Research Report

Tips and Recommendations for the Ingestion of Psilocybin

An introduction to community-based public health guidance for lower risk psilocybin use

About This Report

The purpose of this report is to provide community-based guidance for lower-risk psilocybin use. It is our hope that this guidance will help individuals considering or currently using psilocybin to have a positive and safe experience.

The recommendations provided are based on results from the TRIP study (**T**ips and **R**ecommendation for the **I**ngestion of **P**silocybin), which we present in this report. Results from the study are reported across 7 sections describing participant's (1) experience-level using psilocybin; (2) motives for use and reasons for not using; (3) sources and consumption patterns; (4) recommendations for using psilocybin; (5) opinions on regulation of psilocybin; (6) use and endorsement of information sources about psilocybin; and (7) perceptions of social norms and behavioural controls related to psilocybin use.

Based on these findings, we recommend that Individuals preparing to use psilocybin (a) take time to learn about psilocybin; (b) find a safe supply; (c) make sure you're in a good place – physically and mentally; (d) start low, go slow, take time; and (e) be prepared for rough patches.

About The HEAL Lab

This report was developed by The Healthy Ecologies and Lifestyles (HEAL) Lab, which is an interdisciplinary health sciences group at Simon Fraser University studying the social, ecological and behavioral determinants of health, happiness, and well-being. The authors include Ashmita Grewal, Kalysha Closson, Logan White, Laura Baracaldo, Gina Martin, Sandra Allison, and Kiffer G. Card.

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Introduction

What is psilocybin?

Psilocybin is a naturally occurring compound found in certain kinds of mushrooms frequently and popularly described as "magic mushrooms" *(Government of Canada, 2023; Nichols, 2020; Tyls et al. 2013)*.

Chemically, psilocybin is similar to serotonin, a neurotransmitter that influences our mood and emotions *(Nichols, 2020; Tyls et al. 2013)*. Due to this similarity, the ingestion of psilocybin results in cognitive and perceptual alterations, including the inducement of spiritual, creative, and emotional states *(Government of Canada, 2023; Goel & Zilate, 2022; Nichols, 2020; Tyls et al. 2013*). There is also evidence that they enhance neuroplasticity. These effects vary depending on the dose and potency of mushrooms being consumed *(Government of Canada, 2023; Nichols, 2020; Tyls, et al. 2013)*. At higher doses, hours-long psychedelic experiences are induced, while at "micro-doses" these effects may be sub-perceptual *(Anderson et al, 2019; Reed, 2023)*.

Is psilocybin good for you?

Several studies, complemented by individual accounts, highlight the positive effects of psilocybin on one's cognitive and psychological wellbeing *(See* **Appendix Table 1**). Indeed, those who use psilocybin often report increased levels of creativity, personal insight, instances of ego dissolution, and long-term changes in their ability to monitor their emotions and behaviour *(Tyls et al. 2013; Nichols, 2016; 2017; Mason, 2019)*. By their report, these experiences allow for profound introspection, granting individuals a deeper dive into their psyche and offering perspectives that might otherwise remain obscured *(Nichols et al, 2017; 2016)*. Given these benefits, there is considerable potential to use psilocybin therapeutically to treat persistent mental health conditions, such as depression, anxiety, and post-traumatic stress.

"Know that there is a long history of humans consuming [psilocybin]."

- Man, 26, British Columbia, TRIPS Participant

Is psilocybin safe to consume?

In assessing the therapeutic value of psilocybin, studies have generally noted a strong safety profile and low addictive potential *(Tyls et al, 2013; Nichols, 2016; 2017)* – particularly at low to moderate doses. However, some individuals in some situations have reported mild adverse experiences and the risk for such adversity is not well understood or readily predictable. For instance, the effects of psilocybin may be influenced by the individual's psychological state and the environment of its use *(Tyls et al, 2013; Nichols, 2016)*. Risks are heightened for people with pre-existing psychiatric problems and those who are consuming psilocybin in an insecure environment and without guidance *(Johnson et al, 2008; Nichols, 2016)*. Even those without risk factors may experience slight discomforts (e.g., nausea) or upsetting thoughts while using psilocybin.

What is psychedelic-assisted therapy?

While most people who use psilocybin, use outside of formal therapeutic contexts, psychedelic-assisted therapy has emerged as a form of psychological practice that aims to leverage the positive effects of psilocybin (and other psychedelic substances). These practices ensure that individuals are properly screened for and prepared for ingesting psilocybin, thereby minimizing harms and maximizing benefits.

Psychedelic-Assisted Therapy combines psychotherapy and other evidence-based counseling approaches with psilocybin. The number of sessions involved can vary depending on the specific treatment plan and the needs of the individual. However, the practice of psychedelic medicine involves **(1)** screening and assessment; **(2)** preparatory sessions, **(3)** dosing sessions, and **(4)** integration sessions:

Screening and Assessment Sessions

During the screening and assessment sessions, patients undergo a comprehensive screening process, including medical and psychological assessments, to ensure they are suitable candidates for psilocybin therapy. Through these assessments, medical history, current medications, and mental health history are thoroughly reviewed.

Preparation Sessions

After a candidate is identified as being eligible and potentially benefited by psilocybin therapy and prior to the actual dosing session, individuals participate in several preparatory sessions. These sessions are designed to educate the patient about the therapy, set intentions, and build a therapeutic relationship with the trained provider. The number of preparation sessions can range from one to several, depending on the individual's readiness and comfort level. During these sessions patients also receive psychoeducation to ensure that they understand what to expect and set appropriate expectations for the experience.

Dosing Session

After a patient is appropriately prepared, the core of psychedelic therapy involves the actual dosing session, where psilocybin is administered in a controlled and safe setting. These settings are typically designed to be comfortable and conducive for positive experiences. Often two-trained therapists participate in the session and the psychedelic experiences are guided. Individuals typically lie down and are given eye shades and headphones. They may be prompted to explore certain thoughts and emotions. The therapists provide guidance and support as needed.

Dosing sessions are typically limited to only a few experiences, although in some cases, additional sessions may be considered if deemed necessary by the provider and based on the individual's progress. However, these additional sessions typically occur over an extended period with non-dosing sessions between them.

Integration Sessions

After the dosing sessions, individuals engage in a series of integration sessions. Integration sessions are designed to help patients process and make sense of their psychedelic experiences and apply insights to their daily lives. The number of integration sessions can vary widely, but it often includes multiple sessions over several weeks or months.

> "Put yourself in bed if you're using it for your mental health. Have tissues, water and a snack ... You're going to experience and move through a lot of emotion."
>
> - Woman, 26, British Columbia, TRIPS Participant

Unfortunately, the explosion of interest in psychedelic-assisted therapy and lack of appropriate regulation has created opportunities for abuse, with for-profit clinics emerging to offer high cost, low quality services.

Below are questions that can guide individuals to identify potentially harmful clinical practices:

Practitioner Qualifications

- Are the practitioners trained therapists with advanced degrees in psychology or counseling?
- Can the clinic provide verifiable credentials for their staff?

Assessment Procedures

- Does the clinic offer a comprehensive screening and assessment process to evaluate patient suitability?
- Are medical and psychological histories adequately examined?

Transparency in Operations

- Is the clinic transparent about the treatment process, costs, and potential risks?
- Are there any high-pressure sales tactics used by the clinic?

Ethical Adherence

- Does the clinic adhere to ethical guidelines and prioritize patient well-being over profits?
- Are there any signs of unprofessional or unethical behavior?

Post-Treatment Support

- Does the clinic offer aftercare and integration therapy as a part of the treatment plan?
- Are additional charges applied for this crucial component or is it an integrated as a core component?

Payment Structure

- Are you pressured to make large upfront payments before the start of therapy?
- Is the clinic transparent about the overall costs involved?

Completeness of Information

- Does the clinic provide comprehensive information about the treatment process and potential risks?
- Are all your questions and concerns addressed adequately?

Promises and Guarantees

- Does the clinic make unrealistic promises about immediate or guaranteed results?
- Are outcomes presented in a nuanced manner, acknowledging variability and lack of guarantees?

Therapeutic Setting

- Is the environment controlled and conducive to therapy, with proper safety measures in place?
- Are there any red flags concerning the setting's safety or comfort?

Informed Consent

- Are you provided with a clear and comprehensive informed consent document?
- Does it detail the treatment process, as well as any potential risks involved?

Presence of Therapeutic Support

- Are trained therapists available to provide guidance and support throughout the experiences?
- Is the support offered during therapy adequate for the treatment's objectives?

The active ingredient in most psychological interventions is the therapeutic relationship.

Psilocybin is just a tool to assist.

A Provider's Perspective

By Laura Baracaldo

I have personally and professionally experienced the benefits of psychedelic medicines on mental health—especially when it comes to psilocybin. However, as these therapies become increasingly available, we must also be cautious of the risks associated with them.

For me, these risks started to become clear when I accepted a position to lead a psychedelics and trauma program at a private clinic. Naturally, I was very excited about this opportunity, but the dream came crashing down after only a few months on the job.

It wasn't long into my tenure that I realized the values and objectives that I had, did not align with those of my clinic. At times, I felt like a "sales and marketing person" rather than a mental health professional. Indeed, while I know the clinic wanted its patients to have positive experiences, psychedelic therapy was also treated as a source of profits and growth.

Unfortunately, this particular clinic is not the only one interested in getting rich off psychedelic therapy. Individuals and organizations are jumping at the opportunity to bring these practices into our communities and rake in the profits that come therewith. They make money by getting as many people through their programs as fast as they can. These practices promise quick healing with a high price tag.

Of course, their promise is a sales pitch coordinated to get as many people through the door as possible. You cannot rush people through therapy just to get as many patients through the door as you can. Healing takes time. Each "trip" allows you to peel back layers of yourself in order to discover important truths and insights. This peeling needs to be done with the utmost care and respect – without conflicts of interest getting in the way.

Unfortunately, options for practicing safe and ethical psychedelic medicine are limited. Many practitioners have to take their practices underground – exposing them to financial and legal risks. While there are courses and programs where practitioners can learn about psilocybin medicine, beyond these there is little support, few guarantees, and no protections.

We need publically funded psilocybin programs and all the support and infrastructure that comes along with them. Such programs wouldn't just benefit practitioners. Patients would also benefit from the formal adoption of these therapies and universal access to them would be a major step towards supporting mental health equity.

In closing, I truly believe that psilocybin provides lifesaving experiences and can help individuals overcome otherwise intractable mental health challenges. But in order to unlock the full potential of these medicines, people need attention and care in a supportive setting.

What are Lower Risk Substance Use Guidelines?

In addition to clinical interventions, other public health efforts are needed to support individuals who use substances. One such strategy is the development of Lower Risk Substance Use Guidelines (LRSUGs), which are recommendations designed to inform and guide substance use in ways that minimize health and social risks to individuals. Rooted in the philosophy of harm reduction, LRSUGs stand in contrast to absolute abstinence models which historically dominated drug policy discourse *(Moebes et al. 2023)*. Harm reduction, as a framework, acknowledges the reality of substance use and seeks practical strategies to reduce the negative outcomes associated with it *(National Harm Reduction Coalition, 2020)*.

The development of LRSUGs can be traced back to efforts made in formulating guidelines for more commonly used substances. For instance, many countries have developed and promoted guidelines for the consumption of alcohol, aiming to limit the negative health consequences of excessive or inappropriate drinking *(Stockwell et al, 2012; Moore et al, 2009)*. Similarly, with the increasing trend of cannabis legalization across the globe, there have been efforts to formulate guidelines that help consumers make informed choices *(Fischer et al, 2017; Fischer et al, 2011; Lee et al, 2020)*.

Moreover, the push for the formulation and adoption of LRSUGs can be contextualized within the expanding legal contexts of places like British Columbia (BC) and other nations that are progressively embracing drug legalization and decriminalization *(BC Centre for Disease Control, 2023; Government of British Columbia, n.d)*. These shifts in legal stances provide an opportunity to reinforce harm reduction practices and ensure that individuals have the necessary knowledge to engage safely with substances.

By offering evidence-based guidelines on dosage, frequency, and context of use, LRSUGs aim to decrease the chances of overdose, dependence, and other negative outcomes. In so doing, LRSUGs serve as a crucial educational tool, ensuring individuals are informed about the safest methods of consumption, potential risks of mixing substances, and the importance of factors like set and setting.

Why are lower risk psilocybin use guidelines important?

Humans have been consuming "magic mushrooms" for centuries *(Nichols, 2020; Gordon, 1963; Nichols, 2004)* and continue to do so despite legal restrictions. In fact, according to the Canadian Alcohol and Drug Survey, approximately 2% of Canadians use hallucinogens in Canada (Government of Canada, 2019). Given this use, public health efforts are needed to support individuals in their efforts to minimize risk and maximize benefits. Indeed, in today's digital age, where information is both abundant and fragmented, the importance of having structured, evidence-based guidelines for

substances like psilocybin becomes paramount *(Johnson et al, 2008; Moebes et al. 2023; Government of Canada, 2023)*. Misinformation and myths about such substances can easily proliferate, emphasizing the need for comprehensive and unbiased education. LRSUGs stand as a direct response to this need, ensuring that individuals are equipped with accurate and evidence-based information *(Moebes et al. 2023; Government of Canada, 2023)*.

However, LRSUGs are not just about education. Their foundation is deeply rooted in the principle of harm reduction, which emphasizes individual safety over a one-size-fits-all approach of abstinence *(National Harm Reduction Coalition, 2020; Canadian Mental Health Association Ontario, 2023)*. Recognizing that complete cessation isn't the chosen or feasible path for everyone, these guidelines aim to guide individuals in making their substance use as safe as possible, especially given the therapeutic, recreational, and cultural significance substances like psilocybin hold (Johnson et al, 2008). The robust evidence in support of harm reduction further underscores LRSUGs' importance, acting as a critical tool to pre-emptively address and mitigate harms.

This emphasis on safety and informed use is part of a broader shift in how society views substance use. Moving away from punitive lenses, substance use is increasingly recognized as a public health issue that emphasizes individual safety, community well-being, and informed choices *(National Harm Reduction Coalition, 2020; Canadian Mental Health Association Ontario, 2023)*. LRSUGs amplify this perspective, providing scientifically grounded advice that demonstrates how informed use can lead to improved individual and societal outcomes *(Government of Canada, 2023; Moebes et al. 2023)*. These guidelines also acknowledge and respect the intricate role substances play in human behavior and culture, and as such, they seek to navigate this realm with utmost health consciousness.

Beyond factual guidance, LRSUGs have another essential role: reducing stigma and normalizing discussions around substance use. By offering standardized guidance and shedding light on the therapeutic potential of substances like psilocybin, these guidelines not only educate but also challenge societal biases *(Government of Canada, 2023; Moebes et al. 2023)*. Embracing substance use as an intrinsic facet of human history and culture paves the way for open dialogues, fostering an environment where individuals can seek information and support without facing prejudice *(BC Centre for Disease Control, 2023)*.

In sum, LRSUGs for psilocybin are more than just instructions—they are important tools for promoting knowledge, safety, and understanding in a rapidly evolving field (Fischer et al, 2017; Fischer et al, 2011) – particularly for individuals who don't have access to clinical support. They are crucial in ensuring that as society progresses scientifically and culturally, individuals are empowered to make informed choices.

Why is it important to incorporate the perspectives of people with lived experience?

When considering the development of comprehensive Lower Risk Substance Use Guidelines (LRSUGs) for psilocybin, it is important to recognize that there are a wide variety of guidelines and guideline development methods. Most methods typically engage experts in the development and creation of guidelines. Of course, expertise is politically contested and many voices are often marginalized in the process of guideline development. However, we assert that the integration of those with lived experience is highly desirable (CIHR SPOR Framework, 2019). Their firsthand knowledge not only deepens the insights provided by the guidelines but also elevates their credibility, relevance, and empowerment capacity (Lee et al, 2020; Government of Canada, 2019; 2017). This is particularly important during a time in which scientific evidence has not kept pace with community knowledge. By working with those who have experience using psilocybin, we are better able to understand the inherent risks and benefits of psilocybin use – advancing scientific understanding. Such efforts result in higher quality LRSUGs.

