use abates, and normalization becomes more commonplace, stigmas on other previously stigmatized drugs tends to follow a similar pattern (Reid, 2020) ^[14]. With acceptance of cannabis as a substance to be used for recreation, both psychoactive and intoxicating, the substitute effect of cannabis for other intoxicating substances has a direct impact on the food industry, especially to those producers of the products being replaced (or at least used less frequently), like beer and wine. One survey showed almost half of cannabis users over 21 years of age had replaced alcohol with marijuana, and this is for all age ranges (Herrington, 2020) ^[5].

If the food industry is already seeing the need to either participate in cannabis-infused foods and beverages, with Coca-Cola, Pepsi, and Starbucks stating they are monitoring cannabis legalization and product proliferation, it bears to reason that increased acceptance of other psychoactive or intoxicating substances going through legalization may have a compounding effect on traditional consumer packaged goods companies and food retailers (especially if, like cannabis, the products are mandated to sell through an alternate channel like dispensaries).

This research aims to look specifically at psilocybin, or “magic mushrooms”, as there is a groundswell of support to legalize this hallucinogenic. The other psychedelics, such as LSD, ketamine, and NBOMe, are not part of this study, as they are primarily consumed as synthetics, and are also seen as having dangerous side effects (Woolfe, 2021) ^[22]. The least harmful psychedelic, and the one consumed more in its natural state, is psilocybin. The Food and Drug Administration recently approved psilocybin as a “breakthrough therapy” for severe depression (Saplakoglu, 2019) ^[18]. Some researchers have touted psilocybin as the “next star in functional food” (Yu, 2020) ^[23].

The questions to be pursued with this research, and directly applied to those who either produce food products (consumer packaged goods companies), or those who re-sell those products (food retailers) are the following:

1. Similar to the impact of cannabis products, will psychedelics like psilocybin replace some current food products as acceptance increases.
2. Will psilocybin parallel cannabis in acceptance and usage, both medically and recreationally?
3. Do customers see cannabis, psilocybin, beer, wine, and spirits as interchangeable or interrelated?
4. Will consumer products for anxiety and depression be challenged by increased acceptance of psilocybin?

2. Literature Review

2.1 Psychoactive Drugs Defined

Many of these substances can be described as either recreational or medicinal, and some are considered “food related” (beer and wine) and others are considered “drugs” (psilocybin, cannabis, and opium). All are considered psychoactive, or affecting your central nervous system, and causing changes in mood, awareness, and behavior (Bellum, 2010) ^[2]. Psychoactive drugs are broken into four subcategories (Table 1):

Table 1: Four Sub-Categories of Psychoactive Drugs (Ibid, 2010)

Sub-category	Affect	Example
Depressants	Subdued or sleepy	Alcohol or sleeping pills
Stimulants	Increased arousal	Nicotine and ecstasy
Opioids	Sensory blocking	Heroin or pain medications

Hallucinogens	Perspective altering	LSD or psilocybin
---------------	-------------------------	-------------------

The psychedelic drugs market can be segmented on the basis of prescribed use: ADHD, MDD, bipolar, migraine, anxiety, Parkinson's Disease, OUD, Alzheimer's Disease, AUD, TUD, eating disorders, and narcolepsy. Plus, they are also segmented by drug type: Lysergic Acid

Diethylamide (LSD), ketamine, psilocybin, 3,4MethylEenedioxyMethamphetamine (MDMA), ibogaine (Research and Markets, 2021) ^[15].

Many of the substances can be prescribed by medical professionals, and can be administered in a controlled manner. If taken recreationally, the substances are either legal or illegal, depending upon the country, state, country, city, or town (Mind, 2021) ^[9]. In the case of marijuana, it is illegal federally in the United States, and legal in 19 states, Washington, D.C., and Guam (Hansen and Alas, 2021) ^[4]. Even more confusing is psilocybin, also called “magic mushrooms”, which is only legal in five countries: Brazil, Bulgaria, Jamaica, the Netherlands, and Samoa. It is illegal in the United States, but has been de-criminalized in Oakland, California; Denver, Colorado, Ann Arbor, Michigan, and all of Oregon (Acker, 2020) ^[1]. Estimates are there over thirty million psychedelics user in the United States (Krebs and Johansen, 2013)

2.2 Cannabis and Psilocybin Similarities Both cannabis and psilocybin can naturally treat medical disorders which are currently treated more widely with prescribed medications. Cannabis, and the two main cannabinoids extracted from cannabis (tetrahydrocannabinol (THC) and cannabidiol (CBD)) have been touted as solutions for chronic pain, anxiety, insomnia, and migraines (Zwanka, 2020) ^[24]. Psilocybin has been touted as a solution for anxiety, depression, and post-traumatic stress disorder (Rucker and Young, 2021) ^[6]. Both have high usage rates trending upwards, both have FDA approved drugs (Epidiolex (CBD) and Severe Depression (Psilocybin), and both are ingested recreationally either through the digestive system or vaping (Zwanka, 2020)

2.3 Cannabis and Psilocybin Differences Cannabis’ healing abilities, as well as its intoxicating effects, stem from the interaction between the internal (endo) cannabinoids produced by the body (2-AG and anandamide) and the cannabinoids introduced by the cannabis product. Your body’s Endocannabinoid System (ECS) regulates homeostasis. It has two receptors, CB1 and CB2, which control all the body’s primary functions. CB1 is the motor control receptor, and is the receptor THC binds with (CBD does not); which elicits the “high”. Anandamide is also known as the “bliss molecule”, based upon its ability to evoke euphoria in the body (Wiley, 1999) ^[20].

Psilocybin’s healing abilities, as well as its intoxicating effects, stem from interaction resulting from the ingesting of psilocybin and its processing in the liver. When processed, psilocin is produced into the body. Therefore, psilocybin itself is non-intoxicating (called a prodrug) and must be metabolized to become psychoactive (Stone, 2021) ^[19]. Psilocin interacts directly with the serotonin in your body, to produce the ecstasy-like feeling. Psychedelics are known to “reveal yourself” by cutting the influence of Default Mode Network (DMN), the network of neurons established by the brain and hardwired for everyday functioning. By slowing down the processing of the DMN, psychedelics rewire the brain and establish neural connections in different patterns, thusly creating mystical and transcendent feelings of perspective and insight (Ibid).

For both cannabis and psilocybin, “setting and set” are important, to ensure the body is able to embrace the ensuing changes in both the “bliss molecule” and the DMN. When the setting is not appropriately controlled, the need to “hang on”, and not let the changes happen, is what causes the “bad trip” and anxiety and heart palpitations.

2.4 Consumer products potentially impacted Demonstrating the overlap of cannabis and psilocybin, one study found 60% of the respondents regularly micro-dosed (taken in small doses) psilocybin along with consuming marijuana (Peters, 2020) ^[13]. The consumer products potentially most impacted by a positive trend in usage of both cannabis and psilocybin (and therefore substituted) are the ones that produce similar euphoric or psychoactive effects (alcoholic beverages, tobacco products, vape products, focus products) or those health items sold as prescribed or over the counter (serotonin products, insomnia products, anti-depressants, opioids, pain killers).

- Beer, wine, spirits, seltzers: all brands
- Tobacco: all brands
- Focus: folate, choline, nootropics, vitamin K, flavonoids, omega-3, guarana seed extract
- Serotonin: St. John's Wort, omega-3, HTP from tryptophan, SAMe, 15% of Americans are on antidepressants prescribed by doctors, with a 64% increase since 1999 (Winerman, 2017) ^[21].
- Insomnia: Benadryl, Aleve PM, Unisom, melatonin, valerian, Ambien
- Anti-depressant: Vitamin B-3, Zoloft, Paxil, all products also for serotonin
- Opioids and pain killers: Tylenol, Aleve, ibuprofen and NSAIDs, Oxycontin, 12% of the US population is prescribed pain killers, with 5% of the population prescribed opioids

It should be noted that 70% of the United States population is on some sort of prescribed medication, with antibiotics, antidepressants, or pain killer opioids the top three (Krans, 2013) ^[7].

3. Research Contribution

According to McKinsey, the consumer-packaged growth model of building out assortment in parallel with growing economic wealth has been little changed since post- World War II (Kopka *et al*, 2020) ^[6]. Trend impact on consumer-packaged goods, and how to stay ahead of customer consumer behavior shifts has become top of mind with consumer-packaged goods companies. Customer relevance and disruptive trends are the future of growth in consumer goods, instead of margin expansion. In fact, for the last ten years, margin expansion has contributed twice as much to value creation than growth, in consumer goods (Ibid.). Being able to contribute to consumer trend, disruption, and commodity trade-offs can greatly enhance agility and effectiveness of consumer goods companies. In this study, we are attempting to ascertain future acceptance and usage of psilocybin, as well as gain consumer feedback on potential trade-offs if/when psilocybin gains popularity.

4. Survey construct

4.1 Research Questions

R1: Psilocybin, upon gaining further acceptance, will replace some current food products as popularity increases. R2: Customers see cannabis, psilocybin, beer, wine, and spirits as interchangeable or interrelated. R3: Products for anxiety and depression will be challenged by increased acceptance of psilocybin.

4.2 Respondent Recruitment and Sample Plan Responses and insight were sought through a survey distributed widely through email, social media, and professional consumer packaged goods sites. As this survey was rolled out in a "snowball" method of gaining respondents, representativeness was *not* obtained. As all members of society are implied to be possible respondents, reaching them is not easily achieved. A snowball method of gathering respondents normally results in many people similar in their demographic profile, which is what we saw in this study.

This is exploratory research, so nonprobability sampling methods were used. As a nonprobability sample, there is no justification for computing a sample size with the level of confidence formulas, and the respondent number (n) was 128 (n=128).

4.3 Question flow

Each respondent was given the same questions and same question flow, with skip logic built in to move through the survey relatively easily, and to move those respondents out of the survey if they replied “no” to any of the “do you use” questions.

