

**CANADIAN PSYCHOLOGISTS' AND PSYCHOLOGY GRADUATE STUDENTS'
PERCEPTIONS OF PSYCHEDELIC THERAPY**

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Bachelor of Science, MacEwan University, 2019

A thesis submitted
in partial fulfillment of the requirements for the degree of

MASTER OF EDUCATION

in

COUNSELLING PSYCHOLOGY

Faculty of Education
University of Lethbridge
LETHBRIDGE, ALBERTA, CANADA

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Date of Defence: November 7, 2024

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DEDICATION

This thesis is dedicated to everyone who made it possible – survey participants, who took the time and courage to respond; my loved ones, who encouraged me to keep pushing and feigned interest in my statistical and psychedelic ramblings; my cohort peers, who provided much needed support, guidance, and laughter; and Dr. Luft, for her patient and lighthearted approach to supervision.

ABSTRACT

The field of psychedelics has seen a revival in recent years that has yielded preliminary evidence for their therapeutic benefits. As clinical trials of psychedelic therapy increase, it is essential to understand psychologists' perceptions of this treatment, as these are likely to influence the future implementation and accessibility of psychedelic therapy. The current study aimed to explore the perceptions and knowledge of psychedelic therapy among psychology graduate students and registered psychologists, and to assess how perceptions varied based on registration status, knowledge, and demographic factors. An online survey was employed to gather data on 137 participants' perceptions and knowledge of psychedelic therapy. Results revealed a general consensus on the therapeutic potential of psychedelics, with no significant differences between students and psychologists. Participants highlighted a notable lack of formal education on the subject, yet most expressed a desire for psychedelic therapy to be included in psychology training. The findings also revealed that higher levels of knowledge were associated with more favourable perceptions of psychedelic therapy. Personal experience with psychedelics was associated with both more favourable perceptions and higher levels of knowledge. Gender did not significantly impact perceptions or knowledge. These insights emphasize the need to address the shortage of trained providers and incorporate psychedelic therapy into psychology curricula so that that future psychologists are well-equipped with the necessary knowledge and skills to incorporate this emerging field into their practice. The current findings provide important insights into the current understanding and attitudes toward psychedelic therapy within the field of psychology, particularly in Canada.

ETHICS STATEMENT

Work described in this thesis received research ethics approval from the University of Alberta Research Ethics Board, Project name “Canadian Psychologists’ and Psychology Graduate Students’ Perceptions of Psychedelics and Psychedelic Therapy”, Study ID: Pro00130686, July 5th, 2023.

ACKNOWLEDGEMENTS

The support and encouragement I received throughout this journey was instrumental to its completion. Every display of support—big or small, in the form of distraction or encouragement—was noticed and immensely appreciated.

I thank my loved ones who helped keep me on track (either inadvertently, or for those who know me very well, intentionally) by doing something as simple as asking me how my thesis was going. To have people acknowledge and encourage this pursuit was an uplifting energy that empowered me to keep going. I thank my parents and siblings for all that they have done for me, for their unconditional love, and for being role models of resilience. I thank my partner, Sawyer, for enduring my SPSS rants, my thesis-induced hermit mode, and still finding ways to make me laugh through it all.

The thoughtful insights and constructive challenges provided by each of my committee members were crucial in shaping this research and enhancing its depth. I am grateful to Dr. James Sanders and Dr. Kevin St. Arnaud for sharing their expertise, which significantly strengthened the quality of my work. Dr. Peter Kellett, who graciously joined as a committee member at the last minute, along with my external examiner Dr. Kenneth Tupper, offered critical perspectives that pushed me to expand and deepen my analysis. I also thank Dr. Jeffrey MacCormack for his guidance in chairing my defence. Finally, to Dr. Toupey Luft, whose encouragement always seemed to come at exactly the right time—it was a pleasure to work with you, and I sincerely thank you for supporting every step of this endeavor.

TABLE OF CONTENTS

DEDICATION	iii
ABSTRACT.....	iv
ETHICS STATEMENT	v
ACKNOWLEDGEMENTS	vi
LIST OF TABLES	ix
CHAPTER 1: INTRODUCTION & RATIONALE FOR STUDY	10
INTRODUCTION.....	10
RATIONALE FOR STUDY	11
RESEARCH OBJECTIVES, QUESTIONS, AND HYPOTHESES	12
CHAPTER 2: LITERATURE REVIEW	15
OVERVIEW OF PSYCHEDELICS AND PSYCHEDELIC THERAPY	15
<i>History of Psychedelics</i>	16
<i>History of Psychedelics in Canada</i>	18
<i>Stigmatization and Criminalization of Ayahuasca and Other Psychedelics</i>	19
<i>Safety and Risks of Psychedelics</i>	21
PSYCHEDELIC RESEARCH FINDINGS	29
<i>MDMA and PTSD</i>	30
<i>Psilocybin</i>	31
<i>LSD-Assisted Psychotherapy</i>	34
<i>Summary of Research</i>	35
CONTEMPORARY CLINICAL USE OF PSYCHEDELICS.....	35
PSYCHEDELICS IN CANADA	37
PSYCHEDELIC CLINICS AND ORGANIZATIONS	38
RESEARCH ON PERCEPTIONS OF PSYCHEDELIC THERAPY	40
PROBLEM STATEMENT, RESEARCH OBJECTIVES, AND HYPOTHESES.....	47
CHAPTER 3: METHOD.....	52
RESEARCH DESIGN	52
PARTICIPANTS	52
INSTRUMENTS AND MATERIALS	53
PROCEDURES.....	55
METHODS OF ANALYSIS	57
<i>Descriptive Statistics</i>	58
<i>Inferential Statistics</i>	58
<i>Open-Ended Items</i>	59
CHAPTER 4: RESULTS.....	60
SAMPLE, DATA PREPARATION, AND NORMALITY	60

DEMOGRAPHICS	62
KNOWLEDGE	65
PERCEPTIONS	67
<i>Qualitative Findings</i>	67
<i>Quantitative Perception Findings</i>	76
DEMOGRAPHICS	77
<i>Gender and Perceptions</i>	78
<i>Gender and Knowledge</i>	78
<i>Previous Use and Perceptions</i>	78
<i>Previous Use and Knowledge</i>	80
CHAPTER 5: DISCUSSION.....	81
QUALITATIVE PERCEPTIONS	81
<i>Concerns</i>	81
<i>Learning Interests</i>	82
<i>Information Sources Used</i>	84
<i>Inclusion of Psychedelic Therapy in Education</i>	85
<i>Clinical Availability of PAP</i>	90
<i>General/Additional Considerations</i>	93
QUANTITATIVE FINDINGS	95
<i>Perceptions of Psychedelic Therapy</i>	95
<i>Knowledge of Psychedelic Therapy</i>	97
<i>Knowledge and Perceptions</i>	99
<i>Impact of Demographics on Perceptions and Knowledge</i>	100
IMPLICATIONS	105
LIMITATIONS	108
FUTURE RESEARCH	110
CONCLUSION.....	111
REFERENCES.....	115
APPENDIX A: LETTER TO GRADUATE PSYCHOLOGY DEPARTMENTS	134
APPENDIX B: BRIEF SUMMARY OF RESEARCH	136
APPENDIX C: SURVEY PREAMBLE, CONSENT, AND QUESTIONS.....	138
APPENDIX D: SURVEY	142
APPENDIX E: CONSENT FROM DR. ALAN K. DAVIS (DAVIS ET AL., 2021).....	150
APPENDIX F: CONSENT FROM DR. BRIAN BARNETT (BARNETT ET AL., 2021) ..	152

LIST OF TABLES

Table 1: Province and Gender	62
Table 2: Ethnicity, Religion, and Highest Education	63
Table 3: Registration Status and Years Registered	64
Table 4: Year Of Program	65
Table 5: Frequencies of Total Correct Responses to Knowledge Questions	66
Table 6: Mean Total Correct Knowledge Questions	66
Table 7: Perception Mean Values	77

CHAPTER 1: Introduction & Rationale for Study

Introduction

Psychedelics such as psilocybin (commonly known as “magic mushrooms”), 3,4-methylenedioxymethamphetamine (MDMA, also known as “molly” or ecstasy), lysergic acid diethylamide (LSD, commonly referred to as “acid”), dimethyltryptamine (DMT, the main psychoactive ingredient in ayahuasca), and ketamine are psychoactive drugs that produce changes in mood, thought, and perception (Studerus et al., 2011). Psychedelics are also commonly referred to as ‘hallucinogens’ within the literature. Psychedelic therapy (also commonly referred to as psychedelic-assisted psychotherapy, or PAP) refers to the clinical use of psychedelics in combination with psychotherapy to treat mental disorders. The combination of psychedelics with psychotherapy is a unique feature of PAP that is uncommon with other psychotropic drugs (Villiger, 2024).

Psychedelics have reemerged within the field of psychology, as evidenced by preliminary research demonstrating their safety and efficacy in treating mental health disorders, an increasing number of clinical trials involving psychedelics, and the shifting legal state of psychedelic substances. Psychedelics are gaining legal availability by regulatory bodies, as exemplified by Health Canada’s Special Access Program (SAP) which allows health care professionals to request access to restricted drugs, such as psychedelics (Government of Canada, 2023).

Psychedelics have the potential to offer an alternative avenue for healing and growth, especially for those who have not been well served by current treatment options. For example, approximately 30% of individuals with major depressive disorder (MDD) are treatment resistant to current antidepressant treatment and medication options (Hashimoto,

2019). Esketamine, a psychoactive drug made from a compound found in ketamine, has shown to be an effective treatment for treatment-resistant MDD and has been approved for use in Canada (Johnson & Johnson, 2020). Other psychedelics, including MDMA, LSD, and psilocybin are available through legal exemptions for compassionate use in Canada, the United States (U.S.), Switzerland, and Ireland (Barnett et al., 2021). When compared to psychotherapy with an inactive placebo, MDMA-assisted psychotherapy has been shown to produce clinically and statically significant improvements in post-traumatic stress disorder (PTSD) symptoms that are immediate and sustained (Mithoefer et al., 2011). A follow-up study by Mithoefer et al. (2013), conducted nearly 3 ½ years later revealed that these improvements were sustained over time for up to 89% of the participants. LSD-assisted psychotherapy has been shown to improve illness- related anxiety, and 12-month follow-ups indicated that these improvements were sustained (Gasser et al., 2015). Psilocybin is one of the most researched psychedelics and has shown efficacy in treating health- and cancer-related depression and anxiety (Gasser et al., 2014; Ross et al., 2016), treatment-resistant depression (Carhart-Harris et al., 2018), and substance use (Romeo et al., 2021). Psilocybin-assisted therapy has been recognized by the U.S. Food and Drug Administration (FDA) as a breakthrough therapy for treatment-resistant depression (Saplakoglu, 2019) and was legalized for clinical use in 2020 in the state of Oregon. The advancement of psychedelics within literature, clinical trials, and policies indicates a growing openness regarding psychedelics within the field of psychology.