In addition to the scientific value of first-hand experiences, community based LRSUGs also resonate more with those interested in using. By authentically amplifying these voices, the guidelines echo a recognition of their expertise, instilling a heightened sense of credibility Lee et al, 2020; Government of Canada, 2017; Glasgow et al, 2004. This community-driven approach invariably bolsters peoples' trust towards the community and system, making the guidelines a more embraced resource.

Nevertheless, we acknowledge that the term "guideline" may be contested given our methodologies used for prioritizing patient voices. As such, where appropriate, we refer to our guidelines using the term "guidance."

"Nothing about us, Without Us"

- Unattributed Call from Various Rights Holders and Defenders

Aims

Recognizing the importance of lived experience, the primary aim of this report is to co-develop comprehensive guidance for psilocybin use, drawing significantly from the rich and invaluable insights of individuals with lived experience. Our specific aims are outlined as follows:

1. To assess the frequency with which individuals use psilocybin, their level of knowledge about psilocybin, and their experience-level using it.
2. To explore the driving forces behind individuals' decisions to use psilocybin, including their perceptions of psilocybin and the reasons people who are interested in using do not use it.
3. To identify the most common sources from which participants obtain psilocybin and how they consume psilocybin.
4. To determine the level of consensus or divergence concerning widely recognized psilocybin use recommendations.
5. To understand participants' viewpoints on potential regulatory measures related to psilocybin and its legal status.
6. To identify the primary channels through which individuals gather information on psilocybin, emphasizing trusted sources and potential gaps in available knowledge.
7. To understand participants' perceptions regarding behavioural controls and societal attitudes towards psilocybin use.

In synthesizing insights across these specific aims, our overarching goal is to craft guidance that is deeply rooted in real-world experiences, ensuring they resonate with and effectively guide the broader psilocybin-using community. To accomplish this we collected data from and consulted with people with lived and living experience using psilocybin.

Methods

Participant Recruitment

For the TRIP study, participants were recruited through both paid and unpaid online advertisements. Paid advertisements were primarily posted on platforms like Facebook and Instagram. Meanwhile, unpaid advertisements were distributed through email campaigns and posted on social platforms including Twitter, Reddit, and LinkedIn.

To motivate and incentivize participation, participants were offered a chance to win a cash prize. Specifically, they were provided with a 1:100 chance of winning a $100 cash reward, which would be sent to them via e-transfer.

Procedure

Prospective participants, upon showing interest, were directed towards an informed consent document detailing the nature, objectives, and processes of the study. All participants were required to provide this informed consent before they could be considered for participation.

Following the consent, participants underwent an eligibility screening. Our eligibility criteria required that participants reside in Canada and be at least 16 years of age or older. Those who met the criteria proceeded to the main component of the study: an online survey. This survey was hosted on the Qualtrics platform (referenced: Qualtrics, 2022).

The time taken to complete the survey varied. For those who had previously used psilocybin, the median completion time was 33 minutes, with a range of 24.7 to 47.7 minutes. Conversely, for participants who hadn't used psilocybin, the median time stood at 11 minutes, ranging between 9.3 and 15.9 minutes. Questions covered a wide variety of patient reported descriptions about their experiences accessing and using psilocybin as well as their opinions on psilocybin use, safety, and regulation.

Data Analysis

All data were analyzed using R statistical software *(cited: R Core Team, 2021)*. Descriptive statistics and thematic analyses of open-text responses were used to inform conclusions.

The resultant data was then organized and presented using tables, figures, and in-text descriptions for clarity and ease of interpretation.

Results

Sample Characteristics

A total of 1,249 participants were recruited. Of these, 951 reported using psilocybin and were included in this report. **Table A.1.** provides an overview of sample characteristics, including age, gender, province, ethnicity, income, and education. The largest age groups were participants in their 20s and 30s, with a small number over 70. About half the sample identified as men, four-in-ten as women, and one-in-ten as non-binary. The majority of participants were from British Columbia and Ontario, with lower representation from other provinces. Ethnically, most participants identified as White (72%), which approximately matches the proportion in Canada overall. Income levels among participants varied, with representation across the spectrum. In terms of education, the majority have some post-secondary training, while fewer have bachelor's or graduate degrees. In summary, the sample is reasonably diverse and includes perspectives from a diversity of backgrounds.

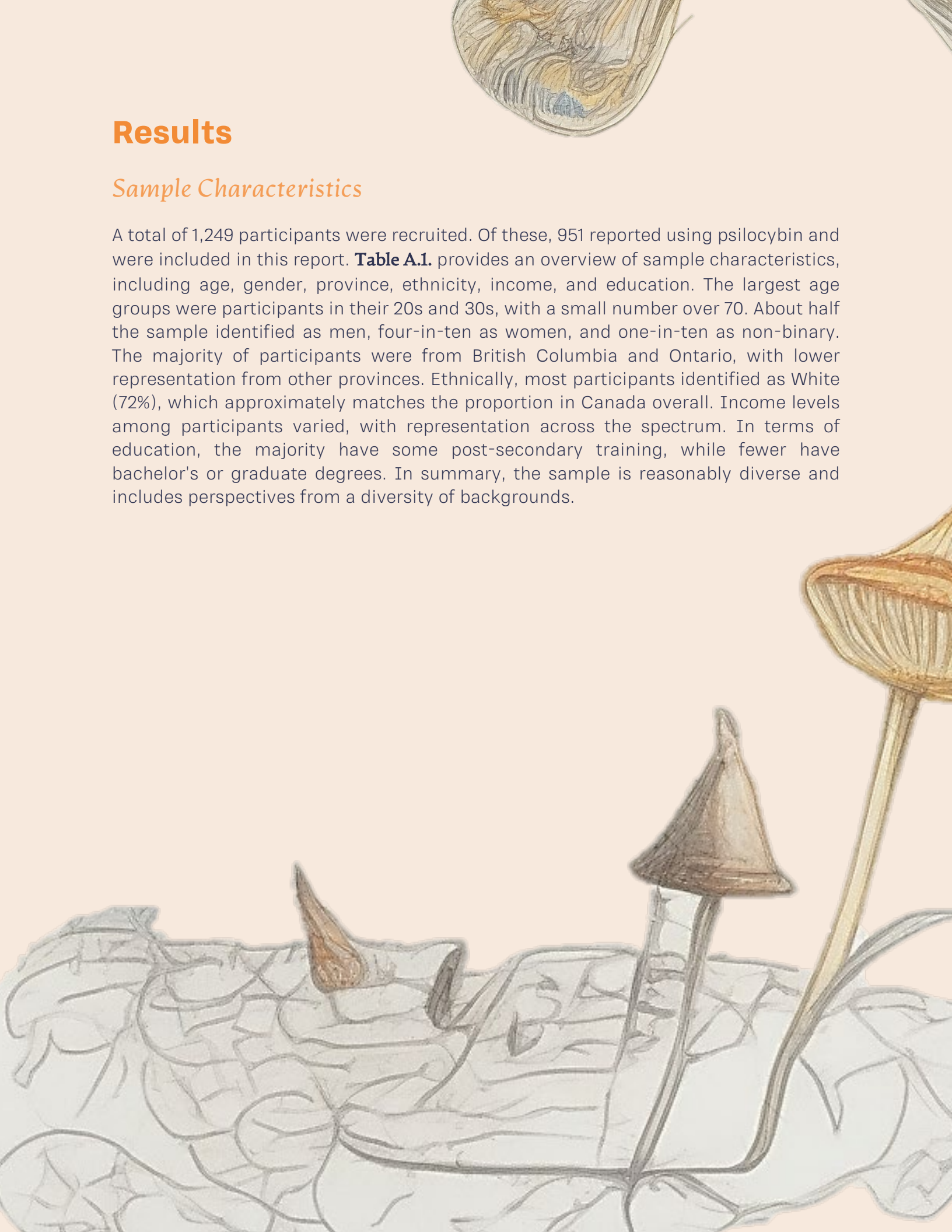


Table A.1. Sample characteristics

	N (%)
Age	
16 to 19	69 (7.7%)
20 to 29	200 (22.4%)
30 to 39	201 (22.5%)
40 to 49	155 (17.3%)
50 to 59	142 (15.9%)
60 to 69	99 (11.1%)
70+	28 (3.1%)
Gender	
Man	467 (49.1%)
Non-Binary	90 (9.5%)
Woman	394 (41.4%)
Province	
Alberta	109 (11.5%)
British Columbia	332 (34.9%)
Manitoba	36 (3.8%)
New Brunswick	19 (2.0%)
Quebec	54 (5.7%)
Nova Scotia	41 (4.3%)
Saskatchewan	36 (3.8%)
Ontario	306 (32.2%)
Other	18 (1.9%)
Ethnicity	
African, Caribbean, & Black	12 (1.3%)
Arab & West Asian	14 (1.5%)
East Asian	15 (1.6%)
Indigenous	129 (13.6%)
Latin American	29 (3.1%)
South & Southeast Asian	20 (2.1%)
White	679 (71.5%)
Other	52 (6.5%)
Income	
$29,999 or less	222 (25.4%)
$30,000 to $59,999	214 (24.5%)
$60,000 to $89,999	160 (18.3%)
$90,000 or more	279 (31.9%)
Education	
No Post-Secondary Training	188 (19.8%)
Some Post-Secondary Training	461 (48.6%)
Bachelor's Degree	186 (19.6%)
Graduate Degree	113 (11.9%)

1. Participant's Knowledgeability and Experience-Level

Among the 952 participants in our study, most (58%) had used psilocybin in the past three months: 23% in the past week, 19% in the past month, and 17% within the last three months.

A substantial proportion (61%) of participants felt somewhat or very knowledgeable about psilocybin. (See **Table 1.1**).

Table 1.1. Participant's self-reported level of knowledge about psilocybin

Not at all	A little	Somewhat	Very
44 (4.6%)	322 (34.0%)	423 (44.6%)	159 (16.8%)

Similarly, most participants (62.4%) indicated being somewhat or very experienced using psilocybin – though one third indicated that they had little or no experience (See **Table 1.2**).

Table 1.2. Participant's self-reported level of experience using psilocybin

Not at all	A little	Somewhat	Very
60 (6.3%)	296 (31.3%)	371 (39.2%)	220 (23.2%)

"Use the Internet and carefully explore what you might find there. Talk to people who have used psilocybin and seek advice."

- Man, 71, Ontario, TRIPS Participant

Supplementary Information

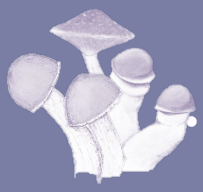
Common psilocybin-containing mushrooms

Psilocybin can be synthetically produced, but most people consume psilocybin in mushroom form. There are many different strains and species of mushrooms.

The term "strain" within this context denotes a genetic variant or subtype of a particular mushroom species. Each strain, while belonging to the same species, may exhibit distinct characteristics such as varying growth patterns, appearances, and potency levels.

On the other hand, "species" is a broader classification that encompasses various strains sharing fundamental genetic and biological traits.

Common psychedelic mushrooms include:



- **Psilocybe Cubensis**, includes over 100 strains of mushroom, including popular strains such as 'Golden Teacher,' 'B+,' and 'Penis Envy.' They are among the most commonly consumed magic mushrooms with a relatively mild potency – though still enough to reliably produce strong psychedelic experiences.

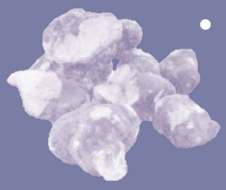
- **Psilocybe Semilanceata**, known as 'Liberty Caps', is a small mushroom with a pointed cap and long stem. They are highly potent. While very common in the wild, liberty caps are difficult to cultivate. As well, there are many poisonous look-like species and you should be cautious consuming wild mushrooms.

- **Psilocybe Cyanescens**, characterized by its distinctive 'wavy cap,' is a moderately potent mushroom.

- **Psilocybe Azurescens**, sometimes called 'flying saucers,' 'blue runners,' or 'azzies' are recognized as one of the most potent psilocybin mushrooms, has a caramel-colored cap.

- **Psilocybe Baeocystis**, commonly called 'Bottle Caps' or 'Knobby Tops', are variable potency – but generally moderate to high.

- **Psilocybe Mexicana**, used historically in indigenous Mexican rituals, is a lower potency mushroom.



Psilocybe Tampanensis, known for producing 'magic truffles' or 'Philosopher's Stones', is similar in potency to Psilocybe Mexicana and is sought for its unique growth and effects.

As noted above, the potency of these mushrooms, particularly in terms of psilocybin content, varies significantly not only between different species but also among strains within the same species and even from mushroom to mushroom.

2. Motives for Using Psilocybin

2.1. Why don't people use psilocybin??

The most common reasons participants reported not using psilocybin were being unsure of where to get it and being worried about a negative experience or bad trip (See **Table 2.1**). Fear of legal repercussions and being worried about what others thing were rarely cited as reasons, though 1 in 10 reported not using because they lacked a safe place where they felt they could enjoy a trip.

Table 2.1. Reasons for avoiding psilocybin use

	N (%)
I don't know where or how to get it	49 (26.9%)
I am worried about having negative experience of bad trip	38 (20.9%)
I don't have a safe place where I could use it	19 (10.4%)
I am afraid of legal repercussions of possessing psilocybin	14 (7.7%)
I am afraid of legal repercussions of using psilocybin	9 (4.9%)
I'm worried how others think of me	3 (1.6%)

2.2. What do participants believe about psilocybin use?

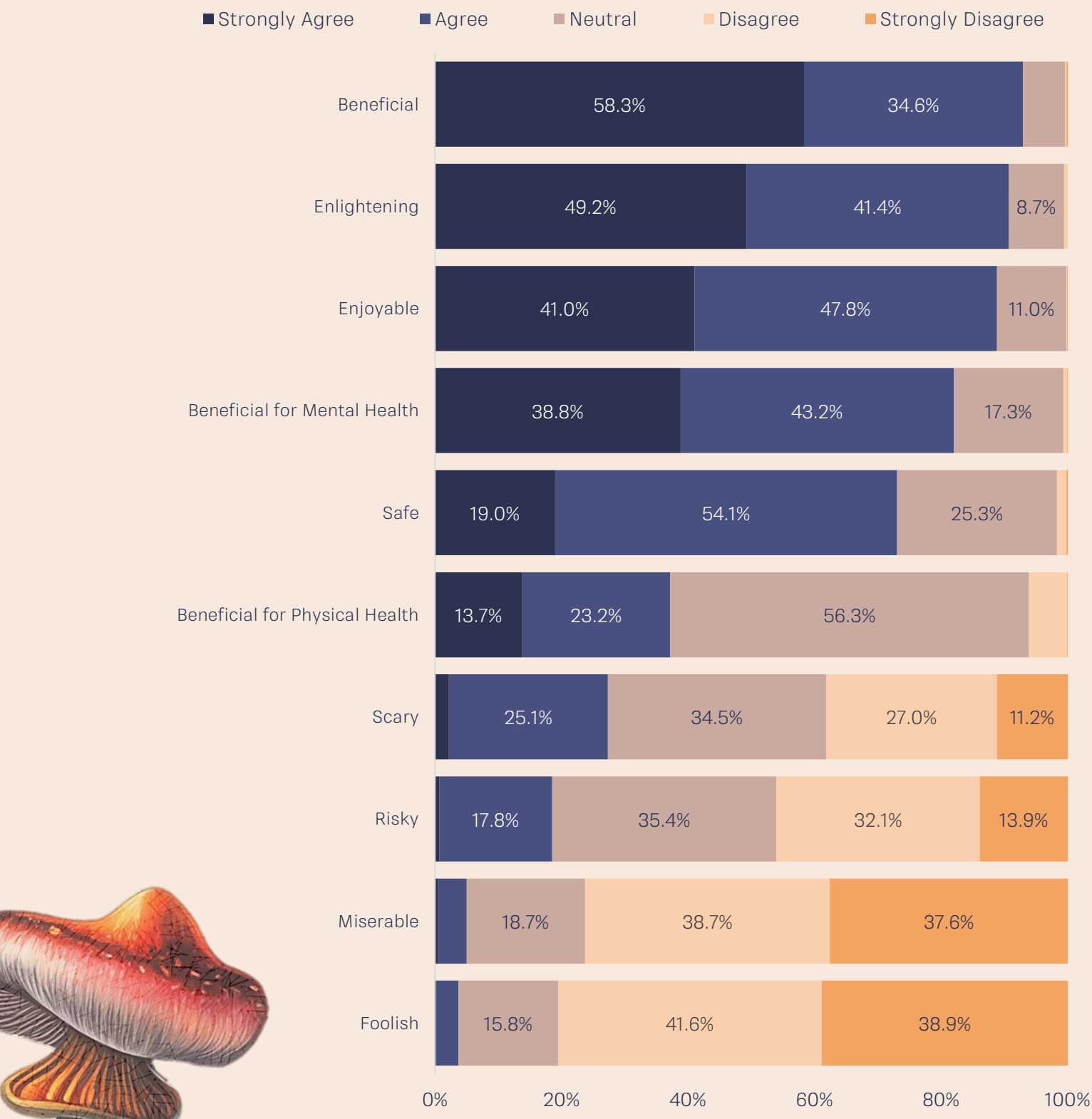
Participants generally held favorable beliefs about psilocybin. When asked how they perceived psilocybin, most participants reported that it was beneficial, enlightening, enjoyable, good for mental health, and safe to use (See **Figure 2.1**).