The reasoning for the rigidity of the questions is we were looking for connections between *all* consumer goods being asked, and did not want to eliminate any possible relationships between products. The opportunity to choose “other” or “none”, as well as the ability to rank their responses, was consciously left off the possible responses, when asked questions like “when you want to relax, which do you choose?”. We wanted to ensure the respondents *had* to make a choice.

4.4 Survey questions

The flow of questions for the survey:

- Demographics: Age, state of residence, gender identification, ethnic background, education
- Usage: Usage rate of: beer, wine, spirits, seltzers, THC, CBD, psilocybin, anti-depressants
- Choices: When you want to relax, what do you choose? When you want a pickup in energy, what do you choose?
- Tradeoffs: Will one replace the other, or decrease use of the other
- Open-ended: What did you think we were going to ask, but did not?

5. Survey Results and Analysis

As mentioned, the respondent number was 128. It is so heavily skewed towards the 18-24 year old group (75%), the study can best be described as “what are college students thinking and doing, in respect to alcohol, psilocybin, THC, CBD, etc.?”. But, in reality, that is the group we are trying to understand, since they are the ones who will be the next major cohort entering the workforce and presumably increasing buying power.

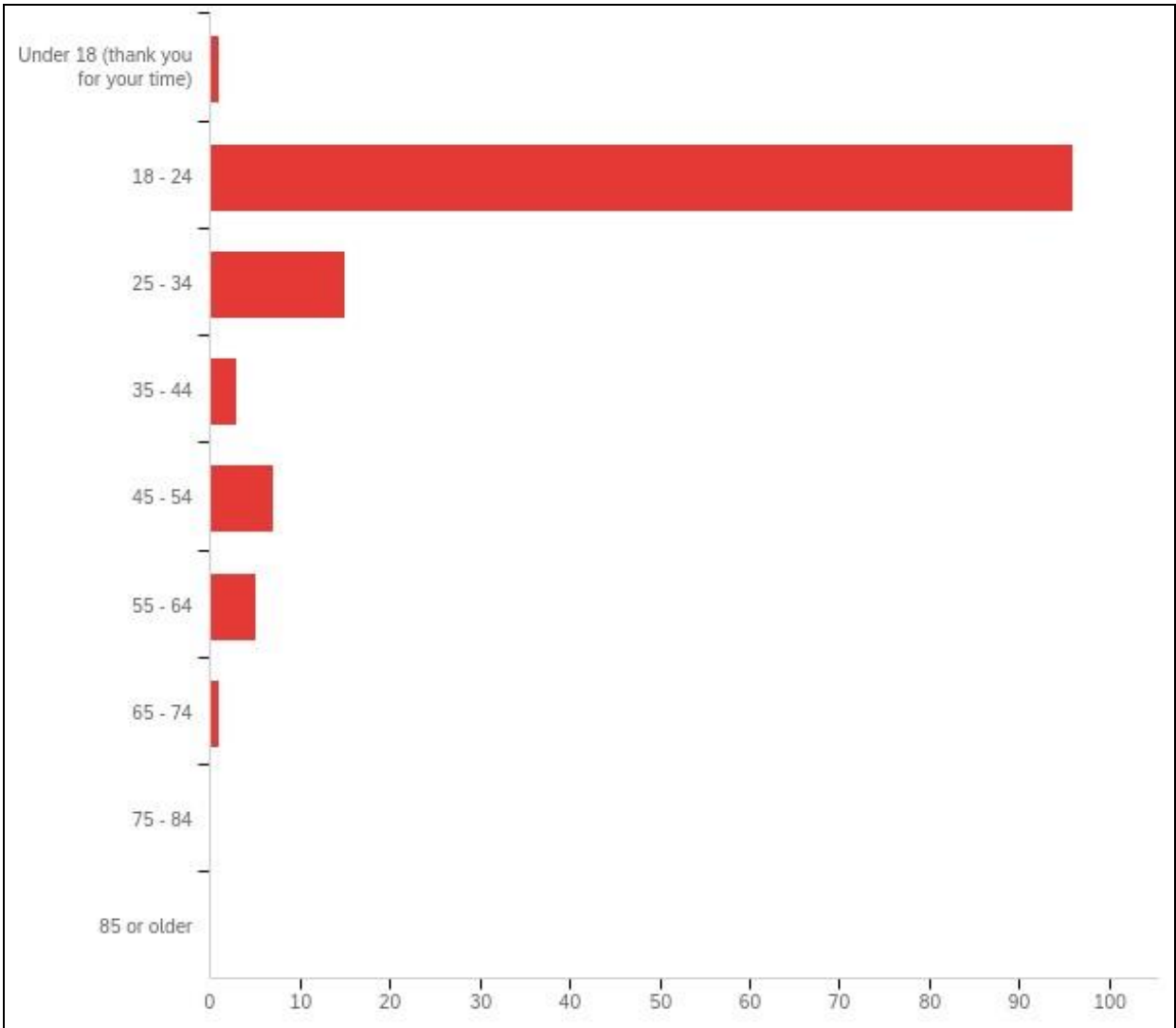
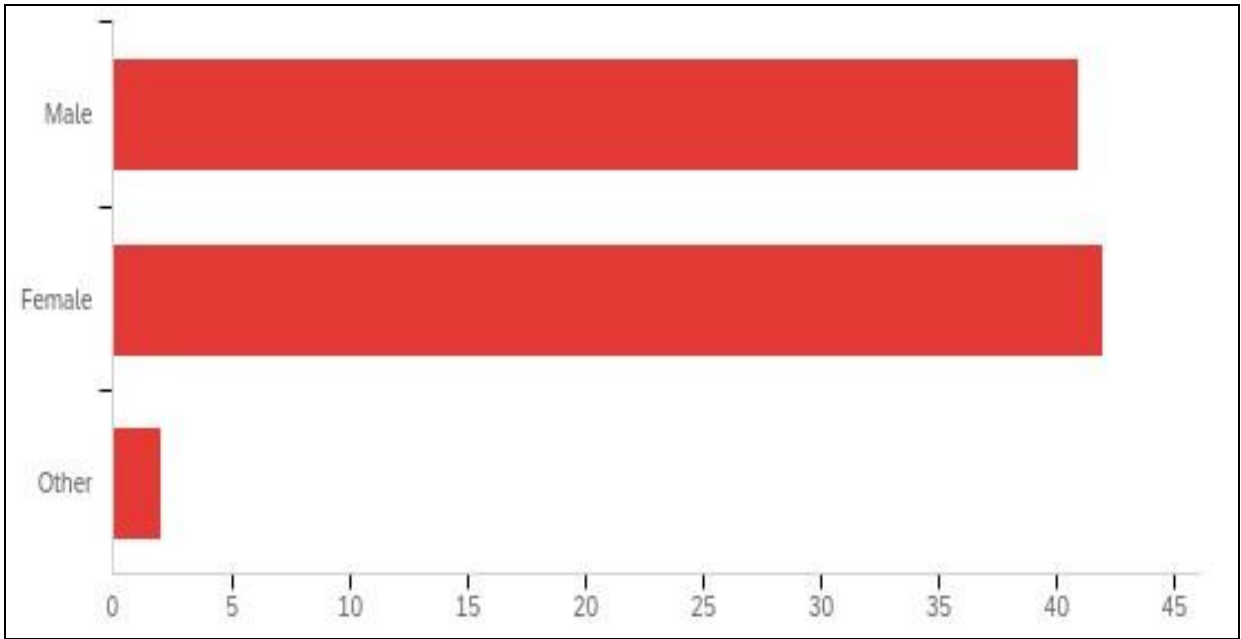