Rationale for Study

Stigma surrounding psychedelics is prevalent and is likely due to the “war on drugs”, misinformed public perceptions, and perpetuation of myths (Davis et al., 2021). This stigma

has the potential to interfere with psychologists' acceptance and use of psychedelic therapy, which may become a viable and legal treatment option following more positive outcomes from clinical

trials. It is thus important to assess opinions regarding this field as multiple authors have identified the preliminarily promising research results of the safety and efficacy of psychedelic therapy (e.g., Gasser et al., 2015; Mithoefer et al., 2011; Romeo et al., 2021; Ross et al., 2016), which points to the potential for more psychedelics to become legal medical treatment options in Canada, similar to the approval of esketamine.

Future implementation of psychedelic therapy may be greatly affected by healthcare professionals' perceptions. This has the potential to impact accessibility of psychedelic therapy as it emerges as a potential treatment option for clients with mental disorders such as MDD, cancer-related anxiety and depression, PTSD, and substance use. Further, healthcare workers, especially psychologists, will be involved in translating research findings into clinical applications (Reynolds et al., 2021). Research is needed on psychologists' perceptions of psychedelic therapy, especially in Canada. Assessing perceptions among psychology graduate students is also prudent due to the fact that they are essential for the future of psychology and they represent the opinions of future psychologists within the profession. Further, their opinions may differ from those already practicing psychology due to differences in age, generation, and consumption of media and literature. Thus, this study aimed to add to the limited literature on the perceptions of psychedelics in Canada to help elucidate potential pathways and barriers for acceptance and use of psychedelic therapy by those positioned to administer this therapy.

Research Objectives, Questions, and Hypotheses

The current study had four research objectives: 1) to elucidate *perceptions* of the safety, risks, and therapeutic potential of psychedelic therapy, as well as *knowledge* of it, 2) to assess for associations between perceptions and knowledge, 3) to assess for differences in both perception and knowledge between psychologists and students, and 4) to assess whether demographic variables (including previous use of psychedelics) impacted knowledge or perceptions. There were four primary research questions:

- 1) What are psychologists' and students' perceptions of the safety, risks, and therapeutic potential of psychedelic therapy, and do the two groups differ significantly?
- 2) What level of knowledge do students and psychologists have regarding psychedelic therapy, and do they differ significantly?
- 3) Is level of knowledge of psychedelics associated with perceptions of it?
- 4) Are demographic variables associated with perceptions or knowledge?

To assess these research objectives and questions, a survey was administered to Canadian psychologists and graduate students in psychology programs. The survey assessed demographics, knowledge of psychedelics and recent psychedelic therapy research, and perceptions of the safety, risks, and therapeutic potential of psychedelic therapy using Likert-scale and short-answer responses. Although some studies have explored mental health professionals' perceptions of psychedelic therapy in other countries such as the United States (e.g., Barnett et al., 2018; Davis et al., 2021) and New Zealand (Reynolds et al., 2021), it is important to look at these perceptions within Canada as results may not necessarily be generalizable between countries. As regulations around psychedelic use continue to shift in Canada, this research is timely and important in order to better understand mental health

professional's perceptions on the barriers and opportunities surrounding psychedelic therapy, which can help inform training, education, and policy. Psychologists are central to the clinical process that underscores psychedelic therapy, and their perceptions may influence the future of education and treatment (Davis et al., 2021).

CHAPTER 2: Literature Review

Overview of Psychedelics and Psychedelic Therapy

Classic psychedelics such as psilocybin, LSD, and DMT primarily act on serotonin receptors in the brain (Psiuk et al., 2021). Psychedelics produce changes in thoughts, moods, and perceptions, and psychedelic experiences are often described as mystical and highly meaningful (Griffiths et al., 2006). Psychedelics often produce intense emotional responses, enhanced ability for introspection, and activation of vivid memory recall with strong emotional undertones (Studerus et al., 2011). Serotonergic psychedelics are not drugs of dependence and are relatively safe physiologically, especially when administered in controlled conditions, with proper screening and monitoring processes, and careful debriefing in the days and weeks following drug administration (Johnson et al., 2008). Central to the experience induced by classic psychedelics is a distortion to one's sense of self, which is referred to as ego-death or ego-dissolution (Nour et al., 2016). Each psychedelic has its own unique symptom and mechanism profile. For example, the mechanisms of psilocybin therapy are thought to include increased self-awareness, psychological flexibility, and deeply meaningful or "mystical" experiences (Griffiths et al., 2006). Regarding LSD, Gasser et al. (2014) stated that it intensifies feelings and "produces vivid psychosensory changes, including increased sensory perception, illusionary changes of perceived objects, synesthesia, and enhanced mental imagery" (p. 1). DMT distorts auditory and time perception, amplifies emotional states, and induces peak experiences (Nour et al., 2016).

Psychedelic therapy refers to the clinical use of psychedelics in conjunction with psychotherapy to treat mental disorders (Davis et al., 2021). Although the protocol of psychedelic therapy may vary between specific psychedelics used and treatment

administrators, the current approach to psychedelic assisted psychotherapy typically involves "two 1–2 hour preparatory therapy sessions, two or three 6–8 hour drug therapy sessions co- led by two therapists, and two or more 1–2 hour integration sessions for incorporating newly gained insights into daily life" (Barnett et al., 2021, p. 2). Whilst psychedelic therapy may require more time and resources upfront, the relatively low number of treatment sessions required for enduring results may serve as a cheaper treatment option in the long run for clients, while also preventing long- term costs for healthcare systems (dos Santos et al., 2021). This is especially true for clients with treatment-resistant mental illnesses, as this may be a key subset of clients likely to benefit from a novel treatment option (Bright & Williams, 2018).

History of Psychedelics

This section outlines the history surrounding psychedelics and their use in Western societies. The history and use of psychedelics predates this in nondominant cultures and will be discussed in a later section.

The term 'psychedelic' was first coined by Humphrey Osmond in 1956 through his correspondence with Aldous Huxley (Carhart-Harris & Goodwin, 2017). The term 'magic mushrooms' (which refers to what we now know as psilocybin) was coined by LIFE magazine in 1957. Albert Hofmann was the first to discover that psilocybin was the psychoactive component of 'magic mushrooms' in 1958.

Hofmann discovered the psychoactive effects of LSD back in 1943 (Carhart-Harris & Goodwin, 2017). LSD was a cultural zeitgeist that sparked a psychedelic movement in both research and clinical settings in the field of psychology and psychiatry in the 1950s (Carhart-Harris & Goodwin, 2017). For the next 15 years, tens of thousands of patients received

psychedelic assisted psychotherapy. Medical psychedelic use and research on psychedelics were subsequently prohibited in the mid-1960s, but their use did not stop there. As counterculture movements began embracing consciousness-altering drugs, psychedelics continued to have a societal impact.

Timothy Leary and Richard Alpert were professors in the department of psychology at Harvard in the 1950s and 60s (Harvard University, n.d.). Leary and Alpert were leading figures in psychedelic drugs and counterculture and started the Harvard Psilocybin Project, in which they would administer psilocybin and LSD to volunteer subjects (i.e., graduate students at Harvard) and record their experiences. These studies raised concerns among faculty members and administrators at Harvard due to the lack of rigor in methodology, including instances in which Leary and Alpert would also be under the influence of psilocybin while conducting studies. Leary and Alpert did not control conditions or utilize random selection of participants, and began administering psychedelics to undergraduate students, which Harvard frowned upon. Further, Alpert and Leary were reported to have been actively promoting recreational use of psychedelics. In 1963, Leary and Alpert were dismissed from Harvard for administering psychedelics to an undergraduate student off-campus. The unorthodox research methods used by researchers such as Alpert and Leary in the mid-1900s were unsophisticated and lacked rigor and ethical considerations by today's standards, and many of the clinical claims are regarded as tentative or are disregarded altogether (Walsh & Grob, 2006).

Just as psychedelics were beginning to make an impact in clinical and research settings, they became associated with cultural rebellion and counterculture (Studerus et al., 2011). Consequently, psychedelics were depicted as dangerous drugs of abuse by

governments and policy makers. As LSD was available only for experimental use, an illegal market arose for the drug, which caused more safety concerns. Most countries in the 1970s scheduled psychedelics (such as psilocybin and LSD) in the most restrictive category, thus halting most research and funding in this area. Psychedelics and psychedelic research were both prohibited in the U.S. in 1966. Finally, in 1970, U.S. President Richard Nixon signed the Controlled Substances Act that declared LSD and psilocybin as Schedule 1 drugs in the U.S. as part of his infamous ‘War on Drugs’ (Hall, 2022). The War on Drugs became an international movement, which Canada also took part in.

History of Psychedelics in Canada

Osmond was a Canadian-based psychiatrist who made many contributions in the 1950s and 1960s towards shifting attitudes and policies regarding mental health treatments in Saskatchewan, Canada (Dyck & Farrell, 2018). During this time, Saskatchewan had North America’s first socialist government, which was strongly implicated in the emerging ideologies and reformist agenda that came with psychedelics and psychedelic therapy. Saskatchewan began attracting researchers who were interested in developing new definitions and treatments for mental illness, both through correspondence and direct visitation of like-minded researchers in the province. Saskatchewan’s socialist government sustained these efforts by helping to secure research funds.

Through their research, Osmond and his colleague, Abram Hoffer (1967), found that there was a biochemical basis to schizophrenia. This newfound knowledge intersected with Osmond’s interest in LSD research due to the belief that LSD could provide insight into the experiences felt by people who struggled with schizophrenia and therefore generate empathy for caregivers treating schizophrenic or psychotic patients (Dyck & Farrell, 2018).