Conversely, participants generally disagreed that psilocybin use was foolish, miserable and less than one-in-five considered it risky.

"A challenging trip is not a bad trip. Bad trips are when you are unsafe, challenging trips are when you are confronting fears and past experiences."

- Woman, 50, Ontario, TRIPS Participant

Figure 2.1. Perceptions of psilocybin use



2.2. Do participants plan on using psilocybin again?

Further reinforcing participant's positive views of psilocybin, most participants (85%) reported that they planned to use psilocybin in the next year (and only 3% indicated that they would not).

Furthermore, most indicated that they would use as much as or more than they did in the past 12 months (See **Table 2.2**).

Table 2.2. Intentions to consume more or less psilocybin in next 12 months.

	N (%)
A lot more	84 (11.0%)
A little more	285 (37.2%)
The same amount	302 (39.4%)
A little less	52 (6.8%)
A lot less	11 (1.4%)
I do not plan to consume psilocybin	33 (4.3%)

2.3. Why do participants want to use psilocybin?

Consistent with previous studies *(Tyls et al. 2013; Nichols, 2016; Nichols et al, 2017; Mason, 2019)*, participants' reported a variety of motives for psilocybin use (See **Figure 2.2**). Among these, the desire to feel good is the most commonly reported reason (63%), followed by a desire to understand oneself (56%). Spiritual and emotional benefits were also widely identified.

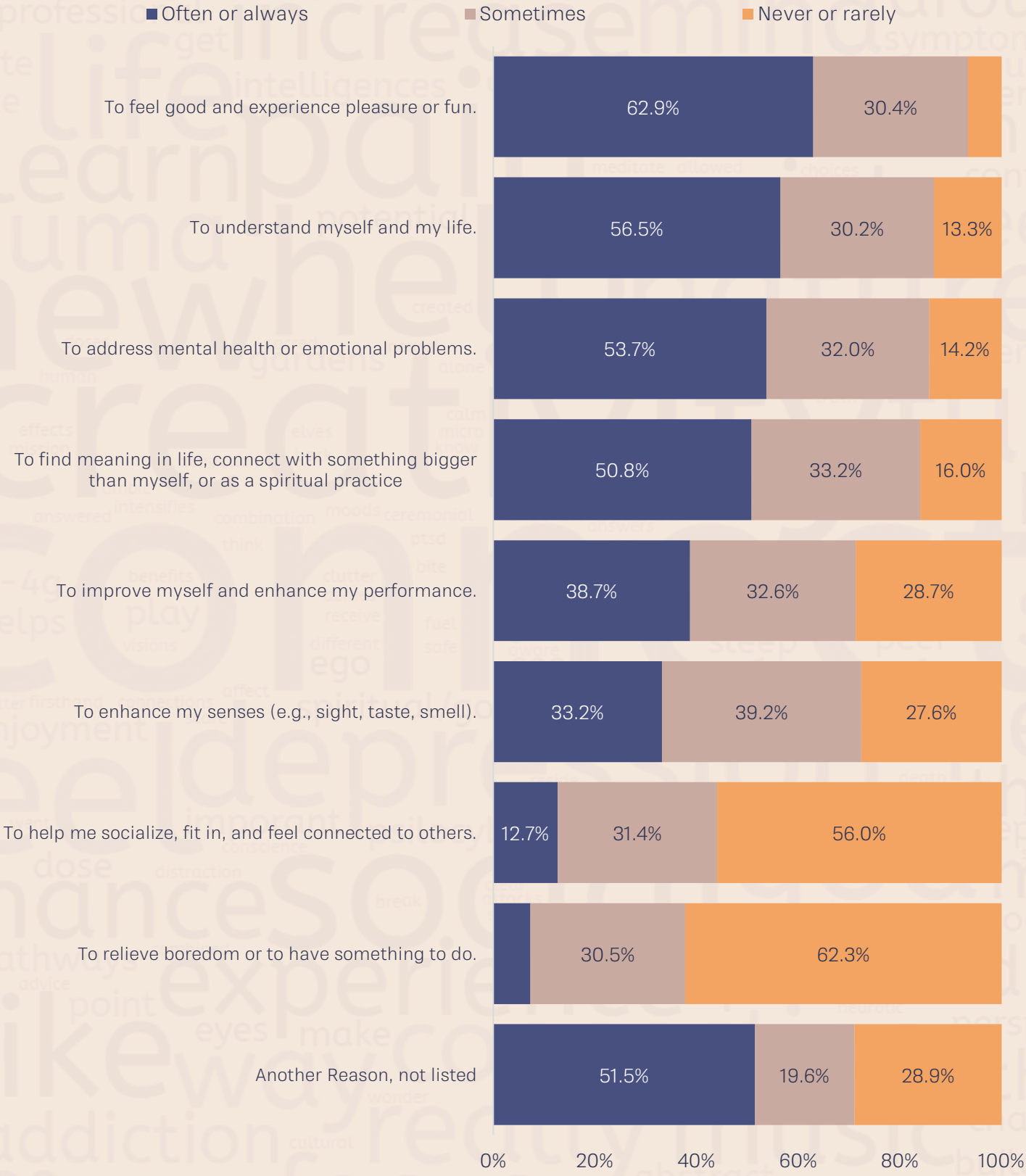
Conversely, participants reported that they never or rarely used psilocybin out of boredom (62%) or for social reasons (56%).

The "other" category included statements related to their curiosity about the experience (e.g., wanting to explore "the mystery of it") as well as deeper descriptions about the spiritual, psychological, or entertainment value derived from use.

"I use psilocybin for both recreational and what I consider medicinal purposes ... I have found psilocybin to be incredibly beneficial to my mental health, even when only used sporadically."

- Woman, 33, British Columbia

Figure 2.2. How often participants experience each motive to use psilocybin



3. *Methods for Accessing and Consuming Psilocybin*

3.1. Where are people getting psilocybin?

The most common source of psilocybin was the internet, through friends, and from people selling them illegally, including storefronts and dispensaries (See **Table 3.1**). We also asked participants about important considerations when obtaining mushrooms. In response, participants reported the importance of having a trustworthy person as the provider and the need for a safe place to do the transaction. Most endorsed online venues, noting that you could find which ones are trustworthy by reading reddit and other forums.

Table 3.1. *Sources of Psilocybin*

	N (%)
Online	366 (47.7%)
Friend	281 (36.6%)
Storefront	110 (14.3%)
Someone who sells drugs illegally	103 (13.4%)
Other	68 (8.9%)
Family member	49 (6.4%)
Co-worker	12 (1.6%)

3.2. In what form is psilocybin received and consumed?

While participants reported receiving mushrooms in a variety of ways, most received their psilocybin as dried whole mushrooms or in capsules (See **Table 3.2**). For the most part, participants reported consuming the mushrooms in the form they purchased them. However, some reported mixing or blending them into food to improve the taste.

Table 3.2. Forms of psilocybin obtained and consumed

	Obtained	Consumed
Dried whole mushrooms (e.g., caps and/or stems)	636 (82.8%)	596 (77.6%)
Mushroom capsules	226 (29.4%)	255 (33.2%)
Prepared as a product (i.e. chocolate bar, truffle, etc)	194 (25.3%)	219 (28.5%)
Beverage (tea, etc)	60 (7.8%)	185 (24.1%)
Fresh whole mushrooms (e.g., caps and/or stems)	50 (6.5%)	52 (6.8%)
Blended with another food (honey, lemon, etc)	37 (4.8%)	111 (14.5%)
Other	27 (3.5%)	27 (3.5%)
Synthetic (powder or liquid)	8 (1.0%)	12 (1.6%)

"They taste gross. I mostly just eat them as its the fastest easiest way. But if the taste is too off putting, tea is simple to make and helps with the taste."

- Man, 30, Saskatchewan

3.3. How do participants measure their doses?

Many respondents report always weighing their psilocybin before consuming it (See **Table 3.3**). However, the majority of individuals do not consistently weigh their dosages. Participants report that this is because the psilocybin content is unpredictable and that instead they relied on a combination of past experience, advice from more experienced users, and common rules of thumb (such as one dried mushroom cap). Many participants also report receiving psilocybin in pre-measured doses, eliminating the need to measure for themselves.

Table 3.3. Frequency at which participants report weighing their dose before consuming

	N (%)
Always	317 (41.3%)
Often	133 (17.3%)
Sometimes	105 (13.7%)
Rarely	78 (10.2%)
Never	135 (17.6%)

"My kitchen scale isn't sensitive enough so I've only ever taken a dose as recommended by more experienced friends. I would recommend not trying to eyeball your measurements and feel its best to consume capsules that have a set dosing."

- Woman, 37, Alberta, TRIPS Participant

"It's a very good idea to buy a gram scale to measure your dose. They can be picked up for approximately $20.00 on amazon."

- Man, 38, Manitoba, TRIPS Participant

"Start low and slow. Keeps records of the type of mushroom and the dose so that you can adjust in the future."

- Woman, 47, Ontario, TRIPS Participant

Supplementary Information

Expectations for different doses

The effects of psilocybin vary significantly depending on the dosage taken, as well as individual factors such as body weight, metabolism, psychological state, and past experience. The following list offers approximate expectations for the effects at each dosage level, but it's important to understand that these effects are not uniform and can vary from person to person. People using psilocybin should be aware that uncomfortable experiences and sensations can occur at any dose.

- A Microdose (Less than 0.5 grams) is the smallest dosage category for psilocybin, typically less than 0.5 grams of mushrooms. At this level, the effects are sub-perceptual, meaning they are not intense enough to cause significant alterations in consciousness or sensory perception. Individuals often report mild changes in mood, creativity, and focus, without experiencing hallucinogenic effects.

- A Light dose (0.5 to 1.74 grams) tends to produce effects such as enhanced emotional sensitivity, slight changes in thought patterns, and subtle alterations in visual perception. This dosage is often chosen by individuals seeking a mild psychedelic experience without the full intensity of higher dosages. A common starting dose is 1g.

- A Medium dose (1.75 to 3.4 grams) marks the entry into a more traditional psychedelic experience. Individuals can expect noticeable changes in perception, including visual and auditory hallucinations, altered thought processes, and a profound sense of introspection or spiritual experiences. The intensity of these effects can vary widely depending on individual sensitivity to psilocybin.

- A Strong dose (3.5 to 4.9 grams) is likely to produce a powerful psychedelic experience. This level of dosage typically results in intense visual and auditory hallucinations, profound alterations in the perception of time and space, and significant emotional and cognitive shifts. Such experiences can be deeply introspective and potentially overwhelming, hence are generally recommended for more experienced individuals.

- A Heroic dose (5.0 grams or more) is at the upper end of the psilocybin dosage spectrum. This dosage is associated with extremely intense hallucinogenic experiences, profound alterations in consciousness, and possibly overwhelming emotional and sensory experiences. Due to its intensity, a heroic dose is typically reserved for those with extensive experience with psychedelics and in a controlled, safe environment.

- Taking psilocybin without knowing how much you are taking can lead to unpredictable effects. The experience may range from no perceptible impact to an unexpectedly intense psychedelic journey. This uncertainty underscores the importance of understanding and carefully measuring dosages to ensure a safe and controlled psychedelic experience.

Difficulties estimating dosages

Determining how much psilocybin you are consuming is not easy. This is because there is a significant variation in psilocybin concentrations among different mushroom species and even within a single species, the concentration of psilocybin can fluctuate considerably.

3.4. How large of doses are participants consuming?

Participants reported a wide range of experience with dosing psilocybin (See **Table 3.4**). Almost half reported consuming doses without knowing the amount they were taking. Four-in-ten reported having taken a heroic dose, and six-in-ten reported having ever taken a strong dose. Micro-, light, and medium doses were the most widely reported.

Table 3.4. Strength of Doses

	N (%)
Micro (e.g., Less than 0.5 grams)	611 (80.9%)
Light (e.g., 0.5 to 1.74 grams)	657 (88.5%)
Medium (e.g, 1.75 to 3.4 grams)	661 (88.3%)
Strong (e.g., 3.5 to 4.9 grams)	464 (63.0%)
Hero (e.g., 5.0 or more grams)	287 (40.1%)
Unknown (e.g. unsure of the amount taken)	317 (45.7%)

"Make sure you have a scale that can read grams and small measurements, and you will be okay with dosing. As for which dose to take, I recommend doing research and seeing what you would be comfortable with. It's always a good idea to start slow."

- Man, 25, Ontario, TRIPS Participant

4. Recommendations for Psilocybin Use

4.1. How much psilocybin do participants recommend individuals use?

Participants reported that psilocybin dosing can be difficult and that individuals will have to dial in the dose that's right for them and adjust accordingly. They also discussed that different doses produce different effects and that how much you take should depend on your motives, desires, and readiness. Additionally, they emphasized that starting at lower doses, such as a light dose, can be a good introduction to psilocybin. When asked to classify the ranges for micro, light, medium, strong, and hero doses, participants produced ranges similar to those that are commonly cited in public health informational materials (See **Table 4.1**) – suggesting agreement across these knowledge sources.

Table 4.1 Participants Descriptions of Dosage Levels

	Minimum Median (Q1, Q3)	Maximum Median (Q1, Q3)
Micro dose (min)	0.1g (0.1g-0.5g)	0.5g (0.3g-1g)
Light dose (min)	0.7g (0.5g-1g)	1.5g (1g-2g)
Medium (min)	1.5g (1g-2g)	3g (2-3g.5g)
Strong (min)	3g (2g-4g)	5g (3.5g-6g)
Hero (min)	5g (3.25g-6g)	8g (5g-10g)

Note: The Q1, Q3 estimates represent the variability in participant's reported estimates for the minimums and maximums listed. The median estimates the typical response when considering all participant's perspectives together.

> "Hero doses are insane. Two grams is a heavy trip on its own. It's enough to unlock the secrets of the universe while becoming one with it ... I've personally maxed at 2.5. I wouldn't want to go any higher myself."
>
> - Man, 62, British Columbia, TRIPS Participant

4.2. Did participants endorse mixing psilocybin with other drugs?

Participants generally advised against mixing psilocybin with other drugs – particularly those that are generally perceived as dangerous (See **Table 4.2**).