Fig 1: 75% of respondents 18-24



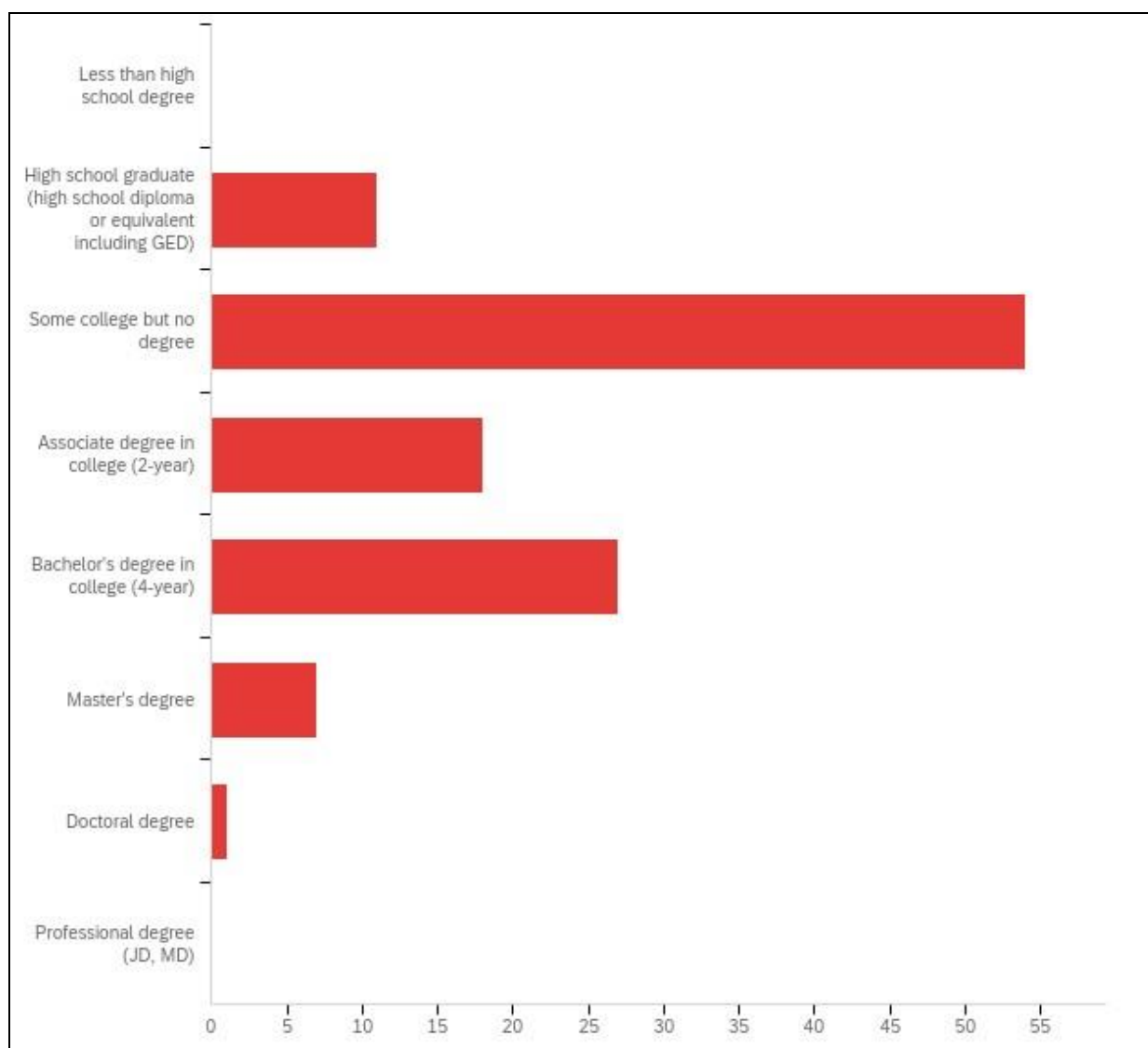


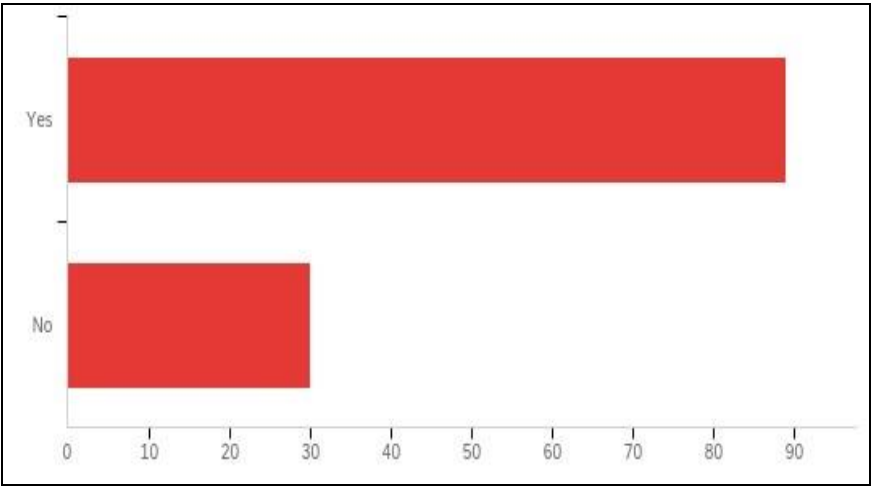
Fig 3: 46% some college, no degree; 23% Bachelor's degree

Fig 2: 48% male and 49% female

We are heavily skewed college-age, but split almost evenly population, but are a descriptive snapshot of a white between male and female (2% replied “other”). Once college-aged cohort (respondents were 91% white).again, the results are not representative of the general

Please note, these are *descriptive statistics*, focusing on *nominal variable* responses, and applying *central measures of tendency* to the results. At no point, do we use *inferential* statistics. We would need a representative sample, plus we would have needed to use probability respondent methods of gathering responses. The survey is a snapshot in time, cohort, in regards to their usage of various substances.

As the questions moved from demographics into usage of substances, and self-reported usage rates, the various consumer products and their complements became evident. Beer was reported as being consumed by 74% of the survey respondents.



being used to determine the “temperature” of a certain

Fig 4: 74% beer consumption

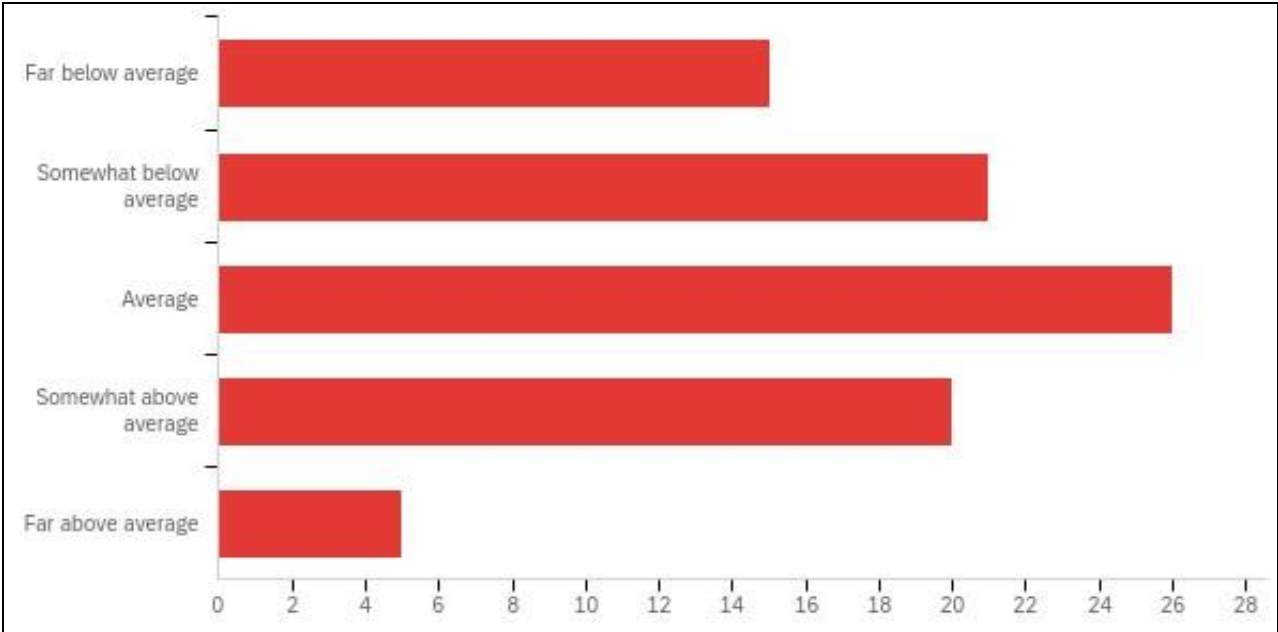


Fig 5: 30% self-reported average consumption, with 46% falling closely on either side of “average”
 Thirty percent of respondents self-reported “average” substances. First reason, is people tend to bias towards consumption. As there is a tendency to under-report under- reporting when it is a substance with a potential

consumption, no guide was provided to the respondents to help define “average” consumption of any of these

stigma. Second reason, is there is no common agreement as to what “average consumption” means.

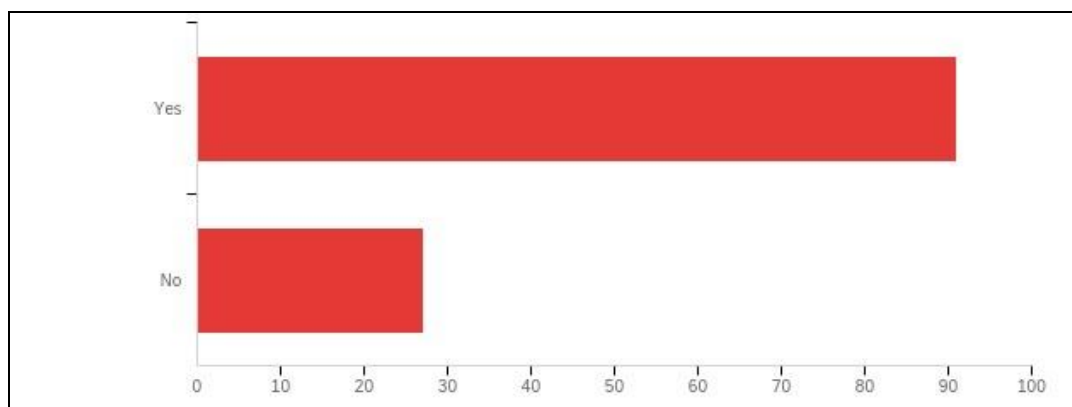


Fig 6: 77% wine consumption

For wine, 77% reported consuming wine. Once again, we were not asking how often, etc. We would solely ask them

to gauge their consumption. Of the responses, 36% self-reported “somewhat below average” wine consumption.