“The War on Drugs” posed psychedelic research and researchers as illegitimate and dangerous, and many countries around the world began implementing restrictions on psychedelic drugs. The 1971 United Nations (UN) *Convention on Psychotropic Substances* (United Nations, n.d.) designated psychedelics as harmful substances with no medical use and obliged signatory countries to prohibit their access and use (Smith, 2020). In Canada, LSD and DMT were both prohibited in 1968, with psilocybin following suit in 1974 (Green Economy Law Professional Corporation, n.d.).

Stigmatization and Criminalization of Ayahuasca and Other Psychedelics

The criminalization of ayahuasca is deeply intertwined with the stigmatization of psychedelics, fueled by cultural biases and regulations that prioritize Western norms.

Ayahuasca is a tea containing DMT, which is classified by Health Canada as a Schedule I drug with a high potential for abuse and no accepted medical use. This classification disregards ayahuasca’s long history of ritualistic and therapeutic use by Indigenous peoples for healing and spirituality, framing it as a substance of abuse rather than a sacred medicine (Labate & Cavnar, 2011).

The stigmatization of ayahuasca intensified during the mid-20th century, when psychedelics became associated with countercultural movements (Studerus et al., 2011). Psychedelics’ association with anti-establishment ideologies led to moral panic, which was followed by governments adopting punitive drug laws to suppress their use (Tupper, 2008). Ayahuasca, though not widely used recreationally, was included in these regulations and subsequently scheduled, despite its relative physiological and psychological safety and lack of evidence for potential for abuse. In fact, some have suggested that ceremonial ayahuasca may be a promising avenue as an adjunct to treatment of substance use issues (Talin & Sanabria,

2017).

Nutt et al. (2013) argue that the decision to schedule psychedelics may have been rooted in political reasons rather than medical ones, as there was a lack of understanding of the toxicology and pharmacology of psychedelics when this decision was made. Once a drug gets scheduled it is often perceived as a significant danger to humans, and there is no agreed policy for moving drugs out of Schedule I status (Nutt et al., 2013). The challenges involved in researching scheduled drugs creates a significant barrier in scientists' ability to challenge these perceptions (or misperceptions).

The framing of ayahuasca and other psychedelics as illicit substances of abuse rather than potential medicines or tools (Tupper, 2008) for healing, growth, and spirituality, discredits alternative healing practices that stray from Western knowledge systems and delays scientific research and innovation (Nutt et al., 2013). Moreover, Western narratives tend to present psychedelics as new discoveries, which further ignores centuries of Indigenous expertise in their use for spiritual and therapeutic purposes (Fotiou, 2019). This discredits alternative healing practices that stray from Western knowledge systems. Fotiou (2019) argues that there is a need for a decolonized paradigm shift in which Indigenous traditions and ways of knowing are honoured, while also allowing scientific inquiry to further advance our knowledge of psychedelics.

The next sections will briefly describe the safety and risks associated with psychedelics, as well as guidelines for safe administration. Risks of psychedelics may be mitigated with proper set and setting, which includes careful screening of participants and appropriate support from the psychotherapy team (Johnson et al., 2008; Rosenbaum et al., 2019). These are key considerations for clinical use and research on psychedelics, and many

studies (e.g., Griffiths et al., 2016) utilize these guidelines as there is an ethical duty to take all precautions possible to minimize risks and maximize benefits.

Safety and Risks of Psychedelics

Physiological Toxicity. Classic psychedelics, including psilocybin, LSD, DMT, and mescaline, have not been shown to have long-term neurotoxic effects (Johnson et al., 2008). Physiological symptoms from psychedelics may include “dizziness, weakness, tremors, nausea, drowsiness, paraesthesia, blurred vision, dilated pupils and increased tendon reflexes,” as well as increased heart rate and blood pressure (Johnson et al., 2008, p. 606). These physiological effects vary and tend to be minor, even at moderate doses. Despite media campaigns in the 1960s that claimed LSD and other psychedelics were associated with chromosomal damage, follow up investigations revealed that psychedelics are not at significant risk for causing chromosomal damage, nor mutagenic or teratogenic effects (e.g., Long, 1972, as cited in Johnson et al., 2008).

Although not typically included within the concept of classic psychedelics, MDMA is a psychedelic that induces experiences characterized by euphoria, decreased feelings of fear, and increased introspection, emotional arousal, sociability, interpersonal trust, and compassion (Brewerton et al., 2021; Mithoefer et al., 2011). MDMA has been shown to have neurotoxic effects at high doses (Johnson et al., 2008). Nonetheless, MDMA has been judged to be safe for low-dose administration within the context of therapeutic and research studies.

In contrast to classic serotonergic psychedelics and MDMA, ketamine is a dissociative anesthetic that acts on the glutamatergic system, but it is still considered a psychedelic (De Gregorio et al., 2021; Vollenweider & Kometer, 2010). Ketamine has been shown to be a safe and effective treatment for major depressive disorder (MDD; Barbosa et

al., 2021) and esketamine has been approved as a legal treatment for treatment resistant MDD (Johnson & Johnson, 2020). Single infusions of ketamine have been demonstrated to have a rapid onset of therapeutic relief of depression with week-plus-long results (De Gregorio et al., 2021). However, long-term use of ketamine has been associated with bladder and neurologic toxicity and thus there remain cautions with long-term use (De Gregorio et al., 2021).

Adverse Reactions to Psychedelic Drugs. The primary safety concerns for classic psychedelics are mostly acute and psychological rather than physiological in nature, as these serotonergic psychedelics possess relatively low physiological toxicity (Johnson et al., 2008). The acute adverse psychological reaction most likely associated with psychedelics, commonly known as a ‘bad trip’, is characterized by symptoms of anxiety, fear, and paranoia. These symptoms can present as “sensory (e.g., frightening illusions), somatic (e.g., disturbing hyperawareness of physiological processes), personal psychological (e.g., troubling thoughts or feelings concerning one’s life) and metaphysical (e.g., troubling thoughts or feelings about ultimate evil forces)” (Johnson et al., 2008, p. 607). Emotions can be intensified while under the influence of psychedelics, so it is imperative that subjects are prepared and in an appropriate setting to limit the chance of escalated or dangerous behaviour. Intensified feelings of fear, for example, may lead to erratic or aggressive behaviours. Although very rare, there have been reported cases of unprepared individuals in uncontrolled settings taking their lives by jumping from buildings (Reitman & Vasilakis, 2004; Reynolds & Jindrich, 1985). Despite the rarity of instances such as these, it’s important to take all necessary precautions to avoid them.

Psychedelics also come with the risk of prolonged psychosis, lasting days or even

months following administration of the drug (Johnson et al., 2008). This is most likely in individuals with premorbid mental disorders, and it's difficult to ascertain whether psychosis would have never occurred in the absence of psychedelic use, or whether psychedelics incite a psychosis that would have inevitably occurred (Johnson et al., 2008). Cases of psychosis are exceedingly rare in participants who are properly screened and prepared. One study reported a rate of 0.8 per 1000 for psychosis in 1200 participants who received either LSD or mescaline (Cohen, 1960). It should be noted that this single case of psychosis was a subject who had an identical twin who had schizophrenia, and thus would meet the exclusion criteria for most modern studies. Similar to the acute adverse psychological reactions described above, the rarity of instances of psychosis still poses a risk and there is an ethical duty to take all precautions possible to minimize this risk.

Hallucinogen persisting perception disorder (HPPD) is a rare and poorly understood disorder listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) which refers to a recurrence of perceptual effects that firstly develop during intoxication from psychedelics (Martinotti et al., 2018). HPPD is used interchangeably in the literature with 'flashback.' The most common symptoms experienced are visual disturbances. Although the incidence of HPPD is unknown, within the relatively few cases reported it's apparent that it is more prevalent in individuals with a history of psychological disorders or substance use issues (Johnson et al., 2008). Further, the incidence of HPPD is much lower in controlled therapeutic or research contexts in which individuals are adequately prepared than in the context of illicit recreational use.

Dependence and Abuse. Serotonergic psychedelics do not produce dependence and are relatively safe physiologically, especially when administered in controlled conditions,

with proper screening and monitoring processes, and careful debriefing in the days and weeks following drug administration (Johnson et al., 2008). It should be noted, however, that ketamine has a greater potential for abuse than classic psychedelics (Reardon, 2019). Thus, what follows describes classic psychedelics.

The findings from Studerus et al.'s (2011) meta-analysis of eight double-blind placebo- controlled experimental studies on psilocybin indicated that 1-4 doses of psilocybin within experimental settings did not increase the risk for subsequent abuse of psilocybin or other illicit drugs, which is indicative of very low drug abuse potential with psilocybin. This is in line with the view that psychedelics are not considered drugs of addiction due to their lack of physical withdrawal symptoms and the lack of subsequent drug-seeking behaviour (O'Brian, 2005). Although psilocybin has the second (to cannabis) highest lifetime prevalence rate of all illicit drugs, the frequency of use is very low, indicating that use of psilocybin and other psychedelics tends to be occasional (Studerus et al., 2011). Psychedelics may be less appealing to recreational drug users due to the fact that they don't produce the attractive symptoms of euphoria and escape. Although psilocybin experiences are often highly meaningful and mystical, they are sometimes characterized by frightening and unpleasant symptoms as well, especially the common subacute symptom of fatigue. Further, most participants in Studerus et al.'s (2011) study reduced or discontinued their frequency of psychedelic drug use, often due to loss of interest or reported concerns regarding illegality.

Classic psychedelics do not produce drug seeking behaviours and are not considered drugs of abuse (Johnson et al., 2008). There are no associated withdrawal syndromes with psychedelics (O'Brien, 2006, as cited in Johnson et al., 2008). Thus, there is minimal risk for physical or psychological dependence for participants or clients who receive psychedelic

drugs. In fact, psychedelics have shown efficacy in clinical trials in the treatment of substance use disorders (e.g., Krebs & Johansen, 2021).

Set and Setting: Guidelines for Safety. While most psychedelics are not considered drugs of dependence and relatively safe physiologically, there may still be psychological risks that need to be safeguarded against (Johnson et al., 2008). As with any drug in human research, procedures and guidelines need to be in place to maximize safety and address risks. This is especially relevant for psychedelics, as human research with them was halted for nearly three decades due to the unsafe and uncontrolled use of psychedelics in the 1960s (Griffiths et al., 2016).