Table 4.2. *Participants agreement with recommendations to avoid mixing psilocybin*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
Alcohol	298 (31.4)	240 (25.3)	226 (23.8)	110 (11.6)	24 (2.5)	52 (5.5)
Tobacco	93 (9.8)	68 (7.2)	348 (36.8)	175 (18.5)	81 (8.6)	181 (19.1)
Cannabis	99 (10.5)	149 (15.7)	259 (27.3)	256 (27.0)	119 (12.6)	65 (6.9)
Depressants	366 (38.5)	169 (17.8)	98 (10.3)	35 (3.7)	29 (3.1)	253 (26.6)
Stimulants	413 (43.5)	175 (18.4)	99 (10.4)	37 (3.9)	39 (4.1)	187 (19.7)
Opioids	442 (46.6)	158 (16.6)	62 (6.5)	19 (2.0)	42 (4.4)	226 (23.8)
Empathogens	270 (28.5)	129 (13.6)	151 (15.9)	92 (9.7)	67 (7.1)	240 (25.3)
Dissociative	342 (36.0)	153 (16.1)	98 (10.3)	42 (4.4)	48 (5.1)	267 (28.1)
Others	263 (27.7)	145 (15.3)	169 (17.8)	72 (7.6)	56 (5.9)	245 (25.8)

However, in analyzing open text responses, participants noted that some combinations in particular are either potentially helpful or highly risky. For example, several participants specifically warned against mixing with SSRI's (*Selective Serotonin Reuptake Inhibitors*), because it would reduce the effect of the psilocybin.

On the other hand, participants suggested that mixing with cannabis could create a more enjoyable experience. However, there was a general recognition that different people may react differently to different drug combinations. For example, one participant noted discrepancies between their experience and the reports of others they knew:

> *"I haven't mixed it with anything but marijuana and alcohol. Alcohol has contributed to a less enjoyable experience for me. Marijuana, I enjoy while using psilocybin, but I know for some people it may make the trip stronger or make them feel ill"*
>
> – Woman, 21, British Columbia, TRIPS Participant

4.3. How can we maximize benefits and minimize harms of psilocybin?

To understand participant's recommendations for safer psilocybin use, we conducted a digital scan of online harm reduction guidance – compiling common recommendations from across government and non-profit websites. These recommendations were presented to participants to assess their agreement with each. Rankings of each recommendation is provided in **Figure 4.1**.

In summary, a majority of those surveyed placed a strong emphasis on safety and well-being in relation to psilocybin use and most relevant items were strongly endorsed. However, there were some recommendations that received low or mixed levels of support – with many individuals noting that the utility of the guideline might depend on other factors such as how much you are consuming, your level of experience, your risk factors for a bad experience, or other contextual and circumstantial factors. As such, they noted that the guidelines required a knowledge and understanding of psilocybin and that each person should educate themselves and explore what precautions might be appropriate for their situation.

> "In the event that things are going bad, remember that you're on drugs (altered reality) and hang on to something dear and real. It's ALL in your head."
>
> - Man, 66, Nova Scotia, TRIPS Participant

Figure 4.1a. Participant's agreement with potential recommendations

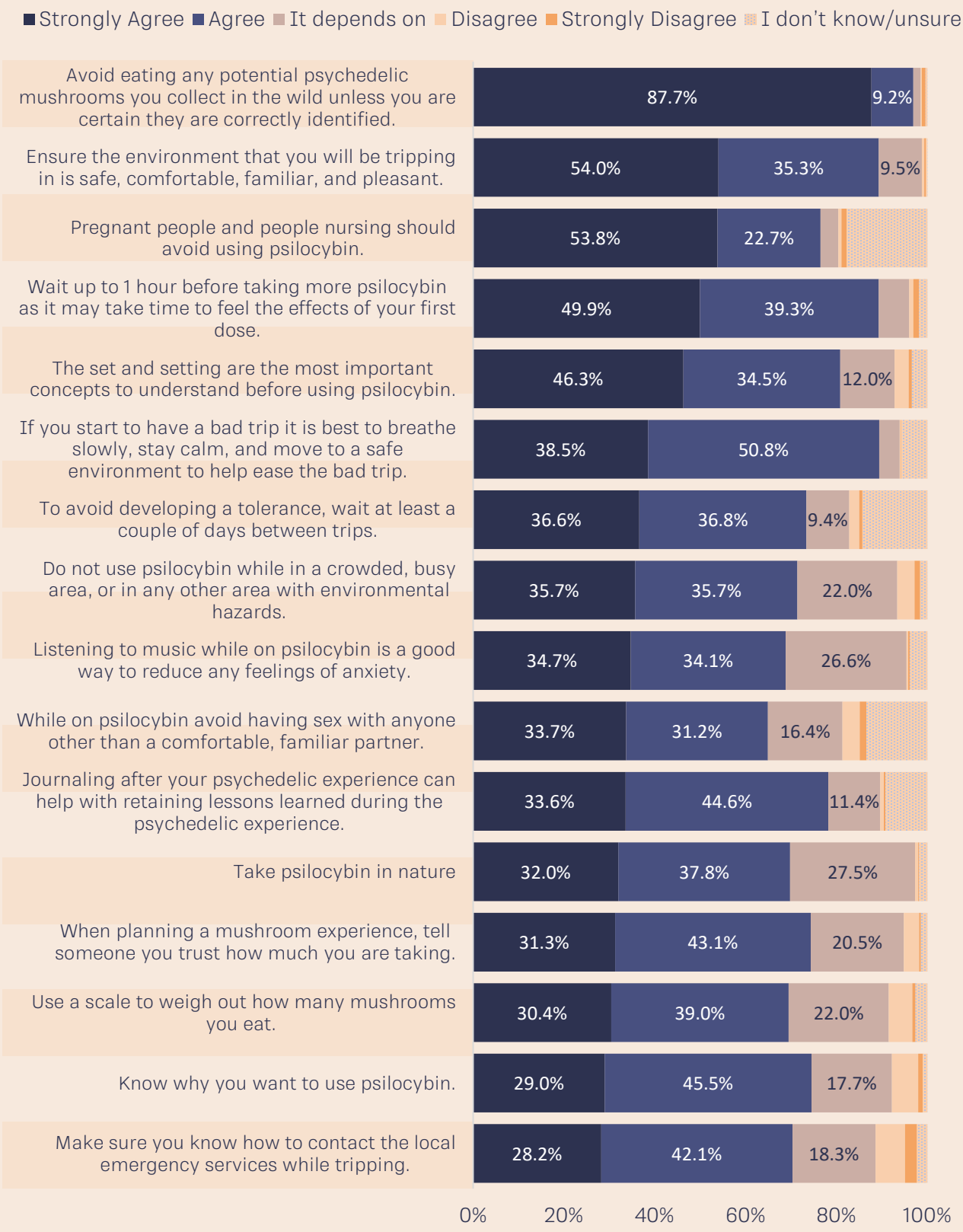
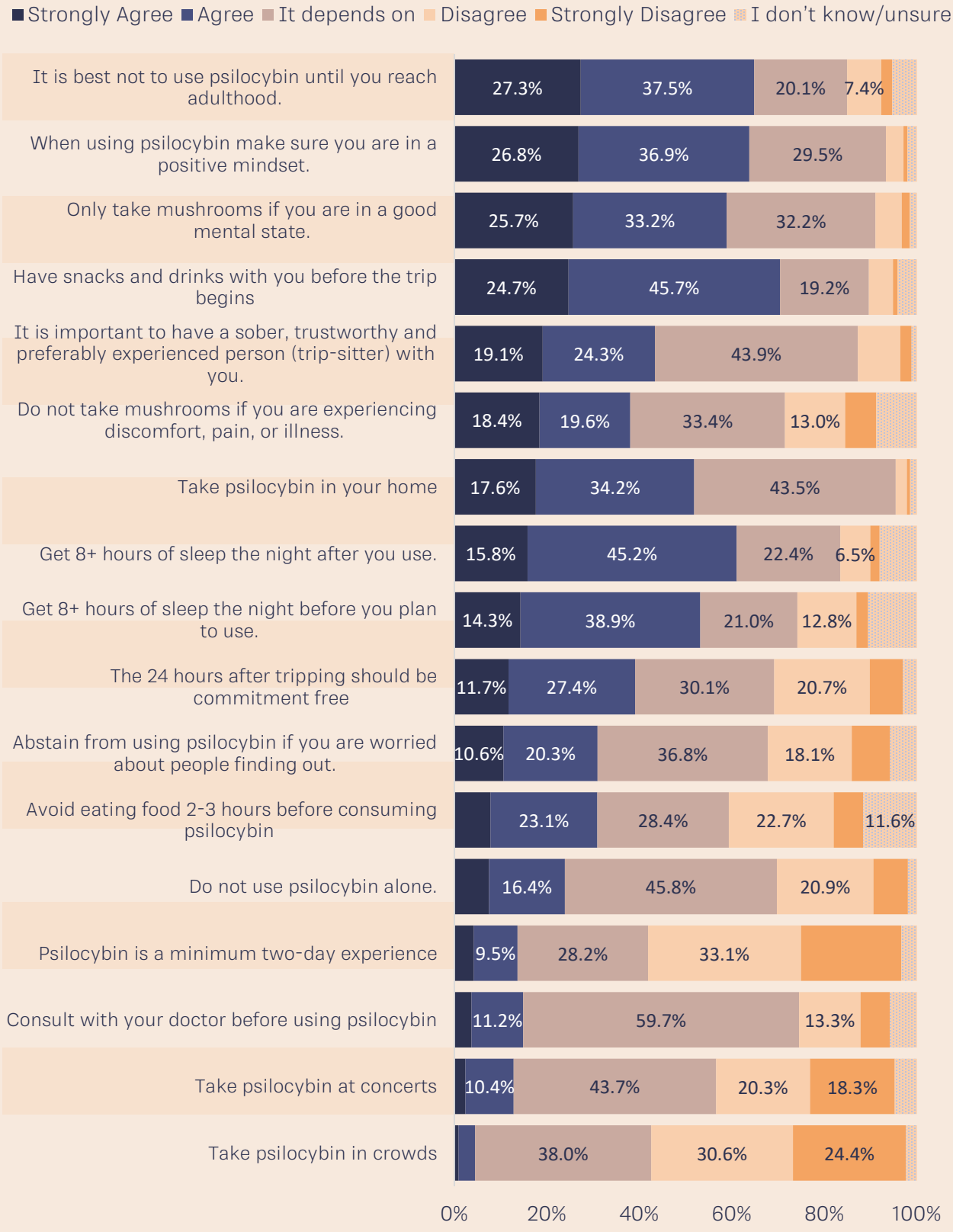


Figure 4.1b. Participant's agreement with potential recommendations (continued)



“Start off easy... Its impact on you is largely based off your mindset going into the experience. That being said it is incredibly powerful, so small doses to begin will help accustom you to the power of a psilocybin trip. Being familiar with the feeling of a mushroom high before tripping will keep anxiety and negative thoughts at bay.”

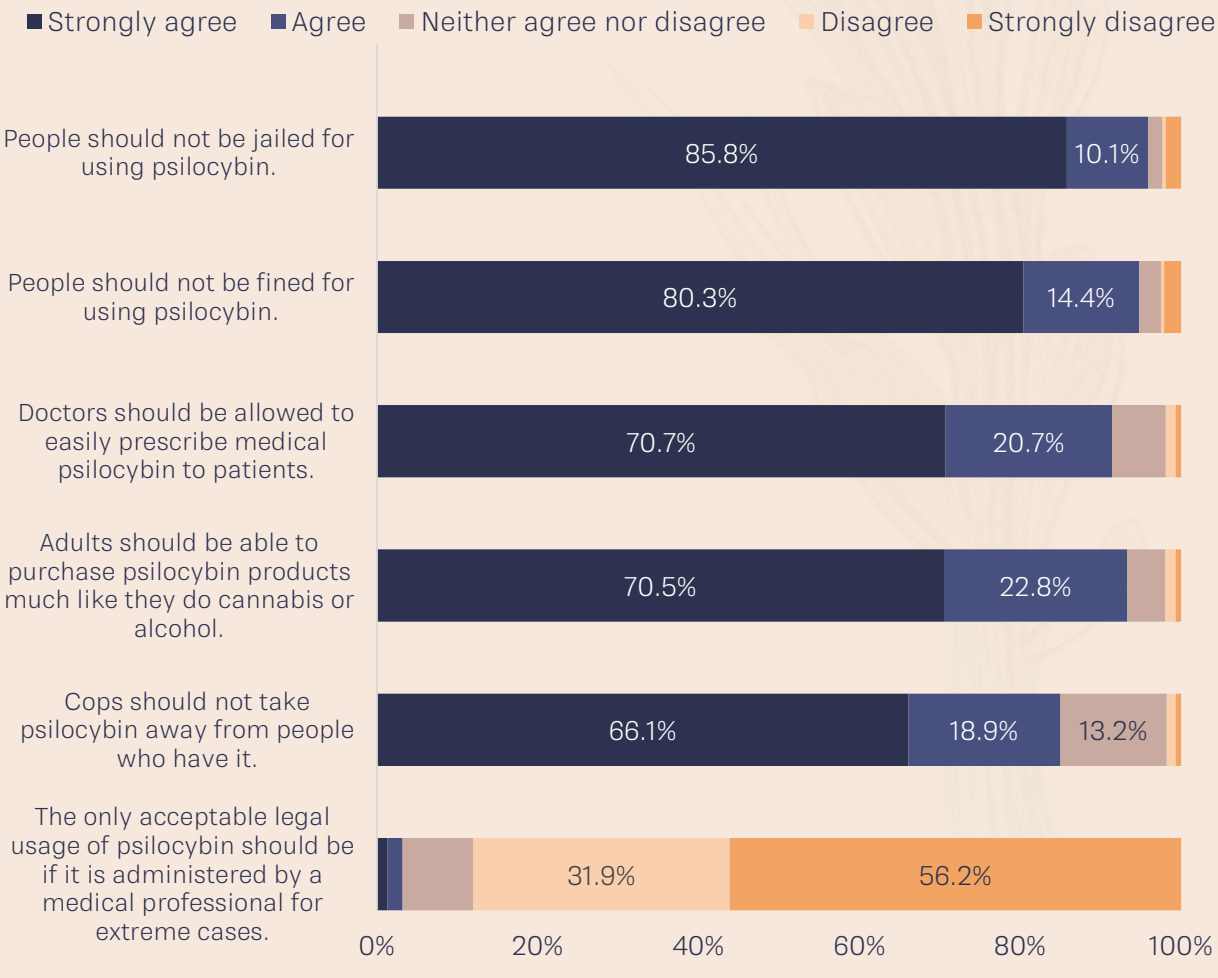
– Man, 23, British Columbia, TRIPS Participant

5. Opinions on Regulation

Further indicating our participant's positive views of psilocybin, there was widespread endorsement that psilocybin use should not be criminalized, that doctors should be able to prescribe psilocybin, and that regulation of psilocybin should be similar to that of cannabis and alcohol (See **Figure 5.1**). However, support for these policies generally decreased with lesser regulatory stringency. Interestingly, however, there was widespread disagreement with the belief that psilocybin should only be legally accessed through medical professionals for extreme cases (which is the current policy in Canada).

These results suggest that the present regulatory framework for psilocybin does not match with the expertise of those who have actually used psilocybin.