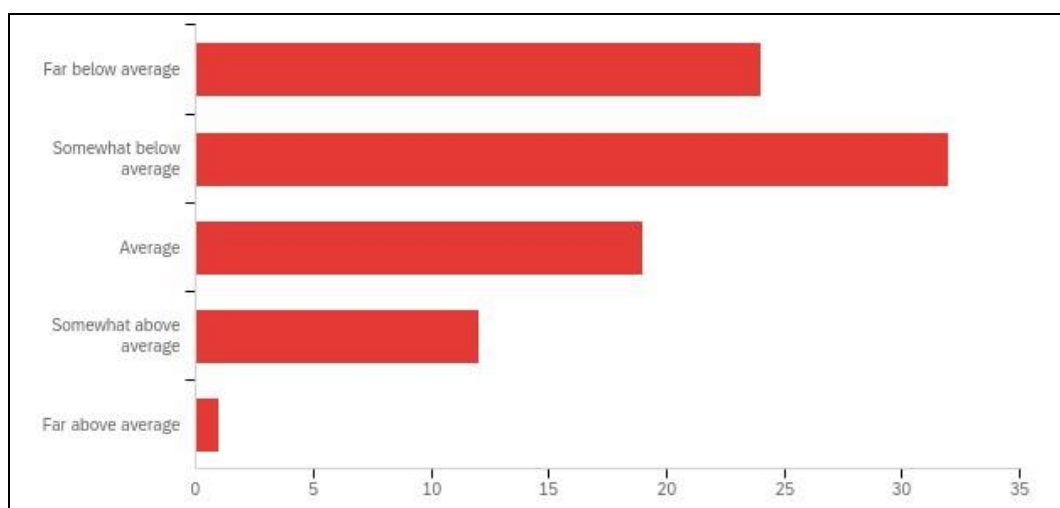


Fig 7: 36% self-report “somewhat below average” wine consumption

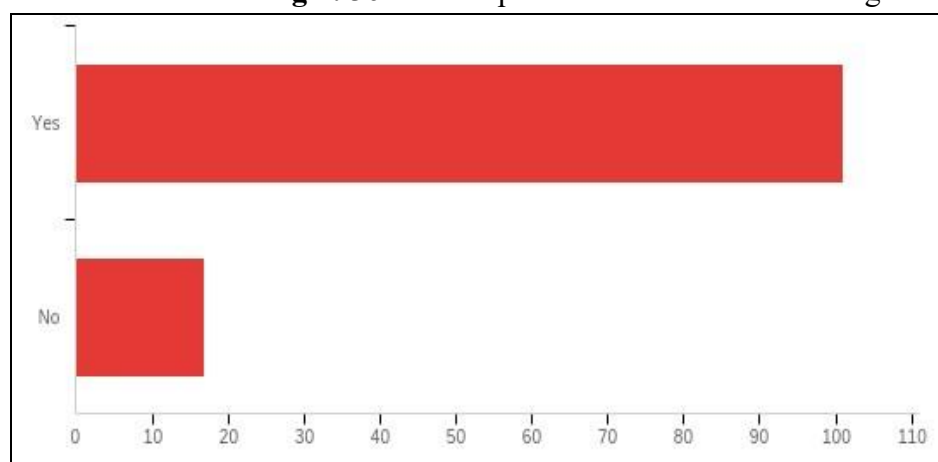


Fig 8: 86% spirits consumption

Spirits were reported at 86% consumption. Similar to many health and wellness that is becoming pervasive in alcohol trends identified in previous studies, there has been a choice. Spirits have been called “quicker and with less gradual shift away from wine in the college-age cohort. calories” than wine in comments from college students. Life-stage, though, tends to show an increase in wine Forty-two percent self-reported “average” consumption of consumption as people leave college and enter the spirits. workforce full-time. Also, there is an influencing trend of

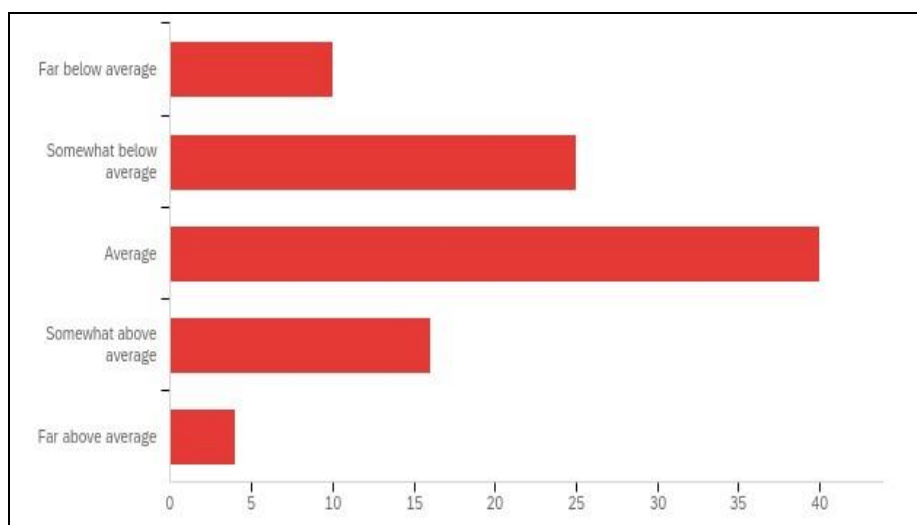


Fig 9: 42% self-report average spirits consumption

In a result that would have been non-existent only a few levels in the 4.5% range, with the high abv versions at 8% years ago, 72.4% of respondents replied they consume abv. Sixty percent self-reported average or above average seltzers. Once again, seltzers have alcohol by volume (abv) seltzer use.

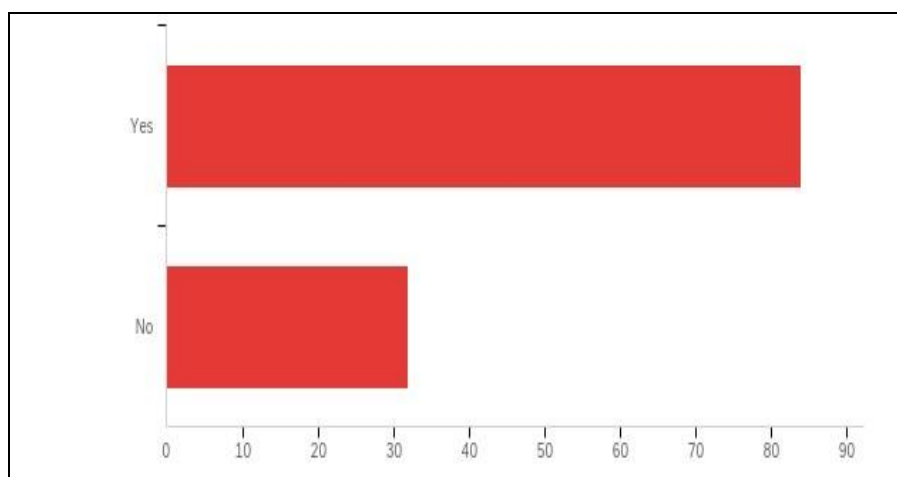


Fig 10: 72.4% seltzer consumption

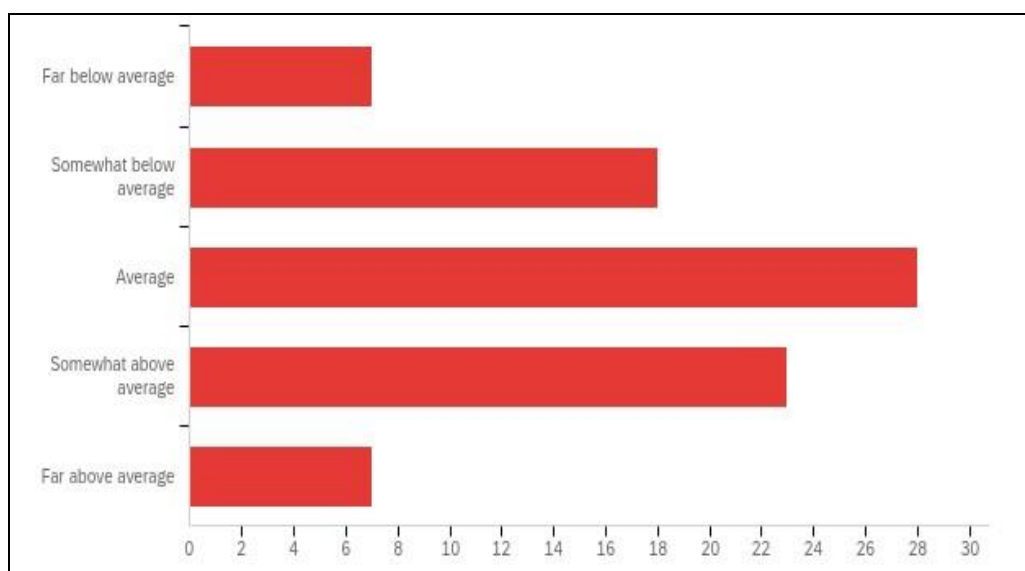


Fig 11: 60% self-report average or above average seltzer consumption

As we moved the survey out of alcohol types, we then cannabis plant are growing at a high trend, fueled by introduced Tetrahydrocannabinol (THC) and Cannabidiol legalization measures happening across the United States (CBD). Discussed earlier, these substances from the and also globally.