Johnson et al. (2008) describe guidelines for set (i.e., psychological state of participants) and setting (i.e., environment) that reassure safety of the administration of high doses of psychedelics, which they classify as ≥ 25 mg psilocybin or 200 μ g LSD, for example. The authors note that these guidelines may also be used for lower doses, although the associated risks of potential adverse effects are related to dose. Although these guidelines are intended specifically for psilocybin, LSD, DMT, peyote, and other synthetic compounds, the authors note that some aspects of these guidelines may cautiously be applied to other psychedelics as well.

Contemporary research has sought to clarify procedures that deliver safe and consistent set and settings for clients, creating guidelines that emerged from research settings and extend to clinical settings (Hartogsohn, 2017; Phelps, 2017). The guidelines set forth by Johnson et al. (2008) are helpful to inform use of psychedelic therapy within research settings, which has implications for clinical use outside of research. Carefully creating environments that demonstrate safe and effective use of psychedelic therapy within research

can inform what climates we should seek to create within clinical settings to help ensure that favourable outcomes may also be found within use outside of research contexts (Hartogson, 2022; Kopra et al., 2023). Contemporary use of psychedelic therapy often follows guidelines that are similar to the ones described below. Thus, these guidelines are relevant for both research and clinical settings and may even be used by those who seek to self-treat various mental health concerns with psychedelics (Kopra et al., 2023). What follows are general highlights from Johnson et al.'s (2008) guidelines that provide more insight as to the procedures of psychedelic therapy and research, and how set and setting may be used to encourage safety of administration.

Screening and Preparation of Participants. Johnson et al. (2008) recommend that selection of participants be based on the methodology and the research objectives being addressed. Further, the authors outline that safety-related selection criteria must be established. This includes participants with good overall health, which may be assessed by medical history, physical examinations, electrocardiogram (ECG), and blood and urine tests. Exclusion criteria may include pregnancy, hypertension, certain medications that may interfere with psychedelics (such as serotonin reuptake inhibitors, since most psychedelics act on serotonin receptors). Psychiatric screening should be done to exclude individuals with current or history of meeting DSM criteria for schizophrenia, other psychotic disorders, or bipolar I or II disorder. Individuals with first- or second-degree relatives with these disorders are also recommended to be excluded. Other psychiatric disorders may be considered for exclusion, depending upon the nature of the study or treatment.

Johnson et al. (2008) recommend that participants should be well prepared for the use of psychedelic treatment. This includes reviewing consent forms and being informed of the

range of potential experiences and symptoms they may encounter, time course of the drug, information about the toxicity profile, and potential adverse reactions. ‘Monitor’ refers to staff members that are present during sessions, but the literature is unclear on the qualifications of monitors that are used in clinical settings. Within many recent psychedelic clinical trials, two or more monitors have typically been present (e.g., Carhart-Harris et al., 2021; Davis et al., 2021; Griffiths et al., 2016; Mithoefer et al., 2011), which aligns with Johnson et al.’s (2008) recommendation for two or more monitors. Johnson et al. (2008) further suggest that rapport and trust must be built between the participant and monitors, and preparatory meetings should be held in the room in which the participant will be administered the psychedelic to familiarize them with the environment. During preparatory meetings, monitors should review the personal history, feelings, and values of the participant to help establish a therapeutic relationship. Further, personal material may come up when the participant is under the influence. Prior knowledge of personal material may aid the monitor in providing interpersonal support should the participant need it. The study logistics should be thoroughly explained during preparatory meetings so that the participant knows what to expect and how to prepare, as well as guidance for how to handle difficult psychedelic experiences should they arise.

Study Personnel. Monitors should be knowledgeable about the medical and physical markers of potential adverse reactions, have significant interpersonal and empathy skills, and have experience with meditation or breathing exercises to support client’s in facilitating empathy for themselves when experiencing altered states of consciousness (Johnson et al., 2008). At John Hopkins, lead monitors are either clinical psychologists or clinical social workers. Johnson et al. (2008) recommend at least two monitors during psychedelic

administration to ensure participants are not left alone in case one monitor needs to briefly leave the room. Although treating participants and clients with respect is an ethical imperative for all human research and clinical settings, this even more important during psychedelic research and therapy due to the powerful influence of set and setting on the effects of psychedelics. Positive rapport should be established and maintained between participants and all staff members before, during, and after drug administration.

Physical Environment. Environments that are aesthetically pleasing may decrease the risk of acute psychological distress (Johnson et al., 2008). For example, overly clinical settings with white walls and staff in white lab coats may increase anxiety. To ensure physical safety while bearing in mind possible perceptual changes and disorientation, the environment shouldn't have potentially dangerous objects, such as furniture with sharp corners.

Management of Administration Sessions. A physician should be available during sessions in case medical complications arise (Johnson et al., 2008). This is standard with research involving psychoactive drugs. Medication for hypertension should be available. Monitors should keep careful watch of participants and be vigilant for signs of psychological distress. Further, monitors should be attentive to the possibility of participants under the influence attempting to leave the study site, as this may increase risks of harm. Staff should discuss strategies for handling unexpected situations, such as a fire alarm going off in the middle of a session. In the case a participant becomes anxious, monitors should provide interpersonal support and reassurance. Following the resolution of the effects of the psychedelic, participants should have someone (e.g., a friend, family member) to stay with them overnight for additional monitoring.

Post-session Procedures. One or two post-session meetings should take place following the drug administration session. Monitors should provide an opportunity for participants to talk through thoughts and feelings while ensuring psychological stability. Sessions that follow drug administration may be used to help integrate newly gained perspectives and knowledge into day- to-day living to create enduring results (Bathje et al., 2022).

Taken together, the guidelines for set and setting described above may and often are also be applied in clinical settings to help ensure safety and efficacy when using PAP outside of research settings (Phelps, 2017). The following section briefly outlines psychedelic research findings.

Psychedelic Research Findings

The decades-long dormant state of human psychedelic research is unique within the history of clinical pharmacology (Johnson et al., 2008). Research on psychedelics has resurged in the past decade or so, possibly due to reduced stigma, greater knowledge of favourable controlled environments (e.g., Johnson et al., 2008), and privately funded research organizations (Barnett et al., 2018). Within the U.S. and Canada, examples of psychedelic research organizations include the Multidisciplinary Association of Psychedelic Studies (MAPS), MAPS Canada, The Johns Hopkins Center for Psychedelic and Consciousness Research, Bloom, and Field Trip Health.

Recent clinical trials have used rigorous research methods, including the use of standardized measures of depression and anxiety, as well as randomized clinical trial study designs, which are the gold standard for clinical research (Rosenbaum et al., 2019). The methodologic rigor of recent clinical trials, coupled with the guidelines for set and setting that

increase safety and minimize risks (Johnson et al., 2008), may point to psychedelic research overcoming stigma and gaining ethical approval (Rosenbaum et al., 2019). What follows are brief descriptions of recent psychedelic clinical trials that have used rigorous research methods.

MDMA and PTSD

The first U.S. Food and Drug Administration (FDA) approved study of MDMA was published in 2011 (Mithoefer et al., 2011). This was the first study with MDMA on humans in over 20 years. Mithoefer et al. (2011) randomly assigned 20 patients with chronic PTSD who were nonresponsive to both psychotherapy and psychopharmacology to one of two conditions: psychotherapy with MDMA (MDMA-assisted psychotherapy) or psychotherapy with an inactive placebo. Both conditions underwent preparatory psychotherapy and non-drug follow up psychotherapy following both MDMA/placebo administrations. In the MDMA-assisted psychotherapy group, significant decreases were seen in the primary outcome variable of PTSD, measured by the Clinician-Administered PTSD Scale (CAPS) at all timepoints of assessment after baseline. The CAPS is a widely used assessment tool for PTSD symptoms and has excellent reliability and validity (Weathers et al., 2001). No serious drug-related adverse events were reported. Results suggested that MDMA-assisted psychotherapy was effective for treating PTSD with minimal risks for harm when abiding by rigorous methods (e.g., close monitoring and follow-up, careful screening, etc.). It is important to note the limitations of this study, such as small sample size and the need for replication of these findings, especially since the group that received MDMA also received psychotherapy, so it is difficult to discern how much MDMA accounted for effects. Mithoefer et al. (2013) followed up this study in 2013 and found that despite no further MDMA administration, participants experienced enduring improvement in their PTSD

symptoms.

Psilocybin

One of the most researched psychedelics is psilocybin. Psilocybin has shown efficacy in treating mental disorders such as cancer-related depression and anxiety (Ross et al., 2016), treatment-resistant depression (Carhart-Harris et al., 2018), and substance use (Romeo et al., 2021). Studerus et al. (2011) analyzed raw data from eight double-blind placebo-controlled experimental studies between 1999 and 2008 to assess acute, short- and long-term subjective effects of psilocybin on 110 human subjects. The participants had received between 1-4 doses of psilocybin. The acute physiological effects experienced included an altered state of consciousness, with the most prominent features being alterations in visual perceptions, positive and negative changes in self-awareness, and loosening of ego boundaries. Positive changes in self-awareness included pleasant depersonalization and derealization experiences, similar to mystical experiences. Negative changes in self-awareness often included disturbances in somatesthesia (i.e., awareness of one's body) and cognitive functions, such as concentration, memory, and mood. Nearly all participants recognized hallucinations as unreal, thus hallucinations may more accurately be described as non-psychotic hallucinations. Auditory alterations were minimal and often limited to intensification of music and sounds. Alterations of consciousness were characterized as states of dreaminess and increased contemplation rather than sedation. Further, altered states of consciousness revealed high between-subject and moderate inter-study variability, which could be indicative of the role of pharmacological and non-pharmacological variables, such as blood levels of the psychoactive drug and personality structure respectively, in the prediction of psilocybin effects aside from drug dose alone. Nearly one fifth of participants had deeply

mystical and transcendental experiences. About 7% of participants in the highest dose conditions had symptoms suggestive of an acute psychotic reaction. However, these adverse events were acute and readily managed through interpersonal support, and psychopharmacological intervention was not necessary. With respect to short-term side effects, the most common conditions experienced were headaches, tiredness, and exhaustion. No serious complications were reported. This suggests that psilocybin is typically well tolerated, and participants can expect to restore normal functioning within 24 hours after psilocybin administration.