Figure 5.1. Levels of agreement with potential policies related to psilocybin



6. Information Sources

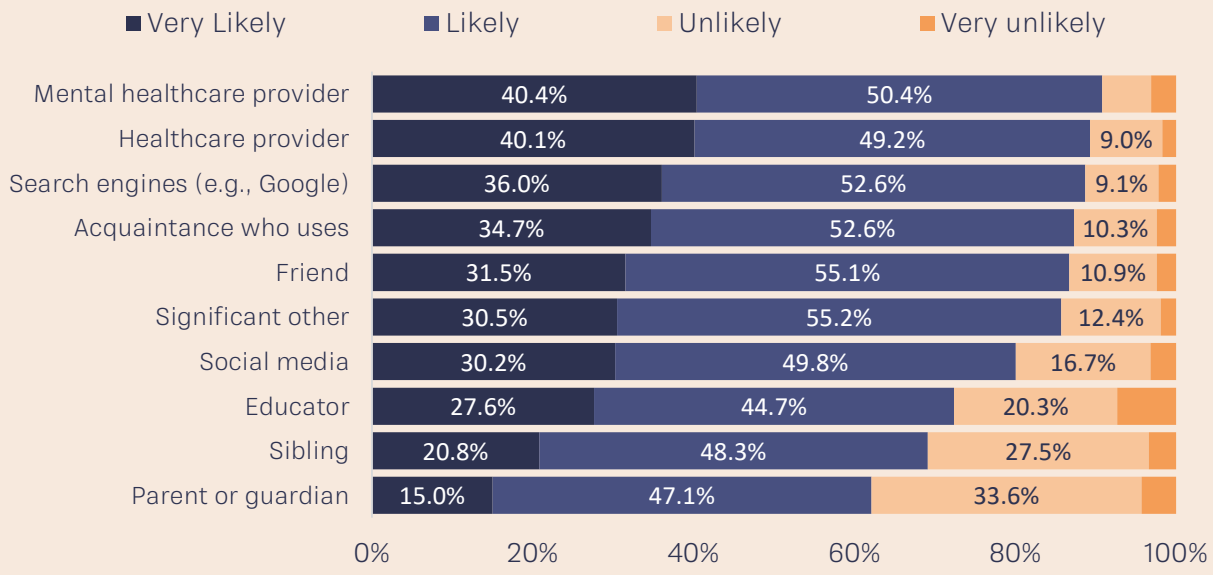
When asked about information sources used to learn about psilocybin, most learned from friends, the internet (e.g., Youtube, Google, Erowid, Reddit, PsychonautWiki, Shroomery), and acquaintances (See **Table 6.1**). In open text responses, participants also reported using academic articles, books, and educational videos.

Table 6.1. Information Sources to learn about psilocybin

	N (%)
Friend	826 (87.1)
Search engine, such as Google or Bing	815 (86.1)
Acquaintance who uses psilocybin	665 (70.3)
Social media website or discussion forums	590 (62.2)
Spouse, partner, or significant other	432 (45.7)
Mental health care provider	229 (24.2)
Sibling	210 (22.2)
Healthcare providers, such as a nurse or doctor	177 (18.8)
Parent or guardian	141 (14.9)
Educator, such as a schoolteacher	123 (13.0)

Importantly, most sources of information were endorsed by most participants who had accessed that source. However, the least likely information sources to be endorsed through referral were family members and educators (See **Figure 6.1**).

Figure 6.1. Likelihood of recommending each source, among users of that source



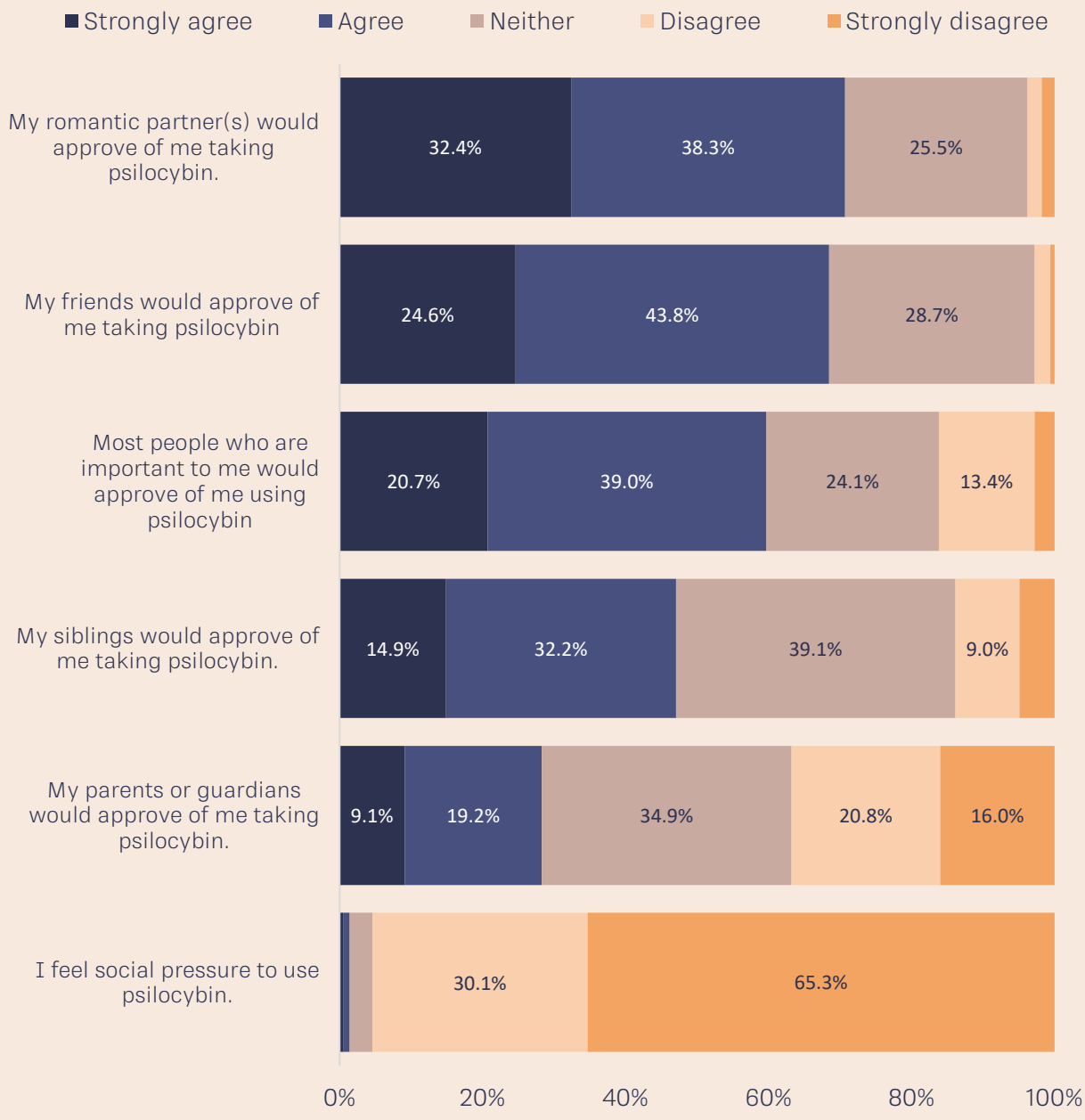
Participants also noted that it can be difficult to find a reliable information source – particularly those that are supportive of psilocybin use for therapeutic purposes. As one participant put it,

> *"That's a tough one. The internet is the first place many people will go, but the information presented online will not be appropriate or safe guidance for everyone. I would recommend speaking to someone who has used psilocybin many times over the course of many years. And if looking online for information, stick to sites and sources that focus on the therapeutic effects of the drug."*
>
> – Man, 37, Alberta, TRIPS Participant

7. Perceived Norms and Controls Related to Psilocybin Use

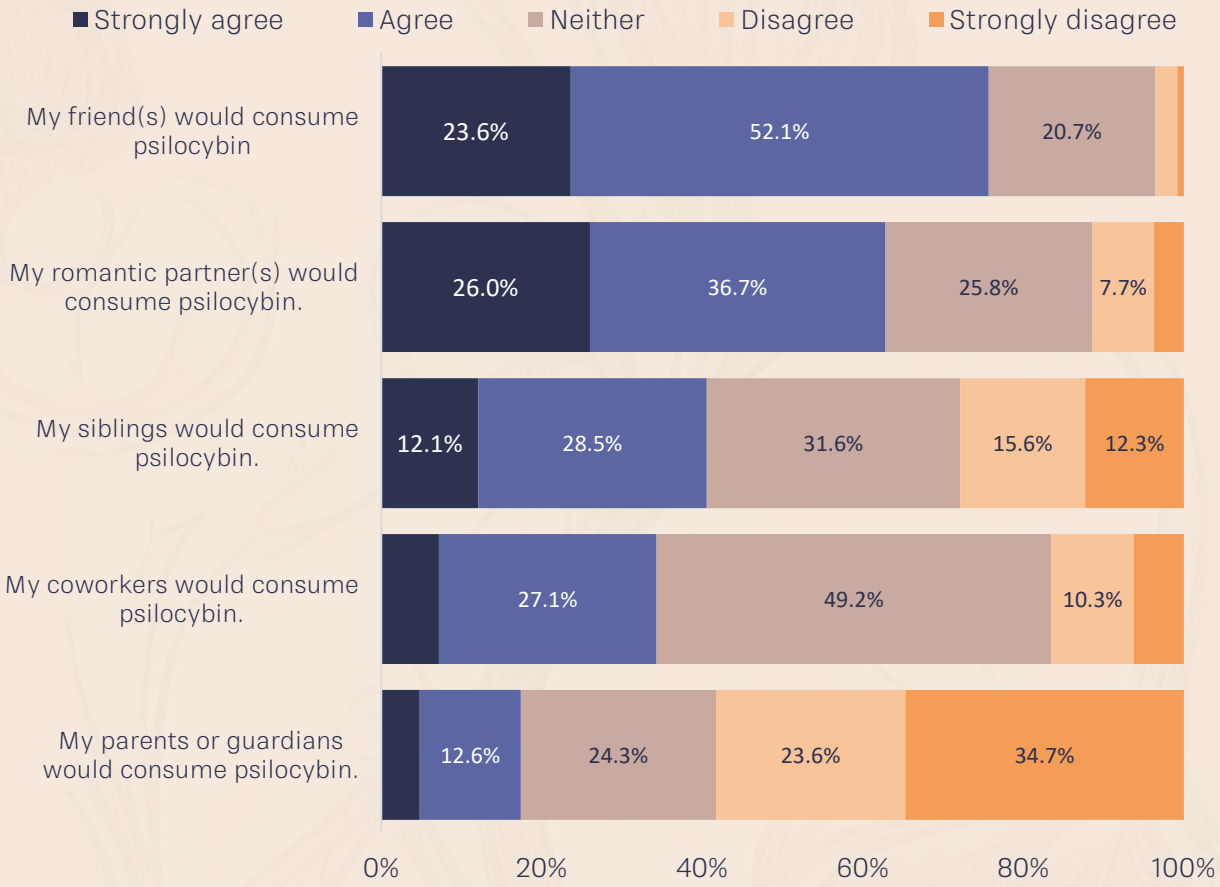
Many participants reported that their peer groups were willing to use or were approving of using psilocybin – but most disagreed that they felt peer pressure to use. Perceptions of other's support for psilocybin use were much lower among siblings, coworkers, and parents compared to friends and romantic partners (See **Table 7.1**).

Figure 7.1. Perceptions of normative approval for psilocybin use



Similarly, most participants reported that their friends and romantic partners would consume psilocybin, but were less likely to believe their siblings, coworkers, or parents would (See **Figure 7.2**).

Figure 7.2. Perceptions of whether others would use psilocybin

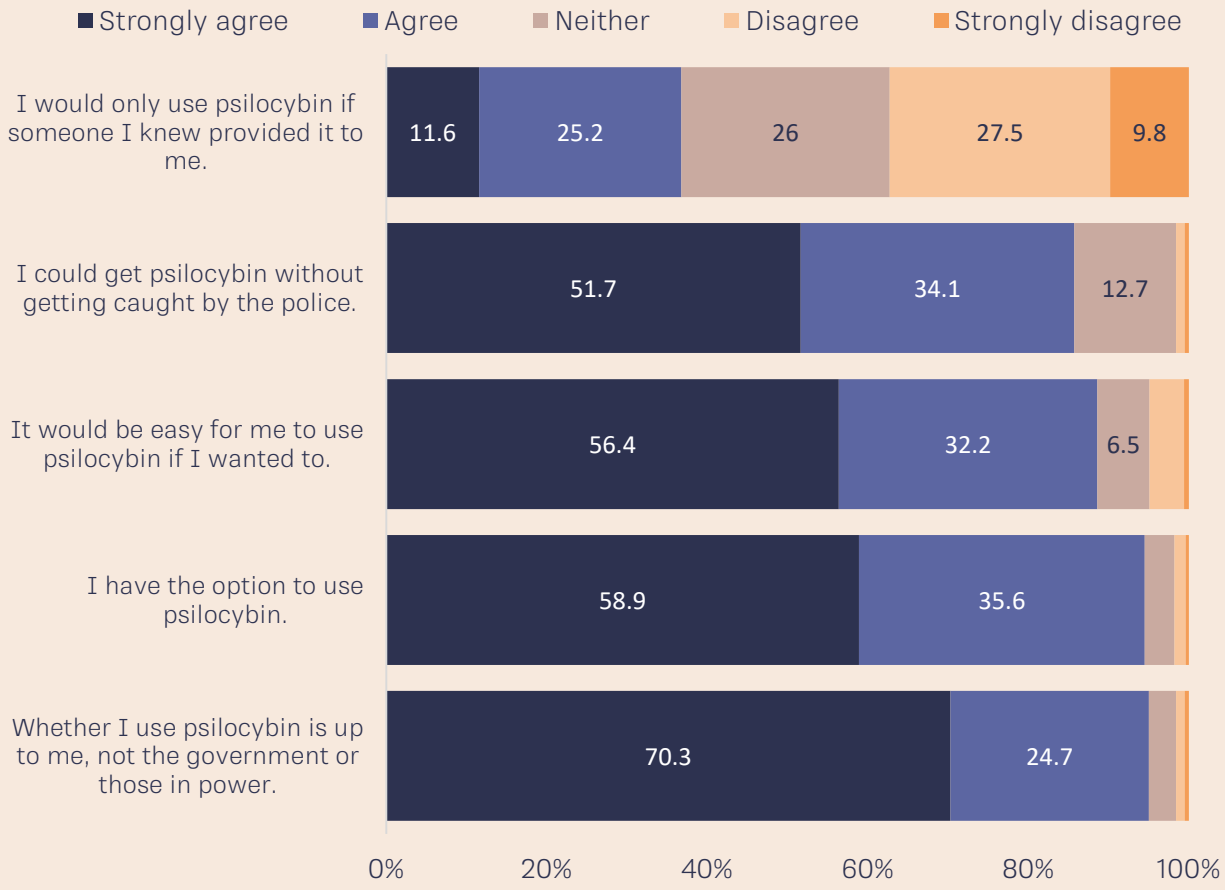


"I found a trip once a month really helped my depression and anxiety, but most/all of my doctors and therapists were against using it."

- Woman, 37, Alberta, TRIPS Participant

In addition to seeing psilocybin as normatively acceptable, participants also largely agreed that psilocybin was accessible to them and that they could access it without encountering legal consequences (See **Figure 7.3**). Notably, most participants felt they would use psilocybin even if they didn't know where it was coming from. Taken together these findings highlight high self-efficacy beliefs for psilocybin use among are participants and the inefficacy of the present legal regime regulating psilocybin.

Figure 7.3. Perceptions of ability to use psilocybin



"You should avoid using mushrooms as a "crutch" for your emotional well being. Its nice to microdose and take large doses too. But if you are constantly doing it just to make you feel better, it'll start to drain you. The drug will lose its beauty and magic."