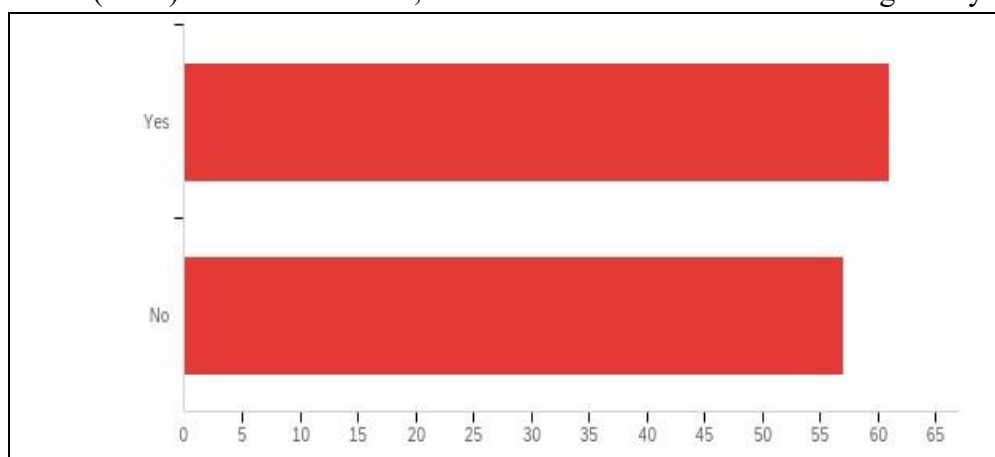


Fig 12: 51.7% THC usage

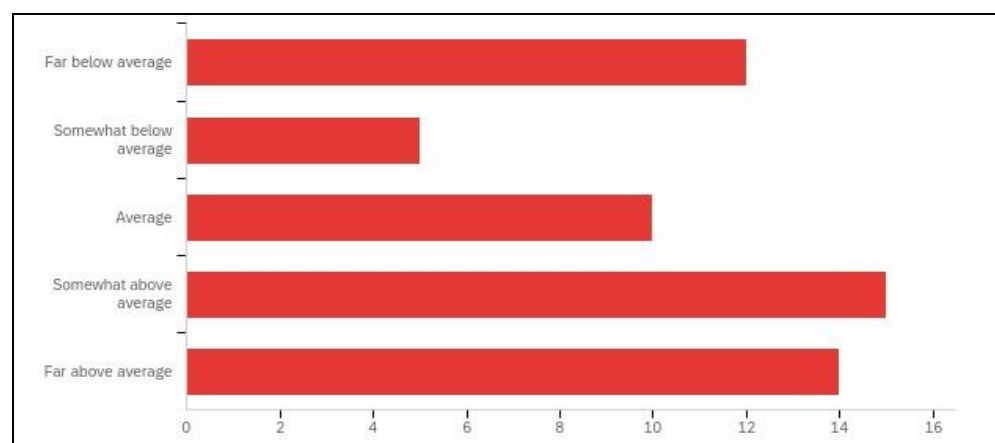
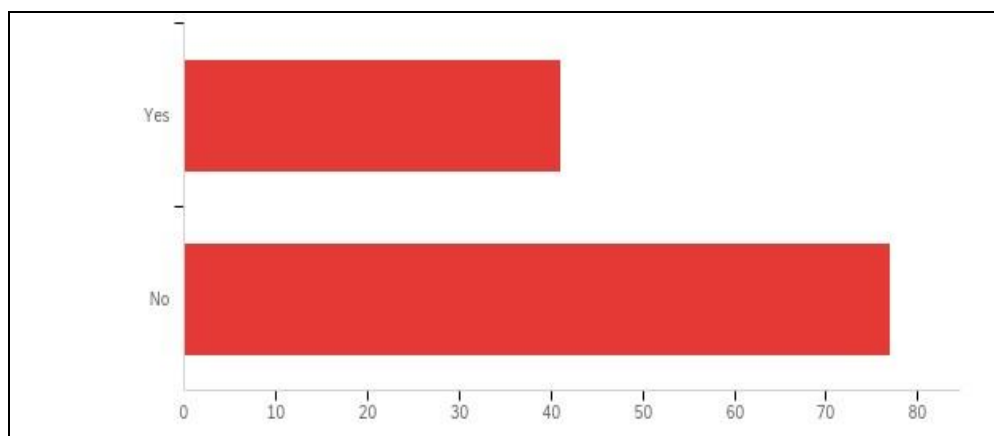


Fig 13: 51.8% self-report somewhat above average to far above average usage

Of the respondents, 51.7% reported THC usage, while not” and influencers on consumption.

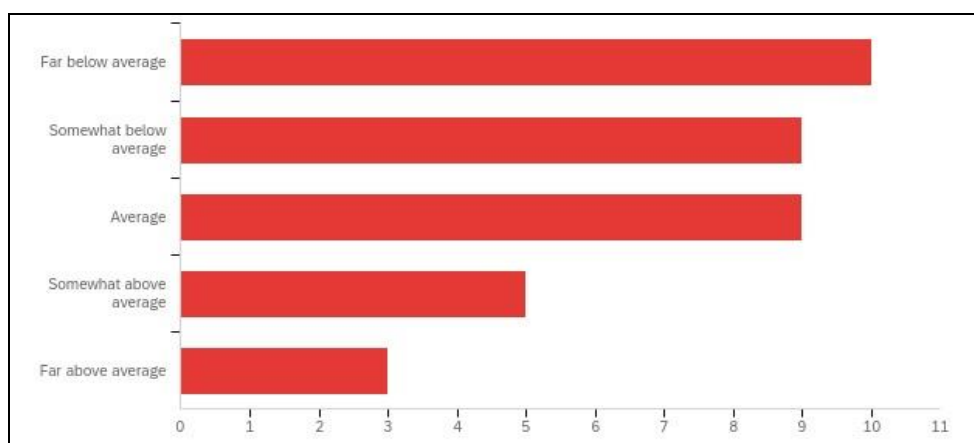
roughly 52% of those who use THC use it to a high level, leads to many other questions on stigma and acceptance. If

self-reporting is biased towards under-reporting, then consumption rates are quite high!



51.8% self-reported “somewhat above average” to “far Most respondents were from Michigan, where THC is both above average” usage. A further study will be needed to recreationally and medically legal. The polarizing responses determine the differences between those who use THC and of roughly a little over half using THC, and a little under those who do not, to at least a degree as to “why or why half not using THC; coupled with the self-reporting of

Fig 14: 35% CBD usage



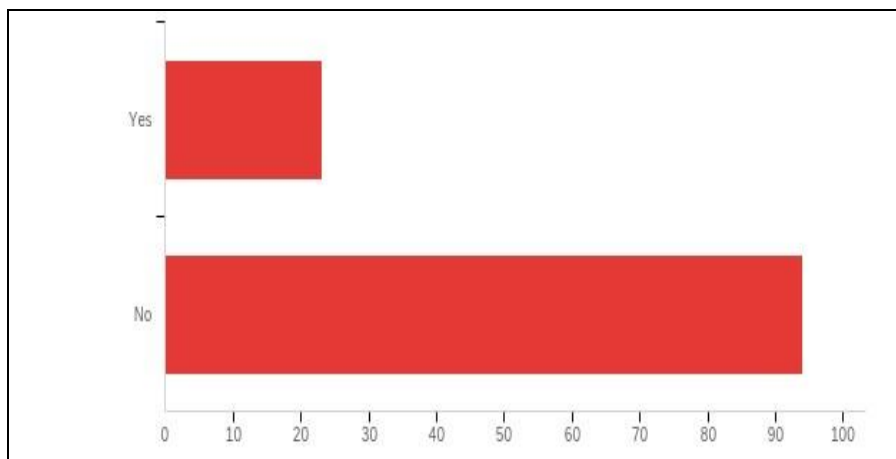
Of the respondents, 35% reported using CBD, while most respondents (53%) reported “below average” consumption.

Fig 15: 53% self-reported somewhat below average/far below average consumption

In alignment with other CBD studies, those who suffer from chronic inflammation and those who have insomnia, seek out cures. In this search, CBD usually is revealed as a solution. The demographic with more prevalence of chronic inflammation and insomnia is much older than the collegeaged respondents in this study, so this response rate is to be expected. The other main reason many cite for CBD use is anxiety, which is also solved by THC (plus, you have aged cohort).

Even in a study primarily focused on psilocybin usage, and the trend of microdosing, the psilocybin results were higher than expected. Remember, psychedelics are illegal in the entire country, except for eight spots

(cities and one state), but 20% of respondents reported consuming psilocybin! Granted, as surprising as those results were, only 23% self-reported average to far above average consumption.



intoxicating results, which would be desirable in a college-

Fig 16: 20% psilocybin usage

Also, please remember, no guide was given to define “average”; plus, even microdosing is every few days,

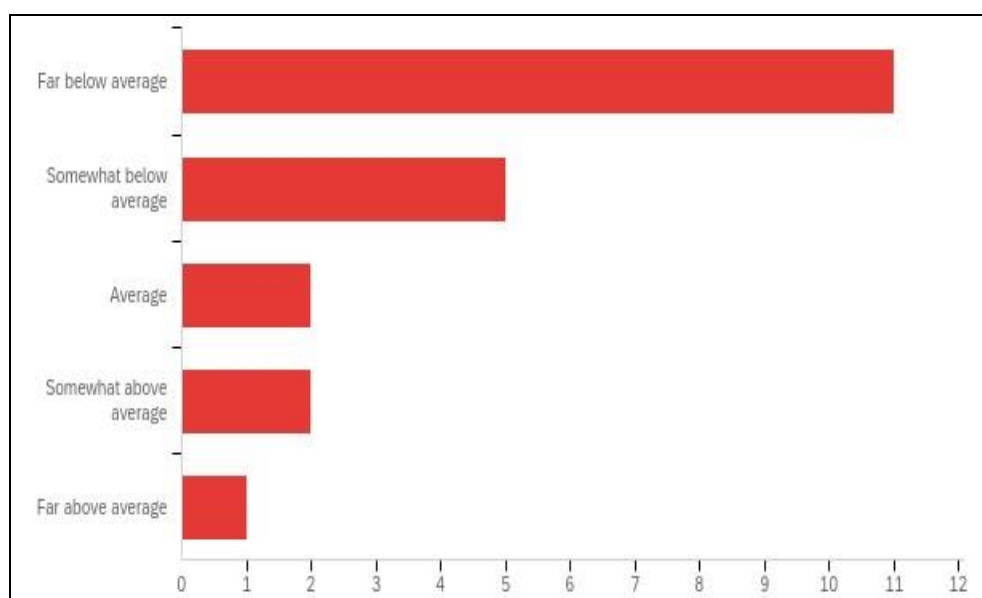
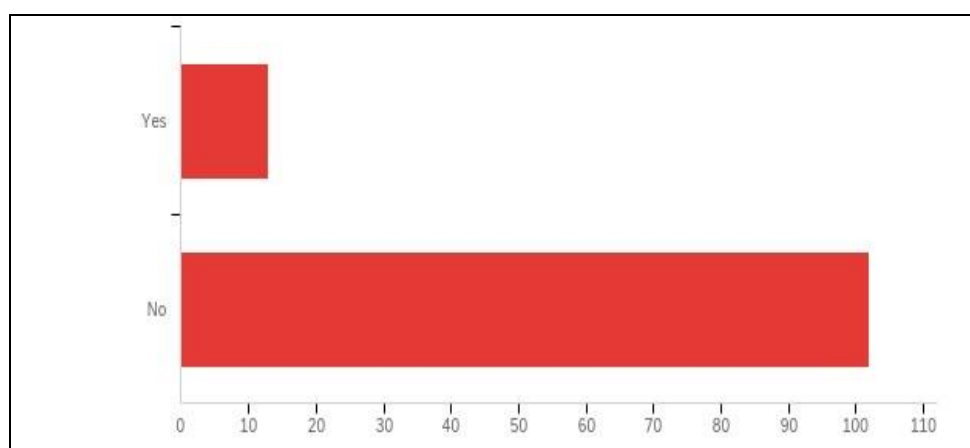


Fig 17: 23% self-reported average to far above average usage

This result, paired with the usage patterns of every few days, or taking a month off in between each month of usage, extremely high rate of anti-depressant usage in the United States, the difficulty in comparing psilocybin usage States, the and/or THC. 89% replied no.