Long-term follow up revealed that the majority of participants rated their experiences as positively impressive 8-16 months following the final session (Studerus et al., 2011). Participants considered “enriching” to be the most applicable adjective out of six items, with 60% and 90% of participants rating their experience as very enriching and moderately enriching, respectively. One of the most commonly reported positive changes was aesthetic experiencing, such as an enhanced appreciation for art and music. Other reported positive changes included attitudes to altered states of consciousness and relationship with the environment/nature. Taken together, these results demonstrated the acute and long-term safety and tolerability of psilocybin. The largest concerns noted were acute adverse reactions and short-term emotional instability, which occurred in a small proportion of participants (5-7% and 1%, respectively).

Cancer patients present unique medical and psychological needs as they often develop chronic and clinically significant psychological distress. Approximately 40% of cancer patients meet the DSM-5 criteria for a mood disorder (Mitchell et al., 2011). Depression and anxiety in cancer patients is associated with several negative outcomes: prolonged

hospitalization, decreased treatment adherence, decreased quality of life, and increased suicidality (Griffiths et al., 2016). Current treatment options, including antidepressants and benzodiazepines, have shown limited and conflicting treatment efficacy. Indeed, benzodiazepines are generally recommended only for short-term use due to the side effects and withdrawal symptoms. Psychological treatment approaches have shown small to medium effects as treatment for cancer-related distress. Thus, cancer patients and those with other life-threatening illnesses (e.g., chronic motor illness, autoimmune disease) present significant existential care needs that are often unmet, which underscores a need for more treatment options (Andersen et al., 2021; Mayer et al., 2021).

Griffiths et al. (2016) utilized a randomized, double-blind, cross-over trial design to assess psilocybin's efficacy as treatment for cancer-related depression and anxiety. Psilocybin was administered to participants with cancer and cancer-related depression and/or anxiety over two randomly assigned sessions: a low, placebo-like dose (1 or 3 mg/70 kg) vs. a high dose (22 or 30 mg/70 kg) of psilocybin. Two of the primary outcome measures were depression and anxiety. Secondary measures included quality of life, life meaning, death acceptance, and optimism. Griffiths et al. (2016) note that the study followed the guidelines for set and setting recommended by Johnson et al. (2008).

The two primary clinician-rated outcome measures indicated large effects from psilocybin that were sustained at 6 months (Griffiths et al., 2016). The overall clinician response for depression and anxiety at 6 months were 78% and 83%, respectively. The overall rate of symptom remission in depression and anxiety was 65% and 57%, respectively. The secondary measures of quality of life, life meaning, death acceptance, and optimism all increased, and these effects were sustained at 6 months. Over 80% of participants claimed

moderately to highly increased well-being or life satisfaction. Although a number of adverse events occurred during psilocybin administration sessions, none were reported as serious, and all were fully resolved by the end of the session. There were no cases of HPPD or prolonged psychosis.

Ross et al. (2016) sought to examine and further existing research on the use of psilocybin to mitigate the distress experienced by cancer patients by utilizing a double-blind, placebo-controlled crossover trial with 29 participants with a cancer diagnosis and cancer-related anxiety and depression. The results showed that psilocybin, in conjunction with psychotherapy, had significant, robust, rapid, and sustained clinical benefits in the reduction of cancer-associated depression and anxiety. No serious adverse events were reported, but some medical and psychiatric adverse events were noted as ‘transient’. A number of the secondary outcome variables, including cancer-related demoralization, hopelessness, spiritual wellbeing, life satisfaction, and quality of life, improved following a single dose of psilocybin. Affect and anxiety towards death did not improve, but attitudes and adaptations to death were found to have improved at the 6.5-month follow-up assessment.

LSD-Assisted Psychotherapy

Gasser et al. (2014; 2015) used a double-blind, active placebo-controlled, randomized trial to assess the safety and efficacy of LSD-assisted psychotherapy for 10 participants with anxiety associated with life-threatening illness (i.e., cancer and autoimmune, neurological, and rheumatological diseases). Anxiety measurements were taken at baseline, 1 week after experimental sessions, and at 2- and 12-month follow-ups. Results indicated that psychological improvement was achieved and maintained over a 12-month period following 3 months of LSD- assisted psychotherapy. The proposed psychological mechanisms of

change included enhanced accessibility of emotions, facilitation of emotional and intellectual insights, catharsis, and relief from traumatic memories. No serious adverse effects were reported, aside from some subjects experiencing temporary difficulty related to intensification of emotions and changes in self- control.

Summary of Research

The immediate, robust, and enduring results of recent preliminary studies (e.g., Griffiths et al., 2016; Ross et al., 2016, etc.) point to a promising potential new treatment option, especially for treatment-resistant depression, as well as cancer- and palliative-related depression and anxiety. These populations of individuals experience highly burdensome forms of suffering that pose an unmet need for additional effective treatment options (Rosenbaum et al., 2019). Results of these studies suggest a robust safety profile for psychedelics, similar to the findings of research on the safety and risk profiles of psychedelics (e.g., Johnson et al., 2008). Risks of psychedelics may be mitigated with proper set and setting, which includes careful screening of participants and appropriate support from the psychotherapy team (Johnson et al., 2008; Rosenbaum et al., 2019).

Contemporary Clinical Use of Psychedelics

The shown efficacy and subsequent approval of esketamine in Canada is a prime example of psychedelics entering the clinical realm as a breakthrough treatment for unmet medical needs. Other psychedelics, including MDMA, psilocybin, and LSD are available through legal exemptions for compassionate use in Canada, the United States (U.S.), Switzerland, and Ireland (Barnett et al., 2021). In 2023, Australia became the first country to allow psilocybin for treatment (Ducharme, 2023; Haridy, 2023).

Depressive disorders are a major public health concern. In Canada, the average

annual major depressive episode (MDE) prevalence was 5.4% among employed individuals and 11.7% among unemployed individuals (Dobson et al., 2020). The prevalence of MDEs has remained relatively stable between the early 2000s and 2016, while anxiety disorder prevalence has modestly increased. The finding that MDEs are more than twice as prevalent within unemployed individuals than those employed indicates there is an increasingly crucial need for efficacious treatment options for depressive disorders (Dobson et al., 2020).

The COVID-19 pandemic resulted in job losses, as well as new isolation and quarantine measures that disrupted people's routines and livelihoods, which the World Health Organization speculated would lead to an increase in loneliness, anxiety, depression, substance use, and suicidality (Kumar & Nayar, 2021). Indeed, a survey conducted by Statistics Canada (2021) showed that there was an increase in Canadians who screened positive for anxiety, depression, or PTSD from 21% in fall 2020 to 25% in fall 2021. Further, 94% of Canadians experiencing at least one of these disorders reported being negatively impacted by the pandemic. Common negative impacts included feelings of loneliness or isolation, physical health problems, and challenges within interpersonal relationships.

There is a relatively high prevalence (30%) of treatment resistance among those with MDD (Hashimoto, 2019). Currently available pharmacological treatment options for MDD have suboptimal remission rates and typically require at least 4-8 weeks for remission (Barbosa et al., 2021). The psychedelic esketamine has shown efficacy in treating treatment-resistant MDD and is an approved treatment option in Canada (Johnson & Johnson, 2020). Ketamine is made of a mixture of two chemical compounds, esketamine (S-ketamine) and R-ketamine. Side effects of ketamine may include blurred vision, altered hearing, dizziness, and illusions. Esketamine is twice as potent as R-ketamine and exhibits fewer negative side

effects. Lener et al. (2017) found that ketamine exhibited a 65-70% response rate (i.e., a reduction in depressive symptoms) in individuals with major depressive disorder and bipolar depression that occurred within 24 hours and lasted for up to one week following a single dose.

In Barbosa et al.'s (2021) study, patients with treatment-resistant depression underwent a 6-week treatment consisting of an esketamine injection each week. Approximately 79% of patients had lower depression scores 24 hours post-administration and lower Montgomery- Asberg Depression Rating Scale (MADRS) scores through the 3 subsequent weekly administrations and assessments. However, the authors note that approximately 21% of patients were 'nonrespondent' and had suboptimal improvements, with slight increases in MADRS scores. With these heterogenous results, the authors note that it's possible to reasonably predict despondency by evaluating symptom intensity after the first injection and anticipating their most likely symptom trajectory for the following weeks (Barbosa et al., 2021).

Psychedelics in Canada

Although psychedelics such as psilocybin, LSD, and MDMA are federally classified as controlled substances in Canada under the Controlled Drugs and Substances Act (Government of Canada, 2024), decriminalization and regulatory efforts have been seen across the provinces. Alberta was the first province in Canada to introduce regulations for the provision of psychedelic therapy in 2023 (Government of Alberta, 2022). These regulations outline administrative and service requirements, such as the need to appoint a psychiatrist as medical director and rules around monitoring and self-administration of the drug. In 2023, Vancouver, British Columbia decriminalized all drugs for personal use, including

psychedelics (Vancouver Coastal Health, n.d.). Similarly, the City of Toronto, Ontario submitted an application to the Minister of Health in 2022 to decriminalize personal possession of drugs including psychedelics, although this request was recently denied in 2024 (Freeman & Aguilar, 2024).

Psychedelic Clinics and Organizations

Psychedelic clinics and organizations dedicated to research and clinical use of psychedelics have been gaining popularity around the world. In Canada, the University of Calgary is creating the Parker Psychedelic Research Chair to conduct research on psychedelic therapy for mental health (Cumming School of Medicine Staff, n.d.). This Chair is being funded by alumnus Jim Parker, who claims to have read about the positive effects of psychedelics and witnessed their transformative power first-hand. Parker's niece, Courtney, was diagnosed with PTSD and was non-responsive to treatments. After receiving five rounds of ketamine-assisted therapy, Courtney had a breakthrough in her mental disorder and claims that ketamine therapy worked well for her. Parker also started a private medical clinic in Calgary called Bloom Psychedelic Therapy and Research Centre. Bloom provides ketamine and psilocybin therapy to individuals with treatment-resistant depression, PTSD, anxiety, and suicide ideation. These psychedelics are available through the Special Access Program and Section 56 exemptions currently available in Canada (Bloom Psychedelic Therapy and Research Centre, n.d.).

Another psychedelic clinic, Field Trip Health, administers ketamine-assisted therapy to treat depression, generalized anxiety, and trauma (Field Trip Health, n.d.). Field Trip Health has 10 locations spread across Canada and the U.S., and one location in Amsterdam. In Canada, Field Trip Health requires a medical referral form from a doctor or psychologist;

this is not a requirement within the U.S.