- Man, 30, Saskatchewan, TRIPS Participant

Discussion

Summary of Key Findings

Drawing on data from the TRIP study, this report finds that people who use psilocybin have experienced it to be beneficial and safe – supporting the existing literature from clinical trials. They provide nuanced insight into how people initiating psilocybin can reduce risks for adverse experiences and maximize the benefits of taking psilocybin. In discussing and rating guidelines, they spoke to the high degree of variability in the applicability of various lower risk psilocybin use guidelines, but generally endorsed a wide variety of steps that can be potentially helpful. Furthermore, the participants largely endorsed changes to how psilocybin is regulated, particularly since psilocybin remains widely accessible and acceptable. Based on the quantitative and qualitative data collected in the TRIP study and the analyses presented in this report, we offer the following guidance for lower risk psilocybin use:

Reccomendations for Lower Risk Psilocybin Use

1. Take time to learn about psilocybin.

Learning about psilocybin and what you can expect from a psilocybin trip is a key first step in your journey. Online resources, trusted experts, and experienced individuals can all help you understand psilocybin, its benefits, and its risks. There is no need to rush into using psilocybin. Educating yourself can help you consider whether psilocybin is right for you and what precautions you might want to take when using it. Indeed, psilocybin affects different people differently so it is important to be aware of any potential issues and prepare for them. For example, if you have a history of trauma, you might benefit from having somebody around during your first trip or you might start off with a lower dose. In some cases, you might seek support from a professional therapist or counsellor who can help you prepare for a psilocybin trip and guide you through any difficult emotions that you might encounter. Finally, remember that learning about psilocybin and its effects on you is an ongoing experience. Be reflective about your experiences, keep notes or journal entries, and take other steps that allow you to be mindful about your consumption of psilocybin.

2. Find a safe supply.

Accessing psilocybin from trusted and established sources can give you a sense of confidence and comfort, which will make your experience more enjoyable. With the advent of the internet, sourcing psilocybin is easy. However, psilocybin remains illegal in most parts of the globe, including Canada meaning there is not a state regulated supply. Finding a safe supply is important so you know what type of mushroom you are consuming and that it is actually a psychedelic mushroom. While psilocybin

mushrooms can be harvested, you should avoid eating mushrooms from the wild, unless you are certain of the species and strain. This is because many psilocybin mushrooms are indistinguishable from toxic counterparts.

3. Make sure you're in a good place – physically and mentally.

Set and setting have significant potential to influence the nature of your experience. Avoid using in busy, hectic, or crowded settings or under circumstances that might require a high level of awareness and cognition. Use with other individuals you know and trust. Make sure that you have your essentials needs met – such as prepared easy to consume foods and drinks. Setting the scene for your trip by can help ensure that you are comfortable and safe during the experience. For example, choosing the right music can shape how your experience unfolds. Regarding your mental state, it is important to recognize that while psilocybin appears to be beneficial for your mental health, a history of trauma or other risk factors can make your trip less enjoyable. In these cases, you might take additional precautions, such as engaging in consultations with a mental healthcare professional. It is also okay to delay use until you are in a better emotional or psychological state to pursue psychedelics.

4. Start low, go slow, take time.

Dosing psilocybin can be difficult and the nature of your trip is shaped by how much psilocybin you consume. As well, risks for upsetting experiences can increase with higher doses. Measuring the weight of mushrooms and being informed about which species and strain you are consuming is important. Purchasing measured doses, such as in the form of capsules, may make this easier for you. Regarding how much to take, it is best to start with low quantities. As you gain experience and confidence, you will be better able to make appropriate decisions to achieve your personal goals. Furthermore, its important to remember that it can take time for psilocybin to take affect, so waiting a few hours between dosing is usually a good idea. Additionally, psilocybin effects quickly diminish after repeated administrations. Unless you are micro-dosing, spacing dosing sessions can help ensure you have the best experience.

5. Be prepared for rough patches.

While most people enjoy psilocybin, a trip is not a risk free activity. Sometimes you might feel nauseous or anxious after consuming psilocybin – particularly at the start of your trip. You may also lose track of your basic needs, making it important to keep hydrated, have snacks, and stretch out if you are sore from sitting too long. Furthermore, despite all precautions, it's possible to have unwanted, disturbing, or upsetting experiences while using psilocybin. Being mentally prepared for this possibility is important. If you encounter a bad trip, remember that the experience is temporary and that if you remain calm and reflective you will be okay. Similarly, having a plan in place, such as knowing how to contact emergency services and having a supportive person by your side, can help deal with any challenges that may arise.

Limitations and Future Directions

The guidelines outlined above and the research they are based on, are not without limitations. Indeed, our study is based on an online convenience sample of people with experience using psilocybin. As such, all results should be interpreted as representing these perspectives. Caution should be taken in generalizing our findings. Similarly, participants were diverse with respect to their level of experience using psilocybin. They also noted that many guidelines depend on individual or circumstantial factors. As such, more research is needed to validate the conclusions of this report. Regarding our developed guidelines, further work is needed to assess their utility and how we can maximize their use for the greatest public benefit. Furthermore, research is needed to validate each of the guidelines and provide specificity that can help individuals make good decisions about how the guidelines might apply to them. In particular, it is important to study the risk factors for negative trips and what mediators and moderators shape these risk factors. As such, more research is needed on the effects of psilocybin under a variety of naturalistic and controlled conditions in order to inform future revisions to these proposed guidelines. As such research becomes available, formal guideline development processes and evaluation tools (e.g., AGREE II Instrument) should be applied to refine the guidance provided to people using psilocybin.

Conclusion

In Canada and throughout much of the world, psilocybin remains illegal and tightly regulated. However, results from our research suggest that people who use psilocybin and understand it best believe it to be enjoyable, beneficial, and safe. While these individuals endorse looser legal controls on psilocybin, they also strongly recognize the importance of using responsibly and offer a wide variety of recommendations that may empower individuals to use psilocybin safely while maximizing the benefits they receive from it.

Based on these findings, we argue that a harm reduction approach for psilocybin is warranted. We hope that our developed lower risk psilocybin use guidelines can contribute to a harm reduction framework for psilocybin. However, we also recognize that guidelines are only the beginning. More work is needed to improve the regulatory environment. In particular, psilocybin should be decriminalized and public health options for accessing psilocybin should be made available to support its use as a therapeutic and recreational aide.

Key Messages

- Participants report high levels of knowledge about psilocybin and experience using it. They hold highly favorable views about its benefits and safety. Most participants report intentions to use psilocybin. Their motives for psilocybin use are diverse, but often focus on its enjoyable effects, therapeutic effects, and positive self-actualization or self-improvement goals.

- Most participants access psilocybin online and through friends, with dried mushrooms and capsules being the most common forms obtained and consumed. Participants often consume psilocybin as a food product or blended into food. While many people regularly weigh their dosages using a scale, most do not do this consistently, many consume without knowing how much they are getting, and nearly one in five never weigh their doses. Many of those who do not weigh their dose receive it in premeasured doses (e.g., capsules, gummies). Participants report using a wide range of dosages – with most reporting micro-dosing or consuming light or medium doses. However, a large number also report strong and heroic doses (i.e., 3.0 grams or above).

- In self-defining dose levels, participants recommended the following ranges (which strongly aligned with established metrics, suggesting a high degree of knowledgeability regarding dosing, at least on average):
    - Micro-dose: 0.1 to 0.5 g
    - Light dose: 0.7 to 1.5g
    - Medium dose: 1.5 g to 3 g
    - Strong dose: 3g to 5g
    - Hero dose: 5g to 8g

- Participants endorse a wide variety of recommendations that can improve your experience when using psilocybin. From these, we offer six high level areas of guidance for lower risk psilocybin use:
    - Take time to learn about psilocybin.
    - Find a safe supply.
    - Make sure you're in a good place – physically and mentally.
    - Start low, go slow, take time.
    - Be prepared for rough patches.

- In addition to their own positive views, participants also reported a high degree of control over their use and many reported that psilocybin use was acceptable to their peers. However, fewer felt that family, friends, and educators would be approving of their use. Most also felt that the current regulatory framework for psilocybin was inappropriate and ineffective; and that legal options for accessing psilocybin are needed.

Appendix Table 1. Overview of Select Studies on the Therapeutic Effects of Psilocybin

Study	*Study Information*
Hasler et al. (2004) "Acute psychological and physiological effects of psilocybin in healthy humans: a double-blind, placebo-controlled dose-effect study"	This study investigated the dose-dependent effects of psilocybin on psycho(patho)logical and physiological parameters. Eight subjects received varying doses of psilocybin: placebo (PL), 45 micrograms/kg (very low dose, VLD), 115 micrograms/kg (low dose, LD), 215 micrograms/kg (medium dose, MD), and 315 micrograms/kg (high dose, HD). The study used the Altered States of Consciousness Rating Scale (5D-ASC), Frankfurt Attention Inventory (FAIR), and Adjective Mood Rating Scale (AMRS) to assess the impact of psilocybin on cognition, attention, and mood. Physiological effects were monitored through a 24-hour electrocardiogram (EKG), blood pressure measurements, and plasma levels of thyroid-stimulating hormone (TSH), prolactin (PRL), cortisol (CORT), adrenocorticotropic hormone (ACTH), and standard clinical chemical parameters. Main Findings: Psilocybin dose-dependently increased scores across all 5D-ASC core dimensions, indicating altered states of consciousness. High doses of psilocybin led to a 50% reduction in performance in the FAIR test and increased scores in "general inactivation," "emotional excitability," and "dreaminess" in the AMRS. Physiologically, the mean arterial blood pressure was moderately elevated 60 minutes after administering the highest dose, but EKG and body temperature remained unaffected. TSH, ACTH, and CORT plasma levels were elevated during the peak effects of the highest dose, while PRL levels increased following medium and high doses. The study concluded that psilocybin affects consciousness and physiological parameters in a dose-dependent manner without posing significant health risks.
Grob et al. (2011) "Pilot study of psilocybin treatment for anxiety in patients with advanced-stage cancer"	This investigation was a double-blind, placebo-controlled study focusing on the safety and efficacy of psilocybin for treating anxiety in patients with advanced-stage cancer. It involved twelve adult participants who acted as their own controls. The study was conducted in a clinical research unit within a large public sector academic medical center, using a moderate dose of psilocybin (0.2 mg/kg). Main Findings: The study documented safe physiological and psychological responses to psilocybin treatment, with no clinically significant adverse events observed. Notably, there was a

	significant reduction in trait anxiety as measured by the State-Trait Anxiety Inventory at 1 and 3 months post-treatment. Mood improvements were indicated by the Beck Depression Inventory, achieving significance at 6 months. Additionally, the Profile of Mood States suggested mood improvement after psilocybin treatment, though it did not reach statistical significance. The study concluded that administering moderate doses of psilocybin is feasible and safe for patients with advanced-stage cancer and anxiety, showing a positive trend towards improved mood and anxiety. These findings underscore the necessity for further research in this area.
Griffiths et al. (2011) "Psilocybin occasioned mystical-type experiences: immediate and persisting dose-related effects"	This double-blind study involved 18 adult participants (17 hallucinogen-naïve) to evaluate the effects of psilocybin administered at varying doses (0, 5, 10, 20, 30 mg/70 kg, orally) under supportive conditions. The study included five 8-hour sessions for each participant at 1-month intervals. Participants were randomized to receive four active doses in either ascending or descending order, with placebo administered quasi-randomly. During sessions, participants wore eyeshades and focused inward. They completed questionnaires assessing effects immediately after each session, one month later, and at a 14-month follow-up. Main Findings: Psilocybin produced acute perceptual and subjective effects, including extreme anxiety/fear in 39% of volunteers and mystical-type experiences in 72% at the 20 and 30 mg/70 kg doses. One month after sessions with these higher doses, participants reported significant personal and spiritual significance from the psilocybin experience, with sustained positive changes in attitudes, mood, and behavior, more pronounced in the ascending dose sequence. At the 14-month follow-up, these effects were undiminished and corroborated by community observers. The acute and persisting effects of psilocybin were dose-dependent, with even the lowest dose showing significant impacts. The study concludes that under supportive conditions, 20 and 30 mg/70 kg doses of psilocybin can occasion mystical-type experiences with long-lasting positive effects on attitudes, mood, and behavior, indicating potential implications for therapeutic applications.

Griffiths et al. (2016) "Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial"	This study was a randomized, double-blind, cross-over trial involving 51 cancer patients with life-threatening diagnoses and symptoms of depression and/or anxiety. The trial compared the effects of a very low dose (1 or 3 mg/70 kg, placebo-like) and a high dose (22 or 30 mg/70 kg) of psilocybin, administered in a counterbalanced sequence with 5 weeks between sessions and a 6-month follow-up. The study aimed to minimize expectancy effects through specific instructions to participants and staff. Main Findings and Conclusions: The high-dose psilocybin group exhibited significant decreases in clinician- and self-rated measures of depressed mood and anxiety. Additionally, there were increases in quality of life, life meaning, optimism, and decreases in death anxiety. At the 6-month follow-up, these improvements were sustained, with approximately 80% of participants showing clinically significant decreases in depressed mood and anxiety. Participants largely attributed their improvements in life attitudes, mood, relationships, and spirituality to their high-dose psilocybin experience, with over 80% reporting moderately or greater increased well-being and life satisfaction. Observations by community observers corroborated these findings. The therapeutic outcomes were mediated by the mystical-type experience induced by psilocybin on the day of the session. This study underscores the potential of high-dose psilocybin in producing lasting benefits in mood and psychological well-being in cancer patients facing depression and anxiety.
Griffiths et al. (2018) "Psilocybin-occasioned mystical-type experience in combination with meditation and other spiritual practices produces enduring positive changes in psychological functioning and in trait measures of prosocial attitudes and behaviors"	This study investigated the enduring effects of psilocybin on traits related to well-being in conjunction with meditation/spiritual practices. Healthy participants were randomized into three groups (25 each): (1) very low-dose psilocybin (1 mg/70 kg for two sessions) with standard support for spiritual practices (LD-SS), (2) high-dose psilocybin (20 mg for the first session and 30 mg/70 kg for the second session) with standard support (HD-SS), and (3) high-dose psilocybin with the same dosage as HD-SS but with high support for spiritual practices (HD-HS). The study was conducted double-blind, and measures were taken to minimize expectancy effects. Psilocybin was administered one and two months after the initiation of spiritual practices, with outcomes measured at six months. Main Findings: Compared to the low-dose group, the high-dose psilocybin groups showed greater acute and persisting effects. At six months, both high-dose groups exhibited significant

	positive changes in various measures of well-being, including interpersonal closeness, gratitude, life meaning/purpose, forgiveness, death transcendence, daily spiritual experiences, religious faith and coping, and community observer ratings. The study determined that the enduring effects were related to mystical-type experiences occasioned by psilocybin and the rates of meditation/spiritual practices. The findings suggest that psilocybin can lead to long-term increases in prosocial attitudes, behaviors, and overall healthy psychological functioning.
Goldberg et al., (2020) "The experimental effects of psilocybin on symptoms of anxiety and depression: A meta-analysis"	This meta-analysis evaluated the effects of psilocybin in combination with behavioral interventions on anxiety and depression in individuals with elevated symptoms. The analysis incorporated four studies, including one uncontrolled and three randomized, placebo-controlled studies, with a total of 117 participants. The primary focus was to assess the within-group pre-post and pre-follow-up effects of psilocybin on anxiety and depression. Main Findings: The findings indicated large and statistically significant improvements in anxiety and depression, with Hedges' g values ranging from 1.16 to 1.47 in within-group analyses. In the three placebo-controlled studies, the pre-post placebo-controlled effects were also large (g values of 0.82 to 0.83) and statistically significant. Importantly, no serious adverse events were reported across the studies. However, the meta-analysis noted limitations, including the small number of included studies and potential biases within them. Despite these limitations, the results provide tentative support for future research on the use of psilocybin for treating anxiety and depression.
Carhart-Harris et al. (2021) "Trial of Psilocybin versus Escitalopram for Depression"	This phase 2, double-blind, randomized, controlled trial compared the antidepressant effects of psilocybin and escitalopram in patients with long-standing, moderate-to-severe major depressive disorder. The study had a sample size of 59 patients, split into two groups: 30 received psilocybin and 29 received escitalopram. Main Findings: The trial found no significant difference in the change of depression scores at week 6 between the psilocybin and escitalopram groups. Secondary outcomes tended to favor psilocybin over escitalopram, but these findings were not adjusted for multiple comparisons. The incidence of adverse events was similar in both groups.