In attempting to understand if psilocybin is being used for



next question asked was whether or not antiin terms of being a tradeoff between alcoholic beverages depressants were used by the respondents. Overwhelmingly,

Fig 18: 88% self-reported no anti-depressant usage

Two conclusions could possibly come from this result. Either there *actually is* very little anti- depressant use by this cohort, or it is seen as too private to disclose even in an anonymous survey. It is understandable anonymity would be difficult to believe, especially since any mention of anything in any conversation tends to show up as an ad in Instagram or Facebook almost immediately.

As we moved the questions into tradeoffs and what was used for which occasions, some interesting responses were gathered. Remember, we did not ask for a ranking, and we did not allow respondents to choose “none”.

You had to either choose something, or not answer the questions. For example, out of 128 respondents, only 94 answered the question “When I want to relax, I’ll choose XX”.

Of the responses, 39% chose THC to relax, while 20% chose wine. Rounding out the list were beer and seltzers, then spirits and CBD.

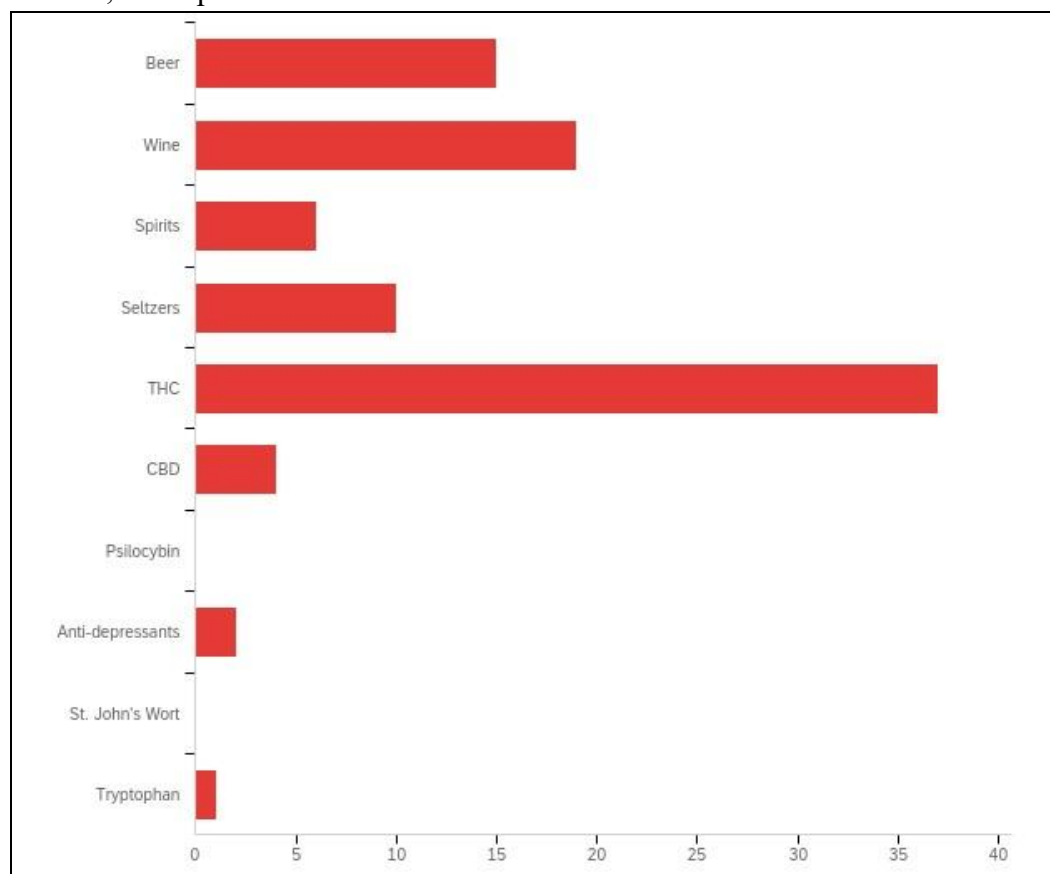


Fig 19: 39% choose THC to relax, followed by 20% wine

The interesting result here is that wine was not one of the top choices of substances to consume, but it was the second usage choices were all alcoholic. It would make sense the chosen substance when asked what is used to relax. The substance used to relax (THC) would not be the first choice 39% choosing THC is not a surprise, as the most highly when looking to “party”. Note, “want to party” was not

repeated reason college-aged students give for THC use is “to relax”.

defined, by intention. The survey respondent needed to interpret the meaning.

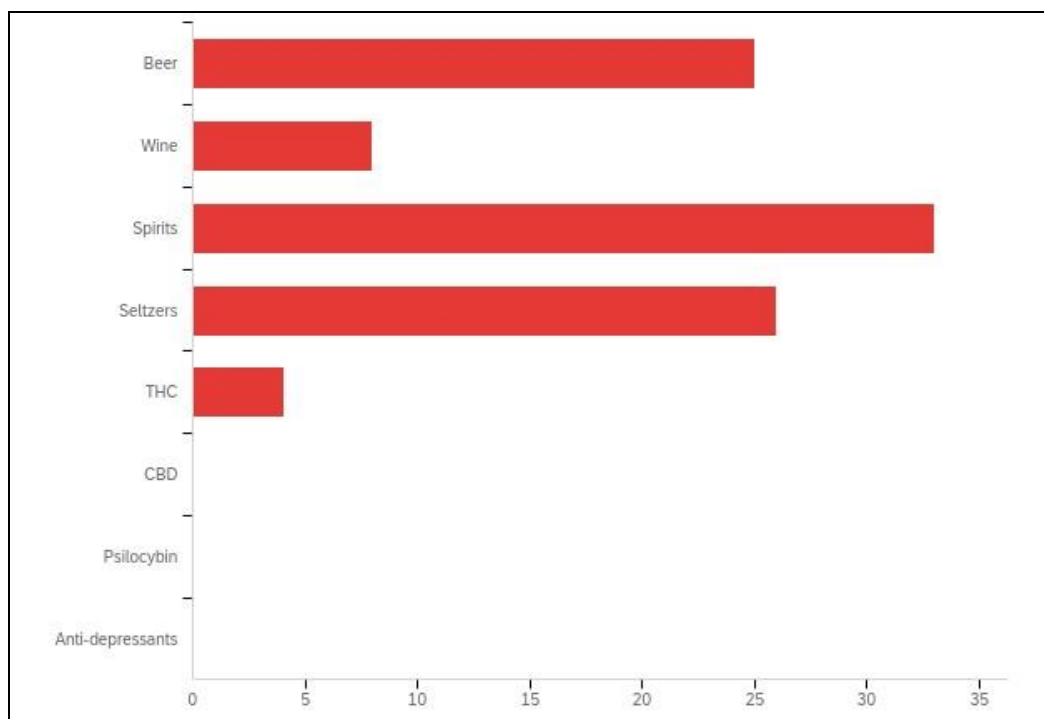


Fig 20: 88% chose alcohol to “party” with spirits the top choice

Not surprisingly, 79% chose caffeine when asked what they working to identify sativa and indica (and CBD) blends that

choose when they “want to focus”. Second choice, albeit a distant second choice, was THC. THC producers have been

can be used for focusing, relaxing, energizing, etc.

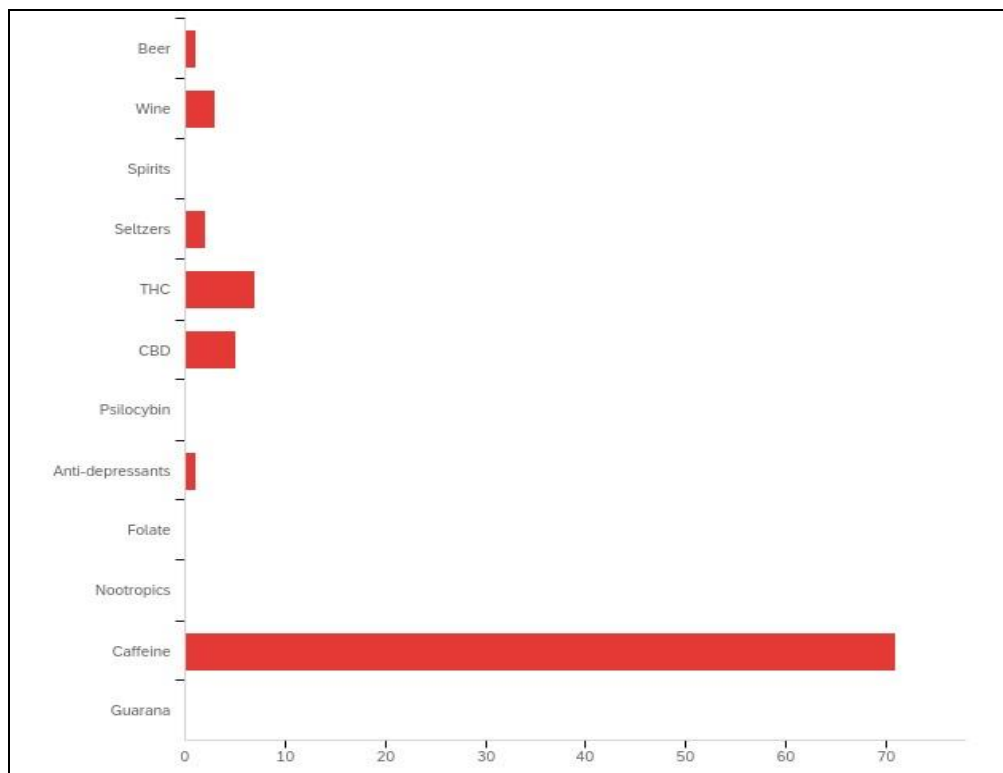


Fig 21: 79% choose caffeine to focus

Here is where another surprise arose. When asked what was since melatonin chosen when they wanted to sleep, respondents chose THC is a generic term, add in Benadryl (4.7%), Unisom (3.5%),

at 35%, but closely followed it by melatonin at 33%. Plus, and Ambien (1%), and these four are now at 42%!