The Multidisciplinary Association for Psychedelic Studies (MAPS) Canada is a sister organization to MAPS in the U.S., which was founded in 1986 in response to the U.S. Drug Enforcement Agency's classification of MDMA as Schedule 1 substance (Multidisciplinary Association for Psychedelic Studies Canada, n.d.). MAPS Canada is dedicated to “advancing psychedelic medicine by supporting scientific, multidisciplinary research; advocating for drug policy reform; offering public education; and supporting equitable access to legal and regulated psychedelic medicine in Canada” (Multidisciplinary Association for Psychedelic Studies Canada, n.d.). Essentially, MAPS Canada is a leading source for information, resources, and advocacy for psychedelic therapy, research, and public policy. MAPS sponsored the first study of LSD therapy in humans in over 40 years, which was published in 2014 (Gasser et al., 2014). As described earlier, this study investigated the safety and effectiveness of LSD-assisted therapy for anxiety associated with life-threatening diseases. Results showed that LSD significantly reduced anxious symptoms. These results were stable over 12 months and no adverse events or ‘flashbacks’ were reported.

Altogether, there is already clinical use of psychedelics around the world, and this will likely increase over time as more research emerges and leniency is granted. Further, many individuals are also using psychedelics outside of clinical settings. In January of 2022, Lake and Lucas (2023) surveyed 2045 psychedelic drug users in Canada and found that the most commonly cited motivations for personal use of psychedelics included fun, self-exploration, general mental well-being, and personal growth. Of these participants, 82% reported lifetime intense positive experiences and 52% reported lifetime intense challenging experiences. Of those 52% who noted challenging experiences, 56% further reported that

“some good” came from the experience after some time. Some individuals have sought out psychedelics as a means to attempt to self-treat mental health issues due to their dissatisfaction with treatment as usual, which may include psychotherapy and/or prescribed medications such as antidepressants or anxiolytics (Lea et al., 2020). Studies have found that some individuals also use psychedelics for personal psychotherapy (Kopra et al, 2023), as a means to self-treat ADHD (Lea et al., 2020; Nayak et al., 2023), and for substance (i.e., alcohol and other drug) use cessation or reduction (Lea et al., 2020).

Due to the rise of both clinical and non-clinical use of psychedelics, it is imperative that psychologists’ perceptions and knowledge of psychedelics is studied in the literature. This is further supported by the Global Drug Survey (GDS) (2021), which found in 2020 that out of approximately 110,000 participants worldwide who responded to the survey, approximately 6% reported underground self-treatment using psychedelics such as LSD, psilocybin, and MDMA (University of Queensland, 2021). Out of respondents who used psychedelics under supervision, 12.2% reported having used a therapist or counsellor as a facilitator in the past year. The numbers of use of clinical psychologists and psychiatrists for the same were 9.9% and 5.9%, respectively. It should be noted that the GDS (2021) data are from a nonprobability sample and may not be representative of the wider population. However, there remains an increasing need for mental health professionals to have some knowledge on psychedelics in order to best support client safety and provide accurate information or referrals as needed for clients who choose to use psychedelics.

Research on Perceptions of Psychedelic Therapy

Psychedelics are surrounded by stigma, misinformed public perceptions, perpetuation of myths, and negative connotations often relating back to the unethical research trials and

uncontrolled use in the 1950s and 60s (Davis et al., 2021). These negative biases have the potential to interfere with healthcare professionals' acceptance and use of psychedelic therapy as it becomes a viable and legal treatment option. It is important to assess service-level perceptions of treatment options, as these influence the implementation of those therapies (Stern et al., 1999; Stirman et al., 2013). It follows that psychologists' perceptions of psychedelic therapy are particularly critical for future adoption and implementation of psychedelic therapy. Thus, as the promising preliminary results of psychedelic therapy point to the potential for more psychedelics to become legal medical treatment options in Canada, more research is needed on perceptions. By understanding the attitudes and beliefs of mental health professionals towards this emerging field, we (as clinicians and researchers) can identify potential barriers and opportunities for the integration of psychedelic therapy into clinical practice, and help guide future research efforts (Wells et al., 2024).

Barnett et al. (2018) surveyed 324 psychiatrists (trainees and attendings) in the U.S. regarding their attitudes towards classic hallucinogens such as LSD, psilocybin, mescaline, and DMT. Findings revealed that respondents perceived hallucinogens as potentially hazardous and appropriately illegal for recreational use. A large majority of respondents conveyed optimism regarding the potential clinical use of psychedelics as psychiatric treatment. Barnett et al. (2018) found that men and trainee participants reported less concern about risks and more optimism about therapeutic potential with respect to psychedelics than women and attending participants. Further, younger participants expressed more optimism than older participants. The authors noted that these differences in optimism among trainees and younger psychiatrists may be due to greater exposure to recent publications with promising findings and less awareness of more negative reports from the past. Barnett et al.

(2018) suggest that future studies further examine the indicated gender difference in attitudes, which the present proposed study intended to examine.

Barnett et al. (2021) followed up their study from 2018 by surveying 106 psychiatrists at two professional psychiatry conferences in the U.S. Results indicated that the majority of participants believed that psychedelics show treatment promise and there was strong support for federal funding for psychedelic research. This follow-up study also assessed general knowledge of psychedelics, concerns regarding psychedelic therapy, and desires for psychedelic-related educational topics. Respondent's knowledge pertaining to the prevalence of HPPD was substantially limited and highly overestimated above the 0.05% prevalence rate (Shalit et al., 2019). Favourable views towards psychedelic therapy were associated with greater knowledge of psychedelics and less reported concern regarding the addictive potential of psychedelics (Barnett et al., 2021). The most commonly reported concerns included the lack of trained providers for psychedelic therapy, the logistics of the delivery of psychedelic therapy, and the administration of psychedelics for patients with contraindications. There was also limited knowledge regarding where psychedelic therapy currently stands with respect to phases of clinical trials. The authors noted that this was surprising, especially considering the fact that MDMA-assisted therapy could receive regulatory approval as early as 2023. The most commonly reported educational topics that respondents were interested in included the potential benefits of psychedelic therapy, how to conduct psychedelic therapy, and the side effects of psychedelics. Support for the legalization of non-medical psychedelic use was associated with younger age and support for the legalization of medicinal psychedelic use. No associations were found between support for medical legalization and age or gender. Interestingly, this follow up to the study conducted by Barnett et al. in 2018 did not reveal the

same association between more favourable views of psychedelic therapy and younger age and men. Barnett et al. (2021) noted that this could be indicative of a closing of previously noted age and gender gaps.

Another study conducted by Davis et al. (2021) assessed attitudes about psychedelic therapy among 366 psychologists in the U.S. This study used a cross-sectional quasi-experimental online survey wherein participants were randomized to one of two conditions in which they were presented with vignettes and corresponding questions. Group one was presented with a vignette that depicted a client with MDD who reported a powerful and transformative experience with psilocybin, a vignette describing a client with MDD who reported reading about a meditation retreat and desire to incorporate this in therapy, and questions about medication assisted treatment for individuals diagnosed with an opioid use disorder. Group two was presented with a vignette describing a client who reported having a particularly moving spiritual/religious experience that they deemed transformative and therapeutic, a vignette depicting a client with MDD who reported reading about the therapeutic benefits of psilocybin and desire to incorporate this in therapy, and questions about psychedelic therapy for individuals diagnosed with a substance use disorder, depression, anxiety, or PTSD. A modified version of the Treatment Acceptability Rating Form-Revised (TARF-R) (Reimers et al., 1991) was used to measure acceptability of psychedelic- or medication-assisted therapies. Ten questions were asked regarding the safety and therapeutic potential of psychedelics. Seven questions from Barnett et al.'s (2018) survey were used to assess general attitudes towards psychedelics. Finally, seven questions were used to assess characteristics relating to perceptions and experience with psychedelics.

A large majority of participants in both groups were in support of further research on

psychedelic therapy (Davis et al., 2021). Participants in group two (i.e., the group presented with the vignette with a client expressing interest in trying psilocybin-assisted therapy) were twice as likely as group one to indicate that they would warn potential clients about the risks associated with psilocybin than they would with the risks of a meditation retreat. This is likely reflective of the stigma and perpetuation of myths associated with psychedelics. The authors note that evidence suggests that the prevalence of long-term psychiatric adverse events that occur during meditation are roughly the same as those that occur during naturalistic use of psychedelics, which is approximately 8-11% (Carhart-Harris & Goodwin, 2017). Further, this rate is similar to that reported for psychotherapy in general (Crawford et al., 2016). Thus, there seem to be inaccurate notions surrounding the safety of psychedelic therapy that are affecting attitudes towards this treatment option. Davis et al. (2021) note that there has been a cultural momentum that has led many individuals to pursue psychedelics outside of clinical or medical settings, suggesting that clinicians who do not intend to administer psychedelic interventions in the future could still benefit from increased knowledge about the complex effects of psychedelics.

Mayer et al. (2021) conducted five semi-structured interviews with interdisciplinary healthcare providers (two physicians, one nurse, one chaplain, and one pharmacist) from a hospital-based palliative care team through the University of Virginia. Interviews looked at their experiences supporting palliative patients with existential distress and assessed attitudes towards psilocybin therapy. The results revealed main categories which included beliefs that there are multiple (cultural, institutional, relational, and individual) barriers to addressing existential distress, suffering was regarded as an intrinsically subjective phenomenon, and there was uncertainty about the benefits and risks of psilocybin therapy. More specifically,

perceptions of psychedelics varied with respect to familiarity, attitudes, and openness of psilocybin. Two healthcare providers expressed concerns regarding the accessibility and cost of psychedelics. Three of the healthcare providers were unfamiliar with psilocybin therapy for existential distress, indicating a knowledge gap regarding this potential treatment option among healthcare providers. Mayer et al. (2021) note that these results emphasize the importance of including the effects of psychedelics within healthcare education, especially as the use of psychedelics becomes more mainstream.

In New Zealand, Reynolds et al. (2021) interviewed 12 healthcare professionals who provide treatment or support to cancer patients about the use of psychedelic-assisted therapy in cancer patients. Participants were presented with a brief description of two recent studies (both of which were previously described earlier in this paper: Griffiths et al., 2016; Ross et al., 2016) which found clinically significant improvement in cancer-related anxiety and depression and an improvement in overall quality of life. These professionals were then encouraged to discuss their first impressions, concerns, and perceptions of the benefits of PAP. Participants expressed intrigue and openness to the idea of using psychedelic-assisted therapy (Reynolds et al., 2021). Openness appeared to be impacted by a lack of efficacy within currently available treatment options and a desire to help alleviate the suffering of cancer patients. Participants expressed a responsibility for beneficence and nonmaleficence; in other words, a desire to help alleviate suffering while also expressing concerns regarding risks.