Davis et al. (2021) "Effects of Psilocybin-Assisted Therapy on Major Depressive Disorder: A Randomized Clinical Trial"	The study, a randomized, waiting list-controlled clinical trial, was conducted at the Center for Psychedelic and Consciousness Research, Johns Hopkins Bayview Medical Center, Baltimore, Maryland. It aimed to assess the efficacy of psilocybin therapy in patients with major depressive disorder (MDD). Eligible participants were adults aged 21 to 75 years with MDD, not currently on antidepressants, and without histories of psychotic disorders or serious suicide attempts. Enrollment spanned from August 2017 to April 2019, with 27 participants randomized into either an immediate treatment group (n = 15) or a delayed treatment group (waiting list control, n = 12). **Main Findings:** The study reported significant reductions in depression severity measured by the GRID-Hamilton Depression Rating Scale (GRID-HAMD) at weeks 1 and 4 post-intervention in the immediate treatment group, compared to the delayed treatment group's scores at weeks 5 and 8. The effect sizes were large at both week 5 (Cohen d = 2.5) and week 8 (Cohen d = 2.6). Additionally, a rapid decrease in depression scores was documented on the Quick Inventory of Depressive Symptomatology-Self Rated (QIDS-SR) from baseline to day 1 post-session 1, remaining significantly reduced through week 4 follow-up. Clinically significant response to the intervention was observed in 71% of participants at both week 1 and week 4, with 58% in remission at week 1 and 54% at week 4. These findings indicate that psilocybin, combined with therapy, is effective in treating MDD. This extends previous results from studies involving patients with cancer and depression, as well as a nonrandomized study in patients with treatment-resistant depression.
Hirschfeld & Schmidt (2021) "Dose-response relationships of psilocybin-induced subjective experiences in humans"	This study conducted a linear meta-regression analysis to establish dose-response relationships of subjective experiences induced by psilocybin in both healthy participants and patient groups. The analysis utilized data from the Altered States Database, which compiles information from MEDLINE-listed journal articles that employed standardized and validated questionnaires such as the Altered States of Consciousness Rating Scale, the Mystical Experience Questionnaire, and the Hallucinogen Rating Scale. The aim was to investigate how different doses of orally administered psilocybin affect subjective experiences reported in these studies.

	Main Findings: The meta-regression analysis revealed that psilocybin dose positively correlated with most factors and scales on the questionnaires, particularly those related to perceptual alterations and positively experienced ego dissolution. However, measures referring to challenging experiences showed only small effects and were minimally influenced by the psilocybin dose. The study concluded that psilocybin intensifies nearly all characteristics of altered states of consciousness assessed by the questionnaires used. It is important to note that subjective experiences are influenced by factors beyond dosage, including individual and environmental factors. Therefore, these results might be more relevant to controlled laboratory settings rather than recreational use. The study serves as a reference for expected subjective experiences in experimental and clinical research involving psilocybin.
Yu et al. (2021) "Psilocybin for End-of-Life Anxiety Symptoms: A Systematic Review and Meta-Analysis"	This systematic review focused on evaluating the effectiveness and tolerability of psilocybin for treating end-of-life anxiety symptoms. It involved a comprehensive search of the Medline, Embase, CENTRAL, and PsycINFO databases up to November 25, 2020. The review specifically targeted clinical trials investigating the use of psilocybin for this purpose. A meta-analysis using a random-effects model was conducted to synthesize data from the included studies. Main Findings: The review included five studies, which collectively showed that psilocybin was significantly more effective than placebo in reducing state anxiety 1 day and 2 weeks after treatment. It was also more effective in treating trait anxiety at 1 day, 2 weeks, and 6 months post-treatment. However, psilocybin was associated with transient increases in systolic and diastolic blood pressure compared to placebo. There were no significant differences between psilocybin and placebo in terms of all-cause discontinuation, serious adverse events, and heart rates. The findings suggest that psilocybin-assisted therapy can effectively alleviate end-of-life anxiety symptoms without causing serious adverse events, though further research with larger sample sizes is needed due to the small sample sizes and heterogeneity of the included studies.

Yu et al. (2022) "Trajectory of Antidepressant Effects after Single- or Two-Dose Administration of Psilocybin: A Systematic Review and Multivariate Meta-Analysis"	This study involved a systematic review and meta-analysis of the cardiovascular safety, acceptability, and antidepressant effects of psilocybin after single- or two-dose administration. Four major electronic databases were searched to compile relevant data. The primary outcomes were changes in depressive symptoms, while secondary outcomes focused on cardiovascular safety and acceptability. A multivariate random-effects meta-analysis was used to pool the data, and the study ultimately included ten studies for analysis. Main Findings: The meta-analysis revealed significant antidepressant effects of psilocybin, with standardized mean differences (SMDs) showing reductions in depressive symptoms across various time points: -0.75 on day 1, -1.74 at 1 week, -1.35 at 1 month, -0.91 at 3 months, and -1.12 at 6 months. Higher doses and two sessions of psilocybin treatment were associated with more substantial antidepressant effects. In terms of cardiovascular safety, psilocybin administration resulted in increases in systolic and diastolic blood pressure (by 19.00 mmHg and 8.66 mmHg, respectively) but was comparable to placebo in terms of all-cause discontinuation and heart rate changes. There were no significant differences in SMD between placebo-controlled trials and pre-post changes, nor between randomized controlled trials (RCTs) and non-RCTs. Overall, the study indicates that single- or two-dose psilocybin administration offers rapid and sustained antidepressant effects up to 6 months, with favorable cardiovascular safety and acceptability.
Goodwin et al. (2022) "Single-Dose Psilocybin for a Treatment-Resistant Episode of Major Depression"	The phase 2 double-blind trial investigated the use of psilocybin for treatment-resistant depression. Adults with this condition were randomly assigned to receive a single dose of synthetic psilocybin at 25 mg, 10 mg, or 1 mg (control), accompanied by psychological support. The study involved 233 participants, distributed as 79 in the 25-mg group, 75 in the 10-mg group, and 79 in the 1-mg group. Main Findings: The study found significant reduction in depression scores at 3 weeks in the 25-mg group compared to the 1-mg group, but not in the 10-mg group. The incidences of response and remission at 3 weeks were supportive of the primary results in the 25-mg group, although sustained response at 12 weeks was not significantly different. Adverse events, including headache, nausea, and dizziness, were reported in 77% of participants. Suicidal ideation or behavior occurred across all dose groups. The trial concluded that a single 25-

	mg dose of psilocybin showed potential for reducing depression scores over 3 weeks but was associated with adverse effects. Further studies are needed for comprehensive evaluation of its efficacy and safety.
Gukasyan et al. (2022) "Efficacy and safety of psilocybin-assisted treatment for major depressive disorder: Prospective 12-month follow-up"	This randomized, waiting-list controlled study focused on evaluating the long-term efficacy and safety of psilocybin in treating moderate to severe major depressive disorder (MDD). A total of 27 patients, aged 21-75, with moderate to severe unipolar depression were enrolled. Participants were assigned to either immediate or delayed (8 weeks) treatment groups, receiving two doses of psilocybin with supportive psychotherapy. The study successfully followed 24 participants through 12 months after their second psilocybin dose. Main Findings: The study observed significant reductions in depression scores (GRID-Hamilton Depression Rating Scale) at 1, 3, 6, and 12-month follow-ups. At the 12-month mark, treatment response and remission rates were 75% and 58%, respectively. There were no serious adverse events related to psilocybin during the long-term follow-up. Participant ratings of personal meaning and spiritual experiences post-sessions predicted increased well-being at 12 months but did not correlate with depression improvement. The study concludes that the antidepressant effects of psilocybin-assisted therapy may be sustained for at least 12 months in some patients.
Daws et al. (2022) "Increased global integration in the brain after psilocybin therapy for depression"	The impact of psilocybin on brain function in depression was assessed in two clinical trials. The first, an open-label trial, involved treatment-resistant depression patients receiving orally administered psilocybin (10 mg and 25 mg doses, 7 days apart). The second, a double-blind phase II trial, compared psilocybin therapy with escitalopram in patients with major depressive disorder. The psilocybin group received 2 × 25 mg oral doses, 3 weeks apart, plus placebo, while the escitalopram group received 2 × 1 mg psilocybin doses, 3 weeks apart, plus daily escitalopram. Functional magnetic resonance imaging (fMRI) was used in both trials to analyze brain function changes. Main Findings: In both trials, a rapid and sustained antidepressant response to psilocybin correlated with decreases in brain network modularity, indicating increased brain network integration. Network cartography analyses showed enhanced interconnectivity and flexibility in higher-order

	functional networks, particularly those rich in 5-HT2A receptors, after psilocybin treatment. The response to escitalopram was less pronounced, with no observed changes in brain network organization. These consistent efficacy-related brain changes across both studies suggest that psilocybin's antidepressant mechanism may involve global increases in brain network integration.
Cavanna et al. (2022) "Microdosing with psilocybin mushrooms: a double-blind placebo-controlled study"	This study, involving 34 individuals starting to microdose with Psilocybe cubensis (psilocybin mushrooms), was a double-blind placebo-controlled study. It aimed to investigate the acute and short-term effects of 0.5 g of dried mushrooms on subjective experience, behavior, creativity, perception, cognition, and brain activity. Main Findings: The acute effects were significantly more intense for the active dose compared to the placebo, but this was only true for participants who correctly identified their experimental condition. These changes were associated with reduced EEG power in the theta band and preserved levels of Lempel-Ziv broadband signal complexity. However, for most measurements, including creativity, cognitive function, and well-being, there was no significant effect of microdosing except for a few small changes indicating cognitive impairment. The study concluded that the expectation of the participants might underlie some of the anecdotal benefits attributed to microdosing with psilocybin mushrooms, as there was no substantial evidence supporting enhanced well-being, creativity, or cognitive function.
Marschall et al. (2022) "Psilocybin microdosing does not affect emotion-related symptoms and processing: A preregistered field and lab-based study"	This preregistered study employed a double-blind, placebo-controlled, within-subject crossover design to investigate the effects of psilocybin microdosing on self-reported interoceptive awareness and its potential to modulate emotion processing and reduce symptoms of anxiety and depression. Participants completed the Multidimensional Assessment of Interoceptive Awareness Questionnaire 1½ hours after their second dose (or placebo) and the emotional go/no-go task and the shortened Depression Anxiety Stress Scale 1½ hours after their seventh dose. Main Findings: The confirmatory analyses indicated that psilocybin microdosing did not significantly affect emotion processing or symptoms of anxiety and depression compared to placebo. Exploratory analyses also showed no impact on self-reported interoceptive awareness. However, symptoms

	of depression and stress were significantly reduced in the first block compared to baseline. Participants were able to guess their treatment condition in the second block, and there was no observed effect of expectations on outcomes. The study concludes that further research is required, particularly in a substance-naïve population with clinical-range anxiety and depressive symptoms, to validate any potential benefits of microdosing.
Li et al. (2022) "Dose effect of psilocybin on primary and secondary depression: a preliminary systematic review and meta-analysis"	This study conducted a systematic review of published research on psilocybin's effects on depression, adhering to PRISMA guidelines. The review searched six databases (PubMed, Embase, Web of Science, Cochrane Library, Clinicaltrials.gov 2.3, and WanFang database) for studies up to November 30, 2020, in English and Chinese. The primary outcome measure was Hedges' g of the changes in Beck Depression Inventory (BDI) scores, examining the dose effects of psilocybin on both primary depression in major depression patients and secondary depression in cancer patients. Main Findings: The review included 7 articles with a total of 136 participants. It found a significant antidepressant effect of psilocybin, with a Hedges' g value of 1.289. The analysis revealed a dose-response relationship, with the optimal therapeutic effect occurring at doses of 30-35 mg/70 kg. Subgroup analysis showed that psilocybin's antidepressant effect was particularly significant at higher doses (30-35mg/70kg), with long-term effects (lasting over 1 month), and in primary depression patients. However, due to the small number and variable quality of available studies, these conclusions are considered preliminary.
Psiuk et al. (2022) "Esketamine and Psilocybin-The Comparison of Two Mind-Altering Agents in Depression Treatment: Systematic Review"	This systematic review focused on comparing the effects of psilocybin and esketamine in depression treatment. The review utilized the PubMed/MEDLINE database, filtering from 617 items to include 12 relevant articles: three articles about psilocybin and nine about esketamine. The review aimed to assess and compare the effectiveness of these two mind-altering substances, which have been controversial but are now recognized for their potential as novel antidepressant agents. Main Findings: The review found that esketamine demonstrated significant reductions in depressive symptoms and suicidal ideation shortly after intake and after a month of treatment, compared to both baseline and standard-of-care

	antidepressant agents. Psilocybin's antidepressive effects were observed one day after intake and maintained for up to 6 to 8 months following treatment, with one study suggesting that psilocybin's effects might be comparable to or even superior to escitalopram. Both esketamine and psilocybin showed rapid and long-term effectiveness in reducing depression symptoms. The review suggests that, with some limitations overcome, these substances could be considered as novel antidepressant agents in the future.
Becker et al. (2022) "Acute Effects of Psilocybin After Escitalopram or Placebo Pretreatment in a Randomized, Double-Blind, Placebo-Controlled, Crossover Study in Healthy Subjects"	This study employed a double-blind, placebo-controlled, crossover design to investigate the response to psilocybin in healthy subjects after pretreatment with escitalopram or placebo. Participants underwent two test sessions with a 25 mg dose of psilocybin, following either a 14-day pretreatment with escitalopram (starting with 10 mg daily, increasing to 20 mg) or placebo. The treatment order was random and counterbalanced, with a minimum 16-day interval between psilocybin treatments. Main Findings: Escitalopram pretreatment did not affect the positive mood effects of psilocybin but significantly reduced negative drug effects, anxiety, adverse cardiovascular effects, and other adverse effects compared to placebo pretreatment. The pharmacokinetics of psilocin, the active metabolite of psilocybin, were not altered by escitalopram. The half-life of psychoactive free psilocin was found to be 1.8 hours, consistent with psilocybin's short duration of action. Furthermore, escitalopram did not change HTR2A or SCL6A4 gene expression, QTc intervals, or circulating BDNF levels before or after psilocybin administration. The study suggests that further research is necessary, particularly involving patients with psychiatric disorders and longer antidepressant pretreatment periods, to better understand the interactions between antidepressants and psilocybin.
Rucker et al. (2022) "The effects of psilocybin on cognitive and emotional functions in healthy participants: Results from a phase 1, randomised, placebo-controlled trial involving simultaneous psilocybin administration and preparation"	This phase 1 study was a randomised, double-blind, placebo-controlled trial, designed to explore the safety of simultaneous administration of psilocybin to healthy participants, marking it as the largest randomized controlled trial of psilocybin to date. The trial involved 89 healthy participants (mean age 36.1 years; 41 females, 48 males) who were randomized to receive a single oral dose of 10 or 25 mg psilocybin, or placebo. The unique aspect of this study was the simultaneous administration of the doses to up to six participants, each with one-to-one psychological support provided by a dedicated therapist throughout the session. The primary and secondary endpoints focused on

	the short- and longer-term changes in cognitive functioning, as assessed by the Cambridge Neuropsychological Test Automated Battery (CANTAB) Panel, and emotional processing scales. Safety was evaluated through treatment-emergent adverse event (TEAE) monitoring and CANTAB global composite scores. Main Findings: The study reported a total of 511 TEAEs, with the majority (67%) starting and resolving on the day of administration and a median duration of 1.0 day. There were no serious TEAEs, and none led to study withdrawal, indicating a high safety profile. Furthermore, there were no clinically relevant differences between the groups in terms of cognitive function (as measured by CANTAB global composite score and cognitive domain scores) or emotional processing scale scores. These findings suggest that both 10 mg and 25 mg doses of psilocybin were generally well tolerated, even when administered simultaneously to multiple participants, and did not have any adverse short- or long-term effects on cognitive functioning or emotional processing.
Goel & Zilate et al. (2022) “Potential Therapeutic Effects of Psilocybin: A Systematic Review”	This review focuses on therapeutic studies of psilocybin, encompassing several controlled and open-label studies that explore psilocybin's effects on depression, anxiety, and addiction. It also discusses psilocybin's synthesis, mechanism of action, effects, molecular pharmacology, adverse effects, and contraindications. Main Findings: The review highlights that three controlled studies have shown psilocybin can reduce symptoms of depression and anxiety in the context of cancer-related psychological distress for at least six months following a single acute treatment. Additionally, a small, open-label study on treatment-resistant depression revealed reductions in depressive and anxiety symptoms three months after two acute doses. Further, small, open-label pilot studies on addiction have shown promising success rates in treating alcohol and cigarette addiction. Overall, this review underscores the resurgence of scientific interest in traditional psychedelics like psilocybin, particularly due to their potential therapeutic benefits in mood and anxiety disorders, as well as addiction.