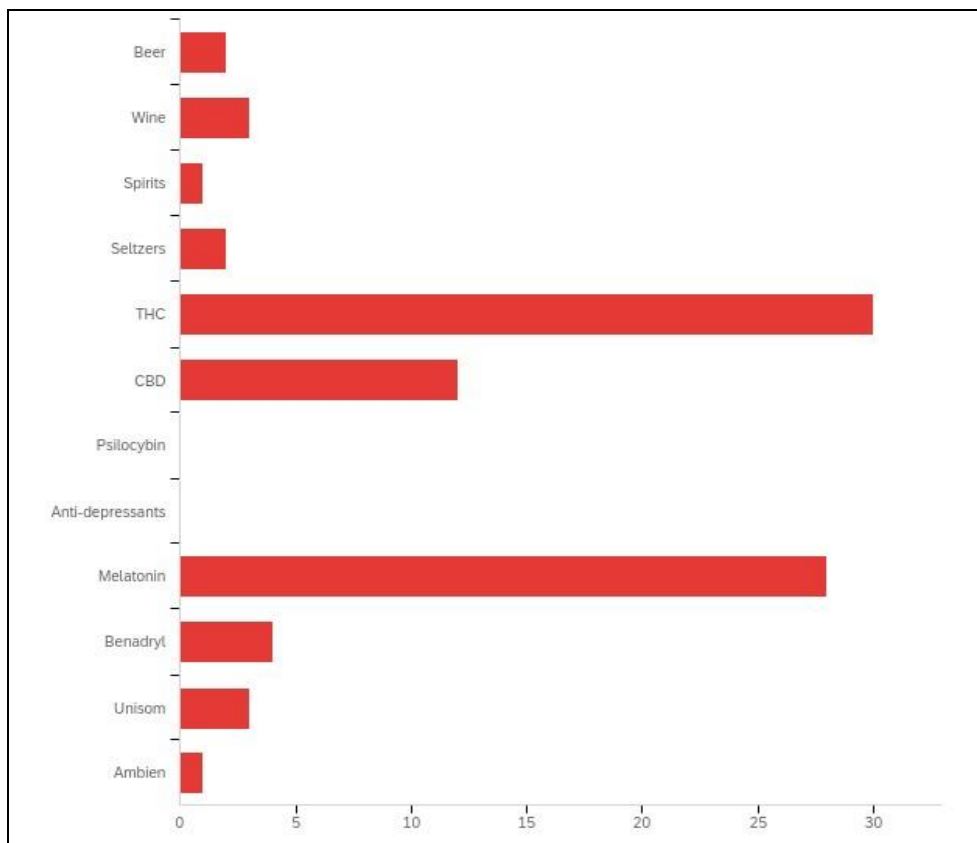


Fig 22: 35% choose THC to sleep, but 42% choose some type of melatonin product

Moving deeper into uses of products, and overlap between for immediate pain management. But, in another revelatory THC and psilocybin, prescription drugs, and over the response, THC was chosen by 21% of the respondents as

counter drugs, we asked how respondents handled pain. As could be expected NSAIDS, Tylenol, etc. were in the lead

their go-to remedy for immediate pain relief.

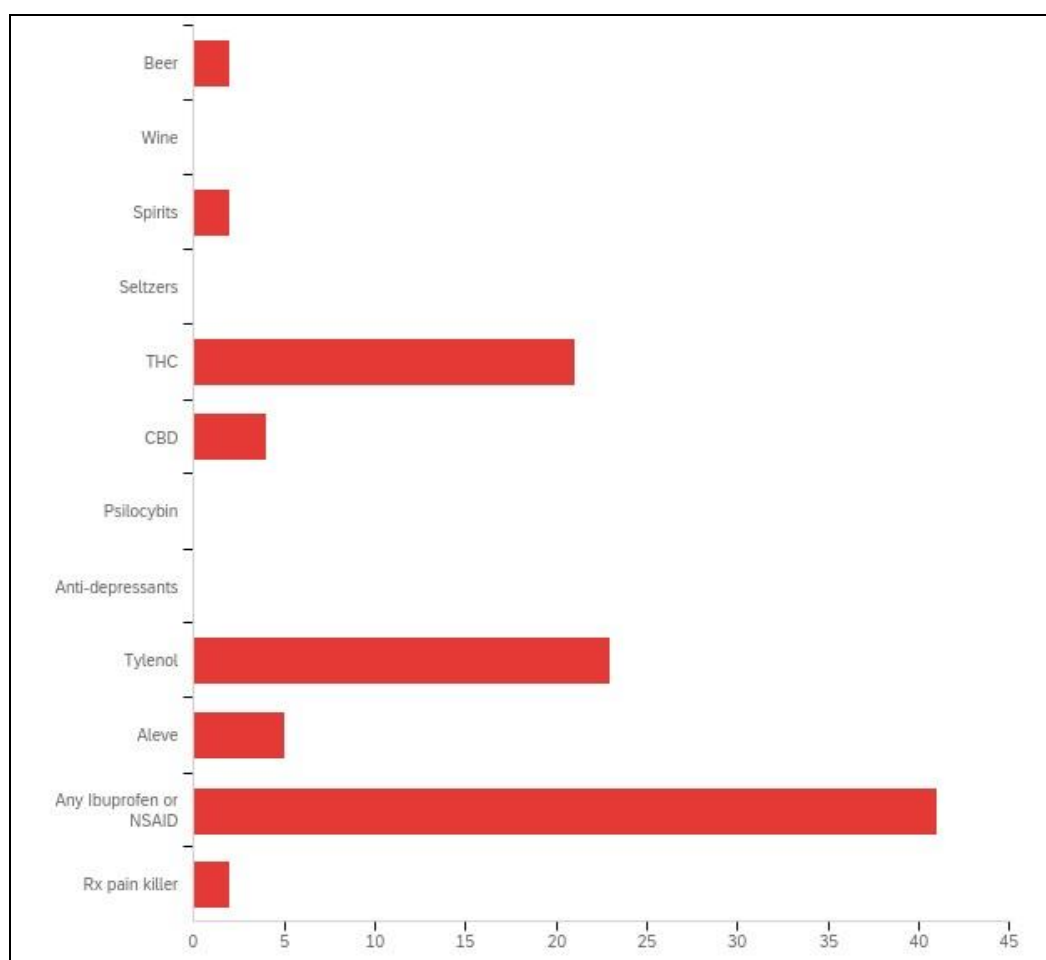


Fig 23: 64% choose any ibuprofen or Tylenol, but 21% prefer THC, for immediate pain remedy

Next, the question was focused upon what the respondent mention psilocybin. *None did.* Top choice was THC. would choose when they were down, or wanted a little pick Another surprise came from these results, in that almost the up. As psilocybin is related to this type of microdosing for a same percent of respondents chose serotonin as beer. brighter outlook, plus it could potentially replace anti- Remember, the survey respondents had to choose only one, depressants, we expected at least some respondents to so serotonin was a bit of a surprise.

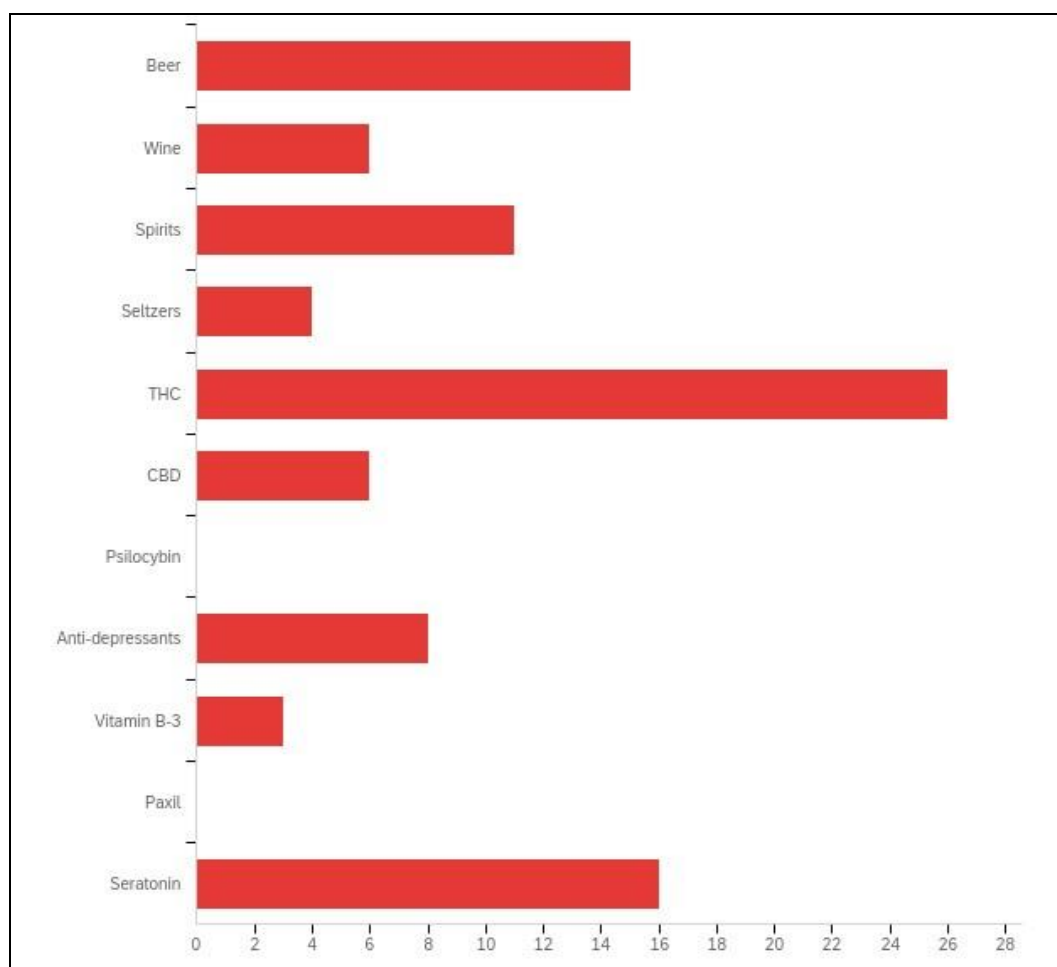


Fig 24: Top choice, when feeling down, was THC at 27%

Obviously, this study has limitations and is not to be used for inferential purposes, but there are still some insights coming from the group of respondents. Overwhelmingly, THC is on a solid upward trajectory, where wine is not as popular. As we stated, though, wine is not usually a top choice with a college-age group. “Low calorie with high abv” appears to be the preferred choices. Choosing THC for immediate pain remediation is also a standout result. Even avid CBD users will report they use an NSAID or ibuprofen, if they need immediate relief. CBD is used primarily for chronic issues.