Hearn et al., (2022) surveyed participants who self-identified as counsellors or counsellors in training (masters and doctoral students) in the U.S. to assess perceptions of psychedelic therapy. This study was adapted from Barnett et al.'s (2018) study to survey

counsellors (rather than psychiatrists) and was extended by inquiring about previous psychedelic use and the role of personal psychedelic experience (Hearn et al., 2022). Results indicated that similarly to psychiatrists in the U.S., counsellors' opinions regarding the harmfulness of psychedelics varied. On average, most participants agreed that psychedelics show promise in psychiatric treatment and that future research is deserved. Results also revealed that positive attitudes towards psychedelics and PAT were associated with respondents who identified as men, younger age, having fewer years in the profession, and previous psychedelic use. Students were more also likely to express positive attitudes.

In a systematic review, Wells et al. (2024) reviewed data from 29 studies between 2012- 2022 on health professional, patient, and public perceptions of PAP. The authors found knowledge of PAP was low among all three groups, mixed to positive belief in the therapeutic potential of psychedelics, strong endorsement for further research within majority of findings, and an association between more favourable views and participants who were: men, younger, knowledgeable of psychedelics, and/or had previous personal use of psychedelics.

To the researcher's knowledge, no studies assessing perceptions of psychedelic therapy have been completed in Canada, and most studies of this nature have been conducted in the U.S. As results cannot necessarily be generalized between countries, and since each country determines which substances are controlled, it is imperative to assess perceptions within Canada as well. Further, no studies to the researcher's knowledge have assessed perceptions of psychology graduate students, which are a key demographic to assess as they are essential for the future of psychology. There is a study that appears to be currently underway in eastern Canada through the Toronto Metropolitan University that seeks to assess

attitudes held by Canadian mental healthcare providers and students training to become registered in this field regarding PAP and the use of psychedelics more generally (Toronto Metropolitan University, n.d.). The current proposed study extends this line of research by also assessing knowledge of psychedelics and psychedelic research, and whether this impacts perceptions of both established psychologists and student trainees.

Problem Statement, Research Objectives, and Hypotheses

The perceptions held by psychologists regarding therapies have implications for future adoption and implementation (Stirman et al., 2013), and they may also play a role in client education, referrals, and future research objectives and conduct (Wells et al., 2024).

Psychologists' attitudes towards psychedelics and psychedelic therapy in Canada have seldomly been addressed in the literature. Perceptions regarding this field are important to assess as promising preliminary research results point to the potential for more psychedelics to become legal medical treatment options in Canada.

The current study had four research objectives: 1) to elucidate perceptions of the safety, risks, and therapeutic potential of psychedelic therapy, as well as knowledge of it, 2) to assess for associations between perceptions and knowledge, 3) to assess for differences in both perception and knowledge between psychologists and students, and 4) to assess whether demographic variables (including previous use of psychedelics) were associated with knowledge or perceptions. There were four primary research questions:

1) What are psychologists' and students' perceptions of the safety, risks, and therapeutic potential of psychedelic therapy, and do the two groups differ significantly?

2) What level of knowledge do students and psychologists have regarding psychedelic therapy, and do they differ significantly?

3) Is level of knowledge of psychedelics associated with perceptions of it?

4) Are demographic variables associated with perceptions or knowledge?

In relation to the research questions, the researcher proposed five hypotheses: 1) students will hold more favourable perceptions towards psychedelics than psychologists, 2) more favourable perceptions will be associated with younger age, 3) men will have more favourable perceptions than women, 4) greater knowledge of psychedelics will be associated with more favourable perceptions, and 5) individuals who have used psychedelic drugs will endorse more favourable perceptions than respondents who have not used them.

To the researcher's knowledge, no studies to date have assessed for differences in opinions between registered psychologists and psychology graduate students. Thus, this new addition to the literature seeks to assess whether there are significant differences or similarities between these two groups with respect to perceptions of psychedelic therapy. The researcher chose to sample these two groups because as outlined earlier, psychologists are likely to be the health professionals administering adjunctive psychotherapy (psychotherapy that is combined with another treatment; Johnson et al., 2008). Certified treatment centers will likely rely upon psychologists to administer the psychotherapy component in order to maximize patient access and reduce administrative costs, compared to relying upon psychiatrists or physicians (Barnett et al., 2021). In line with this, Barnett et al. (2021) found that psychiatrists believed that non-physicians may play an important role in the delivery of psychedelic therapy due to potential barriers of patient access and administration costs. As such, psychedelic therapy may require psychologists to lead drug therapy sessions.

Psychology graduate students are the future generation of psychologists, so their perceptions of psychedelic therapy will likely also have implications for the accessibility and

use of this potential treatment option. Due to the extensive education and registration requirements to become a registered psychologist in Canada, including a graduate student sample allowed the researcher to obtain the perceptions of younger demographics (e.g., individuals in their early- to mid-20s). This younger age group would likely be missing from the data if the research chose to only sample registered psychologists. According to the Government of Canada (2021), the median age of psychologists in Canada in 2018 was 48 years. The average age of psychology graduate students was 29 years for 2021-2022 at the University of Ottawa (uOttawa, 2022), and the average age of graduate students at the University of Lethbridge in 2021 was 30 years (University of Lethbridge, n.d.). These statistics indicate there are notable age differences between psychology graduate students and psychologists. It is important to assess for perceptions and knowledge of psychedelic therapy among various age groups, especially considering previous findings that trainee psychiatrists and younger respondents tended to have less concern for risks and more optimism about the therapeutic potential of psychedelics than attending psychiatrists and older participants (Barnett et al., 2018).

Generational differences may be present and could be due to a new and growing openness towards psychedelics, with younger generations potentially having less knowledge of the criminalizing and stigmatizing history of psychedelics and a greater interest in consuming literature on psychedelics due to its growing popularity in the media, especially social media (Montgomery, 2014). Younger generations tend to be more active on social media, which could explain why they have more exposure to psychedelic media and research.

According to the Global Drug Survey (2021), over 70% of respondents who reported

using LSD or psilocybin identified as men (Winstock et al., 2021). This suggests that openness towards psychedelics may be associated with gender. It follows that those who have personally used psychedelics may have greater knowledge of them. These findings, along with findings from previous research indicating gender differences with respect to perceptions of psychedelics (e.g., Barnett et al., 2018; Hearn et al., 2022), provide merit for the current assessment of gender differences with respect to perception and knowledge.

Psychedelics have a long history of being highly stigmatized, and political interference has hindered research (Carhart-Harris & Godwin, 2017). However, a societal shift towards acceptance seems apparent as psychedelics reemerge on clinical and research fronts. This societal shift is further delineated by Barnett et al.'s (2018; 2021) findings that U.S. psychiatrist's perceptions of psychedelics seem to be becoming more favourable; for example, in 2018, 42.5% of respondents expressed that psychedelics show promise in treating psychiatric disorders, whereas this number increased to 80% in 2021. Perceptions may be affected by stigma, misconceptions, or lack of knowledge regarding psychedelics. Indeed, Barnett et al. (2021) found within their survey that knowledge pertaining to the prevalence of HPPD was substantially limited and highly overestimated above the 0.05% prevalence rate (Shalit et al., 2019). Further, favourable views towards psychedelic therapy were associated with greater knowledge of psychedelics. This begs the question as to whether increased academic exposure to psychedelics might lessen inaccurate beliefs regarding psychedelics, thereby increasing support for psychedelic therapy. Assessing perceptions of psychedelic therapy will shed light on potential accessibility barriers, as these factors affecting perceptions may interfere with the acceptance and use by psychologists of psychedelic therapy. Further, psychologists and other healthcare professionals will ultimately

be the ones translating research findings into clinical applications, so their perceptions are important to assess (Reynolds et al., 2021). The following section describes the methodology used to assess the perceptions of psychologists and graduate students regarding the safety and possible therapeutic potential of psychedelics.

CHAPTER 3: Method

Chapter 3 describes the methods and procedures of this study, including descriptions of the research design, participants, instruments, procedure, and data analysis.

Research Design

A cross-sectional online survey was used to assess demographic, knowledge, and opinion variables described in the Instruments and Materials section. The survey questions were mostly quantitative, with the exception of four open-ended questions. An online survey was chosen to increase access and convenience for respondents. Further, due to the current legal status and stigma associated with psychedelics, the use of an online survey allowed respondents to remain anonymous, which may have helped to increase respondent candor when disclosing perceptions regarding psychedelics.

Participants

The target population for this study was a minimum of 80 registered psychologists and students enrolled in a psychology graduate program in Canada (Cohen, 1992). Purposeful sampling was used to recruit psychology graduate students from the universities that offer graduate level psychology and counselling programs across Canada. These programs were found on the Canadian Counselling and Psychotherapy Association (CCPA) website (Canadian Counselling and Psychotherapy Association, n.d.) and through provincial psychological associations, such as the Psychologists' Association of Alberta (PAA). After gaining ethical approval, the researcher posted on social media websites such as Facebook, Twitter, and Reddit and specifically targeted pages and threads that were related to these the discipline of psychology, psychology research, psychology graduate programs, and psychedelic therapy. The researcher emailed Canadian graduate programs a letter (Appendix

A) which briefly described the study and asked for the survey to be disseminated to students in the program. The researcher also sent a separate document (Appendix B) that administrators could forward to students, which included a brief summary of the study and a link to the survey.

The researcher used purposeful sampling to recruit psychologists in Canada by submitting a recruitment request through the Canadian Psychological Association (CPA), wherein a project description was posted on the R2P2 member-only portal encouraging CPA members to consider participating in the study. Mental health organizations and clinics across Canada were contacted by email and provided with information about the survey and a link to the survey. Snowball sampling was also used for both groups, as recruited individuals were encouraged to share the survey with other psychologists and psychology graduate students.

Inclusion criteria required participants be at least 18 years of age, either a registered psychologist (including provisional status) or currently attending an applied graduate psychology program (clinical or counselling focus), residing in Canada, and able to speak, read, and write in English. This criteria was listed on the survey preamble/consent form (see Appendix C). Respondents that didn't meet these criteria were excluded from analyses.