Goodwin et al. (2023) "Single-dose psilocybin for a treatment-resistant episode of major depression: Impact on patient-reported depression severity, anxiety, function, and quality of life"	The study was a phase 2, double-blind trial involving 233 participants with treatment-resistant depression (TRD). Participants were randomized to receive a single dose of COMP360, a synthetic formulation of psilocybin, at either 25 mg, 10 mg, or 1 mg (control). The trial included psychological support from trained therapists and assessed various efficacy measures including depression severity, anxiety, affect, functioning, quality of life, and cognitive function. Main Findings: Three weeks after dosing, the 25 mg dose of psilocybin showed significant improvements in all measured outcomes compared to the 1 mg dose. The 10 mg dose had a smaller, yet noticeable effect on these measures. The trial, however, had limitations, including the absence of an active comparator and the potential for functional unblinding among participants who received the low dose of psilocybin. Overall, the study demonstrated that both the 25 mg and 10 mg doses of psilocybin could positively impact patient-reported outcomes related to depression severity, anxiety, affect, and functioning in individuals with TRD.
Haikazian et al. (2023) "Psilocybin-assisted therapy for depression: A systematic review and meta-analysis"	This review aimed to assess the effect of psilocybin on depressive symptoms in patients with life-threatening illnesses or major depressive disorder. The systematic review process involved searching for randomized clinical trials and open-label trials that evaluated depression symptoms following psilocybin therapy. The primary outcome of interest was the standardized mean difference (SMD) in depression severity, calculated by the change in depression ratings from baseline to the primary endpoint in the psilocybin arm versus the control arm. The literature search identified 1734 studies, out of which 13 studies (n = 686) were included in qualitative and/or quantitative analyses. Main Findings: The meta-analysis, which included 9 studies with a pooled sample size of 596 participants, found a large effect size in favor of psilocybin (SMD = -0.78; $p<0.001$). The risk ratios for response and remission were also large and significant in favor of psilocybin. Additionally, a review of open-label trials indicated robust decreases in depressive symptoms following psilocybin administration. These results provide preliminary evidence supporting the antidepressant efficacy of psilocybin-assisted psychotherapy. However, the review highlights the need for further studies to evaluate the safety

	and efficacy of psilocybin and to optimize treatment protocols.
Van der Meer et al. (2023) "Therapeutic effect of psilocybin in addiction: A systematic review"	This systematic review, following PRISMA guidelines, examined the efficacy of psilocybin in patients with substance use disorders (SUDs), analyzing clinical trials from various databases without date restrictions. The review included four studies, focusing on both alcohol and tobacco use disorders. Main Findings: The review found beneficial effects of psilocybin-assisted therapy in all four clinical trials (involving 151 patients), with significant reductions in heavy drinking days and high rates of smoking abstinence. However, the evidence base is limited to one randomized controlled trial (RCT) and three small clinical trials, indicating a need for larger, more comprehensive RCTs to validate these findings.
Slowshower et al. (2023) "Psilocybin-assisted therapy for major depressive disorder: An exploratory placebo-controlled, fixed-order trial"	This exploratory study utilized a placebo-controlled, within-subject, fixed-order design to assess the efficacy of psilocybin-assisted therapy in individuals with moderate to severe major depressive disorder. Nineteen participants first received a placebo, followed by psilocybin (0.3 mg/kg) four weeks later, with 15 completing both phases. The study incorporated enhanced blinding procedures and dosing sessions were part of a manualized course of psychotherapy. Measures of depression, anxiety, and quality of life were evaluated over a 16-week period. Main Findings: The study found significant improvements in depression and anxiety following both placebo and psilocybin administration, with no significant difference in the degree of change between the two conditions. Notably, effect sizes for antidepressant outcomes were larger after psilocybin than after placebo. High rates of response (66.7%) and remission (46.7%) were observed following psilocybin administration. The antidepressant effects of psilocybin persisted for about two months, with continued improvements in mood-related quality of life. Interestingly, the strength of mystical-type experiences during psilocybin dosing did not correlate with the antidepressant effects. The study underscores the complex dynamics of expectancy, therapy effects, and drug/placebo effects in psychedelic-assisted psychotherapy, suggesting the need for further research in this area with a focus on mitigating and measuring expectancy effects and exploring various dosing and psychotherapy approaches.

Ross et al. (2016) "Rapid and sustained symptom reduction following psilocybin treatment for anxiety and depression in patients with life-threatening cancer: a randomized controlled trial"	This study was a double-blind, placebo-controlled, crossover trial involving 29 patients with cancer-related anxiety and depression. Participants were randomly assigned to receive a single dose of psilocybin (0.3 mg/kg) or niacin, both accompanied by psychotherapy. The primary focus was on assessing anxiety and depression outcomes prior to the crossover at 7 weeks. Main Findings: Before the crossover, psilocybin led to immediate, significant, and lasting improvements in anxiety and depression. It also reduced cancer-related demoralization and hopelessness, enhanced spiritual wellbeing, and increased quality of life. At the 6.5-month follow-up, psilocybin maintained its anxiolytic and antidepressant effects, with 60-80% of participants showing clinically significant reductions in symptoms. Additionally, there were enduring benefits in existential distress and quality of life, improved attitudes towards death, and the psilocybin-induced mystical experience was found to mediate the therapeutic effect on anxiety and depression. These results indicate that in conjunction with psychotherapy, a single moderate dose of psilocybin can produce rapid, robust, and sustained relief from cancer-related psychological distress.
Perez et al. (2023) "Psilocybin-assisted therapy for depression: A systematic review and dose-response meta-analysis of human studies"	This systematic review and dose-response meta-analysis aimed to identify the optimal dosage of psilocybin for reducing depression scores. The study followed a predefined protocol and searched multiple electronic databases up to February 2023 for double-blind randomized placebo-controlled fixed-dose trials (RCTs) evaluating psilocybin use in adult patients with primary or secondary depression. The meta-analysis employed a one-stage dose-response model with restricted cubic splines and assessed risk of bias using Cochrane criteria. The analysis included seven studies with a total of 489 participants, focusing on both primary (four studies, N = 366) and secondary depression (three studies, N = 123). Main Findings: The study identified the 95% effective doses per day (ED95) as 8.92 mg/70 kg for secondary depression, 24.68 mg/70 kg for primary depression, and 36.08 mg/70 kg for both subgroups. Significant dose-response associations were observed for all curves, with each plateauing at different levels, except for a bell-shaped curve in secondary depression. The analysis also found dose-response associations for various side effects, including physical discomfort, blood pressure increase, nausea/vomiting,

	headache/migraine, and risk of prolonged psychosis. The findings indicate specific ED95 values for different populations, with higher values for treatment-resistant depression, primary depression, and secondary depression. The results highlight the need for further RCTs in each population to determine optimal dosages that maximize efficacy while minimizing side effects.
Skosnik et al. (2023) "Sub-acute effects of psilocybin on EEG correlates of neural plasticity in major depression: Relationship to symptoms"	This double-blind, placebo-controlled, within-subject study aimed to explore the effects of psilocybin on neuroplasticity and depression in individuals with major depressive disorder (MDD). A total of 19 participants with MDD received a placebo followed by psilocybin (0.3 mg/kg) in a fixed sequence, with a 4-week interval between treatments. The study assessed electroencephalographic (EEG) indices of neuroplasticity (tetanus-induced long-term potentiation) through auditory evoked theta (4-8 Hz) power and measured depression symptoms using the GRID Hamilton Rating Scale for Depression-17 (GRID-HAM-D-17) at several time-points after both placebo and psilocybin administration (24 hours and 2 weeks post-session). Main Findings: The study found that EEG theta power doubled in amplitude two weeks after a single dose of psilocybin, but not after placebo administration. Additionally, improvements in depression symptoms observed two weeks after psilocybin were correlated with increases in theta power. These results suggest that increased theta power may represent an EEG biomarker of the sustained effects of psilocybin, potentially indicating long-term alterations in neuroplasticity. The findings support the hypothesis that psilocybin, and possibly other psychedelics, can produce enduring changes in brain function related to neuroplasticity and antidepressant effects.
Simonsson et al. (2023) "Assessing the risk of symptom worsening in psilocybin-assisted therapy for depression: A systematic review and individual participant data meta-analysis"	This meta-analysis utilized individual participant data from three psilocybin trials for depression, encompassing a total of 102 participants. These trials involved two doses of psilocybin and aimed to assess the risk of symptom worsening in comparison with other treatments. The study compared outcomes across psilocybin, escitalopram (a common antidepressant), and waitlist conditions to evaluate the relative risks. Main Findings: The analysis found that clinically significant symptom worsening occurred in approximately 10% of participants in both the psilocybin and escitalopram conditions. In

	contrast, a majority (63.6%) of participants in the waitlist condition experienced symptom worsening. In comparisons using data from the trials with control arms, the psilocybin arm demonstrated a lower likelihood of symptom worsening compared to the waitlist condition, but no significant difference in the likelihood of worsening compared to the escitalopram condition. However, the study noted the limitation of a relatively small sample size, suggesting the need for larger studies to further investigate these findings.
Lee et al. (2023) "Psilocybin's Potential Mechanisms in the Treatment of Depression: A Systematic Review"	This systematic review analyzed existing evidence to understand the mechanism by which psilocybin exerts its antidepressant effects. Databases including Ovid MEDLINE, EMBASE, psychINFO, and Web of Science were searched in September 2021 for both human and animal studies. The search utilized a combination of MeSH Terms and free-text keywords, focusing exclusively on depression, excluding other mood disorders or psychiatric diagnoses. The review followed the PRISMA framework for screening, and two researchers independently screened the articles, with a third resolving conflicts. Out of 2,193 identified papers, 49 were selected for full-text review, and 14 were included in the qualitative synthesis. Main Findings: The review found diverse evidence supporting various mechanisms for psilocybin's antidepressant action. Six articles indicated changes in serotonin or glutamate receptor activity, and three papers observed an increase in synaptogenesis. Thirteen studies focused on non-receptor or pathway-specific brain activity, with five identifying changes in functional connectivity or neurotransmission, primarily in the hippocampus or prefrontal cortex. There's evidence suggesting psilocybin alters cerebral blood flow to the amygdala and prefrontal cortex. However, the data on changes in functional connectivity and specific receptor activity are limited. The varying findings across studies imply that psilocybin's mechanism of action may involve multiple pathways. This lack of consensus highlights the need for further research to elucidate psilocybin's mechanism as an antidepressant.
Kaminski & Reinert (2023) "The Tolerability and Safety of Psilocybin in Psychiatric and Substance-Dependence Conditions: A Systematic Review"	This systematic review aimed to assess the tolerability and safety of psilocybin in psychiatric and substance-dependence conditions. A comprehensive literature search was conducted using Embase, PubMed, Cochrane Central, and Web of Science through September 2023. The search criteria included terms related to psilocybin, mental diseases, substance dependence, and disease therapy. The

	review included studies reporting acute effects and safety data following psilocybin use in clinical trials involving adult patients with psychiatric or substance-dependence conditions. After applying inclusion and exclusion criteria, 16 studies were included in the review. Main Findings: The review found that the most common treatment-emergent adverse effects of psilocybin were transient nausea and headache. Transient anxiety was also frequently reported, with three participants requiring benzodiazepines for refractory anxiety during psilocybin sessions. Psilocybin led to modest increases in blood pressure and heart rate, with one instance where an antihypertensive was administered for sustained hypertension. Importantly, no cases of psilocybin-induced psychosis or Hallucinogen Persisting Perception Disorder were reported. These findings indicate that psilocybin is generally well-tolerated and safe for use in psychiatric and substance-dependence conditions, showing promise as a potential alternative treatment for patients resistant to standard therapies. The review suggests that psilocybin's acute and long-term safety profile may support its use in these clinical contexts.
IsHak et al. (2023) “The Impact of Psilocybin on Patients Experiencing Psychiatric Symptoms: A Systematic Review of Randomized Clinical Trials”	This systematic review, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, evaluated the impact of psilocybin on psychiatric symptoms, particularly focusing on health-related quality of life (HRQoL) and safety. The review searched the PubMed database for studies published from January 2011 to December 2021. Two authors independently analyzed the studies and agreed on five randomized controlled trials (RCTs) that met the selection criteria. The Cochrane risk of bias tool was used to assess study bias. Main Findings: The five RCTs included in the review investigated the effects of psilocybin on psychiatric symptoms. Four of the studies administered 1 to 2 doses of psilocybin, ranging from 14mg/70kg to 30mg/70kg, while one study administered a fixed dose of 25mg to all participants. The administration of psilocybin resulted in a significant and sustained reduction in symptoms of anxiety and depression. Additionally, there was an enhanced sense of wellbeing, life satisfaction, and positive mood noted immediately after psilocybin administration and persisting for up to six months post-treatment. All studies incorporated some form of psychotherapy and reported no serious adverse effects. The findings suggest the efficacy of psilocybin in treating

	anxiety and depression symptoms and improving HRQoL, with no serious side effects noted. However, further research is needed to better understand treatment response predictors, patient screening requirements, effectiveness in broader clinical populations, and guidelines for psilocybin-assisted psychotherapy.
Hodge et al. (2023) "The Use of Psilocybin in the Treatment of Psychiatric Disorders with Attention to Relative Safety Profile: A Systematic Review"	This review explores the resurgence of interest in substances like LSD, MDMA, and specifically psilocybin for treating psychiatric disorders. A doctoral-level researcher conducted a systematic search on PubMed using specific Boolean operator terms. The search process involved filtering results by title and abstract, leading to the selection and detailed analysis of 76 articles. The focus was on understanding the background, clinical efficacy, and safety of psilocybin, a psychoactive compound derived from certain fungi species. Main Findings: The analysis revealed that oral psilocybin is clinically efficacious, showing statistically significant reductions in depression and anxiety symptoms over time compared to control in multiple clinical trials. Additionally, psilocybin has been effective in reducing cigarettes per day and drinks per day among patients with substance use disorders. Importantly, there have been no significant adverse clinical events reported from psilocybin use, nor any verifiable recorded deaths. However, the article emphasizes the need for larger studies to be conducted before psilocybin can be considered for approval for general population use.

"I first tried them recreationally, found they helped improve my life. Took them for a while to sort things out. Since I feel I'm in a good place mentally I take them recreationally again."

– Man, 40, British Columbia, TRIPS Participant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