In the research, we did not ask about microdosing, nor did we ask how often psilocybin was ingested. It would seem, at this point, psilocybin is less frequently consumed by design; as in, not taking a “trip” every night. Whereas, feeling the “high” from THC intoxication is now normalized and being treated in a similar manner as a glass of wine- to relax. Plus, we added using THC as a pain reliever- now, we have multiple uses for THC that are not aligned with the stigma of the “stoner”. People are taking THC as a solution for issues.

It is quite possible we might fast-forward a few years, and find psilocybin in the same situation as THC is today. It could be seen as a solution for anti-depressants, or a solution for being down; but, it does not appear to be there quite yet. And, as we discussed with THC, the stigma of using a hallucinogenic/psychedelic drug is still quite high. It’s early in the mainstreaming life cycle of psilocybin, and new discoveries are being made every day.

6. Conclusion and opinion

We don't think you can have a final conclusion, in regards to an ever-changing environment like the one surrounding psilocybin. Maybe someday everything will settle, and we'll see how psilocybin fared. Like Portland, where everything is legal, what happens, when legalities are set aside? But, we do have some conclusions, based upon experience in new product development, marketing, consumer behavior, etc.

- It will seem disappointing to those investing in psilocybin's ultimate acceptance, but we *don't think it's going to happen*.

- We started the study comparing psilocybin to THC, and the hypothesis that they would follow the same path to legalization and acceptance (not particularly in that order).

- That idea, in our opinion, is flawed in a few points:

- THC has been consumed widely for decades

(legally or illegally), and largely has no side effects with anyone over 18, unless paired with driving, etc.

- THC is being consumed by the general population, and is the choice of the next generation of adults.

- Psilocybin is too difficult to figure out, where THC has been made simple.
- THC, depending upon ingestion method, is relatively predictable in effect.

- Our number one issue with psilocybin is the *difficulty in comprehension* by the average consumer. How much to take, what will it do to me, how do I keep from going on a bad trip, how do I get out of it....at some point, consumers want simple: I'd like to relax, how much should I take?

- The next issue is the *regimen steps* of those who partake on a regular basis. Take every other day, take in the morning, take a month off, know how much will elicit a trip, know your supplier, etc. Like we stated earlier: you want a beer, you grab a beer. You want a mushroom, you....way too much for an average consumer.

- Another point supporting the disconnecting of the trajectory of THC from the future of psilocybin is the big pharma lobbyists see THC as an okay complement. In fact, it may only take customers from alcohol or other consumer goods companies. Whereas

- psilocybin is a *direct challenge* to anti-depressants. Is there anyone more vicious than a big pharma lobbyist seeing a challenge to their products?

Lastly, and psilocybe mushrooms growers may not appreciate this, but *where's the need?* You can drink alcohol, vape THC, ingest CBD, etc. Why do we need psilocybin? We could be wrong. Honestly, we somewhat hope we are. The fact that such a large portion of our population could come off anti-depressants and replace them with a natural substance is intriguing, compelling, and every other word meaning interesting. It's absolutely an excellent replacement for prescription anti-depressants that are incredibly difficult to stop taking!

But, too much stigma, too much unknown, too much big pharma fight, too much *no need*. This is why we do research. It's to develop ideas, potentially see a trend, analyze various sources of information, triangulate to a conclusion.

In this case, it is our belief there is too steep a learning curve for psilocybin to become mainstream. THC seems to be heading towards overall general acceptance, if not simply tolerance. It has been brought out of the "hippie 60's", and been shown to be a beneficial and natural substance for many things that impact humans. And, it's easy to understand how to take it (well, maybe not edibles....). *We do not believe psilocybin is going to enjoy a similar ride*. As a follow-up, research will need to understand if any of those respondents who stated they had consumed psilocybin had returned to consume it again.

7. References

- Acker, Lizzie. Oregon becomes first state to legalize psychedelic mushrooms. The Oregonian. 2020. <https://www.oregonlive.com/politics/2020/11/oregon-psychedelicmushrooms.html>
- Bellum, Sara. NIDA. (2010, October 7). Word of the Day: Psychoactive Drugs. 2010. Retrieved from <https://archives.drugabuse.gov/blog/post/word-daypsychoactive-drugs> on 2021, September 11
- Flowhub. Cannabis Industry Statistics 2021: How the essential industry performed last year. Flowhub. 2021. Retrieved September 11, 2021: <https://flowhub.com/cannabis-industry-statistics>
- Hansen, Claire, Horus, Alas. Where is Marijuana Legal? US News and World Report. 2021. <https://www.usnews.com/news/beststates/articles/where-is-marijuana-legal-a-guide-to-marijuana-legalization>
- Herrington AJ. Marijuana is Replacing Alcohol for Nearly Half of Cannabis Consumers During the Pandemic. Forbes. 2020. <https://www.forbes.com/sites/ajherrington/2021/12/31/marijuana-is-replacing-alcohol-for-nearly-half-of-cannabis-consumers-during-the-pandemic/?sh=1f978cb71fb6> Kopka, Udo, Little, Eldon, Moulton, Jessica,
- Schmultzler, *et al.* What got us here won't get us there: A new model for the consumer goods industry. McKinsey. 2020. <https://www.mckinsey.com/industries/consumerpackaged-goods/our-insights/what-got-us-here-wont-get-us-there-a-new-model-for-the-consumer-goods-industry>
- Krans, Brian. With 70% of Americans on Medication, Have We Become a Pill Culture? Healthline. 2013. <https://www.healthline.com/health-news/policy-seventy-percent-of-americans-take-prescription-drugs-062113>
- Krebs TS, Johansen PØ. Over 30 million psychedelic users in the United States. F1000 Research. 2013;2:98 (<https://doi.org/10.12688/f1000research.2-98.v1>)
- Mind. Recreational drugs and alcohol. Mind. 2021. <https://www.mind.org.uk/information-support/types-of-mental-health-problems/drugs-recreational-drugs-alcohol/about-recreational-drugs/>
- Monica. How Is Cannabis Affecting the Food Industry? New York Street Food.com. 2021. Retrieved September 11, 2021. <https://newyorkstreetfood.com/food-trends/how-is-cannabis-affecting-the-food-industry/>
- National Institute of Health. What is the scope of marijuana use in the United States? National Institute on Drug Abuse. 2021. Retrieved September 11, 2021 <https://www.drugabuse.gov/publications/researchreports/marijuana/what-scope-marijuana-use-in-united-states>

- Peters, Alexa. Combining cannabis with psychedelic mushrooms: Recipe for mind expansion or bad trip? Leafly. 2020. <https://www.leafly.com/news/health/combiningcannabis-with-psychedelic-mushrooms-recipe-formind-expansion-or-a-bad-trip>
- Reid M. A qualitative review of cannabis stigmas at the twilight of prohibition. *J Cannabis Res* 2020;2:46. <https://doi.org/10.1186/s42238-020-00056-8>
- Research and Markets. Global Psychedelic Drugs Markets 2021-2025: Rising Approval for Additional Psychedelic Drugs and Growing Popularity of Psilocybin. Cision PR Newswire. 2021. <https://www.prnewswire.com/news-releases/global-psychedelic-drugs-markets-2021-2025-rising-approvalfor-additional-psychedelic-drugs--growing-popularityof-psilocybin-301256758.html>
- Rucker, James, Young, Allan. Psilocybin: From Serendipity to Credibility? *Frontiers in Psychiatry*. 2021. <https://doi.org/10.3389/fpsyt.2021.659044>
- Samorini G. The oldest archeological data evidencing the relationship of Homo sapiens with psychoactive plants: A worldwide overview, *Journal of Psychedelic Studies*. 2019;3(2):63-80. Retrieved Sep 11, 2021, from <https://akjournals.com/view/journals/2054/3/2/articlep63.xml> Saplakoglu, Yasemin. FDA Calls Psychedelic Psilocybin a “Breakthrough Therapy” for Severe
- Depression. Live Science. 2019. <https://www.livescience.com/psilocybin-depressionbreakthrough-therapy.html> Stone, Emma. Mushrooms/Psilocybin. Leafly. 2021. Retrieved September 11, 2021: <https://www.leafly.com/learn/psychedelics/types-ofpsychedelics/mushrooms-psilocybin>
- Wiley, Jenny. Cannabis: Discrimination of “Internal Bliss?”. *Pharmacology Biochemistry and Behavior*. 1999;64(2). [https://doi.org/10.1016/S0091-3057\(99\)00059-3](https://doi.org/10.1016/S0091-3057(99)00059-3)
- Winerman, Lea. By the numbers: antidepressant use on the rise. *Monitor on Psychology*. 2017, (11). <https://www.apa.org/monitor/2017/11/numbers>
- Woolfe, Sam. Are Natural Psychedelics or Synthetic Psychedelics Better for Your Body? *Healing Maps*. 2021. <https://healingmaps.com/natural-psychedelics-vs-synthetic-psychedelics/>
- Yu, Douglas. Psilocybin Could Be The Next Star in Functional Food After Cannabis As Public Interest Heats Up. *Forbes*. 2020. <https://www.forbes.com/sites/douglasyu/2020/12/17/psilocybin-could-be-the-next-star-in-functional-food-as-public-interest-heats-up/?sh=69e864675213>
- Zwanka, Russell. *The ABC’s of THC and CBD*. KDP Publishing. 2020, 22-23.