Instruments and Materials

The current 41-item survey (Appendix D) was an adaptation and extension of Davis et al.'s (2021) and Barnett et al.'s (2021) surveys on psychologists' and psychiatrists' perceptions and knowledge of psychedelics. The researcher obtained written consent to use and modify the surveys as needed from both authors (Appendix E and Appendix F, respectively). The current survey assessed the demographic, psychedelic knowledge, opinion,

and acceptability variables described further below and in the Procedures section.

There were 10 demographic questions to assess age, province of residence, gender identity, ethnic identity, religious affiliation, current training level, registration to practice as a psychologist (and if applicable, years of practice), current university (or the option to select ‘not a student’ if not a student), and year of program (if applicable).

The researcher used the same opinion questions from Barnett et al.’s (2021) survey, as they were all pertinent to the research questions. Open-ended questions were added into the current survey to assess general thoughts about the clinical use of psychedelics, why participants do/do not believe psychedelics should be included in education programs, whether psychedelics should be available for clinical use and why, and any additional thoughts or concerns regarding psychedelic therapy participants wanted to share. Participants also had the option to enter short answer responses regarding concerns, information sources used, and learning interests. These additions to the opinion questions within the survey were intended to allow the researcher to obtain additional data that could reveal important themes regarding the perceptions of psychedelics that the close-ended questions may have overlooked.

The researcher also included Davis et al.’s (2021) modified version of the Acceptability of PAT based on the Treatment Acceptability Rating Form Revised (TARF-R), developed by Reimers et al. (1991). This addition to the survey further assessed opinions by asking, for example, subjective ratings of understanding of psychedelic therapy and the acceptability of and openness to psychedelic therapy. A modification was made to Davis et al.’s survey items to amend the Likert scale options to include strongly disagree, moderately disagree, neutral, moderately agree, and strongly agree. More specifically, the ‘agree’ and

‘disagree’ options were amended to ‘moderately agree’ and ‘moderately disagree,’ respectively. This was to ensure consistency with Likert scale options within the other opinion questions in the current survey.

The researcher chose to assess psychedelic knowledge due to the literature trend that higher levels of psychedelic knowledge were associated with more favourable views of psychedelic therapy as a potential treatment option (Barnett et al., 2021). The researcher modified Barnett et al.’s psychedelic knowledge survey items to make them more suitable for psychologists, as they were initially intended for psychiatrists and had a more medical focus. Questions that were heavily medical such as, “Ibogaine is associated with which potentially fatal side effect?” were removed. Questions pertaining to the phases of clinical trials in the U.S. were also removed and replaced with questions pertaining to clinical trials and legality of psychedelics within Canada. The remaining questions that the researcher kept from Barnett et al.’s survey were deemed appropriate for the population of interest, as they were less medically based and more geared towards general psychedelic knowledge. The researcher also consulted with the thesis committee regarding the relevancy of the questions chosen.

Lastly, the current survey included one question to assess previous personal use of psychedelics due to findings that previous use has been associated with more favourable perceptions (e.g., Hearn et al., 2022; Wells et al., 2024). This question was explicitly stated as an optional question, wherein participants could choose whether they respond. This was done to minimize participant discomfort with disclosing use of a controlled substance.

Procedures

The survey went live online on July 28, 2023 upon receiving ethics approval from the University of Lethbridge Human Participant Research Committee (via partnership with

University of Alberta's Arise system; ID: Pro00130686). The survey was available online through Qualtrics and took approximately 10-20 minutes to complete.

The demographic questions included multiple choice options for age, province of residence, gender identity, ethnic identity, religious affiliation, current training level, registration to practice as a psychologist (and if applicable, years of practice), current university (or the option to select 'not a student' if not a student), and year of program (if applicable). There was also a nonmandatory question on participant's use of psychedelic drugs was included (this question was presented as optional).

Knowledge questions were used to assess general knowledge of psychedelics and recent research in the field. There was one correct choice for each of the seven questions, and these questions were coded as 'correct' if the participant selected the correct answer, or 'incorrect' if they selected any of the other choices. The total number of correct responses given by each participant will be tallied.

Opinion questions assessed participant perceptions on the promise, risk, recreational use, concerns regarding psychedelic therapy and its legalization, associated learning interests, and knowledge sources used to inform oneself about psychedelic therapy. Respondents had five drop down Likert scale options to select from, yielding ordinal data. Additionally, four open-ended questions within the opinion questions section asked why/why not respondents believe psychedelics should be included in education programs, general thoughts about the clinical use of psychedelics, why/why not psychedelics should be available for clinical use, and any additional thoughts or concerns regarding psychedelic therapy they want to share.

Acceptability questions from Davis et al.'s (2021) modified version of the

Acceptability of PAT, which was based on the Treatment Acceptability Rating Form Revised (TARF-R) developed by Reimers et al. (1991), included five drop down Likert scale options to select from, yielding ordinal data.

The researcher combined the values of opinion questions from Barnett et al.'s (2021) study with the acceptability questions from Davis et al. (2021) to assess perceptions of psychedelic therapy generally. The questions included within the current perception variable were all assessing how participants rate aspects of psychedelics with respect to factors such as safety, risks, acceptability, and therapeutic potential of psychedelic therapy. Thus, these two sets of questions (i.e., 'opinion' and 'acceptability' questions) were combined into one 'perception' variable because the main objective of the current study was to elucidate perceptions of psychedelic therapy. These perceptions were assessed by measuring the degree of agreement with the perception survey items. For simplicity moving forward, the researcher will use the term 'perception' to refer to both opinion and acceptability questions together.

The option to select 'Other' was given for several of the questions to allow respondents to include additional narrative data. These responses, along with all other short answer responses, were assessed for basic categories and frequencies of the categories. There were also two attention check questions throughout the survey to ensure respondent engagement: one trap question and one attention filter question.

Methods of Analysis

The online survey was closed on December 2nd, 2023. Data were recorded and finalized on Qualtrics.xm and the data were exported into SPSS for analysis. All unnecessary data, such as IP address and location, were removed, and the remaining items were coded and labelled for ease of use. The survey data were analyzed for factors such as completion rates,

inclusion criteria, and initial/final consents being provided; participants that did not meet these criteria were removed. Summary descriptive statistics were calculated for each variable of interest, and perceptions were assessed for associations across knowledge and demographic variables, as well as between psychologists and psychology graduate students.

Descriptive Statistics

After the data were transported to SPSS, descriptive statistics were calculated to describe participant demographics, knowledge, and perceptions. Using inferential statistics to analyze demographic factors that were missing significant amounts of data (i.e., using methods to account for missing data, such as multiple imputation) was outside of the scope of the current study, so these factors were assessed using descriptive statistics rather than inferential. The demographic factors that had substantial response rates were analyzed using inferential statistics and are further described below. The Results section of this paper presents descriptive statistics in a series of tables. This method was used to describe the demographic factors associated with current participants.

Inferential Statistics

Variables that were assessed using inferential statistics included perceptions, knowledge, and the demographic factors of gender and previous use of psychedelics. Analyses were conducted to assess for associations, namely between perception, knowledge, gender, and previous use.

Pearson's correlation was used to assess degree of association between perceptions and knowledge. Independent samples t-test was used to compare mean perceptions and knowledge between the samples of psychologists and students. Item three from the opinion items and item five from the acceptability items were reverse scored (e.g., selecting 'strongly

agree' was coded as -2 rather than +2) due to the reverse/unfavourable nature of the wording relative to the other opinion questions (i.e., "I am concerned about the potential legalization of psychedelic compounds for medical use," and "I think it is very likely that there might be disadvantages of psychedelic-assisted therapy," respectively).

Open-Ended Items

Short-answer format questions, as well as questions that include the choice for respondents to select 'other' and write out a response, were exported to a Word document and closely examined to identify common topics and meanings so that they could be coded into main categories. This first step involved familiarization of responses to gain a thorough understanding of patterns that emerged. These patterns were consolidated into main categories. Next, the researcher ran through the data again to code and label responses according to the categories for each qualitative item. This involved highlighting written responses with colours that corresponded to the existing categories/labels identified for each item. Finally, the categories and responses were reviewed comprehensively to ensure they were accurate representations of the data. These were coded as categorical to assess the frequencies of categories for each item.

CHAPTER 4: Results

The aim of this study was to gather the perceptions of psychology graduate students and psychologists regarding psychedelic therapy, and to assess for differences between students and psychologists. Another objective was to assess whether certain factors such as demographics and knowledge of psychedelics would be associated with perceptions and/or knowledge of them. This chapter includes descriptive statistics of the sample, as well as the quantitative and qualitative findings of the online survey, to meet the aims as above. First outlined are demographics, then quantitative findings, followed by qualitative findings. Where relevant, frequencies and descriptive statistics are presented.

Sample, Data Preparation, and Normality

In order to shed light on the perceptions of psychedelic therapy, a survey was chosen as a practical means to gather the data (Jones et al., 2013). The current online survey was created to assess the perceptions of psychologists and psychology graduate students regarding psychedelic therapy, and to address the aforementioned research questions. After closing the survey on December 2nd, 2023, there were 300 responses. Out of those responses, 153 were excluded due to incomplete data (participants who responded to less than 80% of the items) or initial or final consents not being given. Responses that were missing 20% or more responses were removed in order to ensure that the analyzed data set was more complete and reliable; many participants who were missing this amount of data were missing responses seemingly due to attrition, which often resulted in a lack of final consent. Further, some responses within this group of lower completion rates were missing registration status, which was a critical factor for the current research objectives and questions. The minimal sample size of 80 previously mentioned in the Methods section was still met despite these exclusions.

Four responses were excluded because they were previews of the survey undertaken by the researcher and colleagues. Two participants were excluded because they indicated that they were a clinical counsellor and/or psychotherapist, thereby not meeting inclusion criteria of being a student or registered psychologist. One participant failed to provide short-answer responses or state their registration status, thereby making it unknown if they were a student or psychologist and therefore not possible to categorize their responses. Due to the ambiguity of registration status and limited engagement with the survey, they were removed from analyses. Three participants who failed attention checks were also removed from analyses. This left 137 eligible participants.

The collected survey data were analyzed to test the proposed hypotheses. Normality was assessed by visually inspecting histograms, Q-Q plots, and skewness and Kurtosis values. The data showed evidence of a normal distribution. Further, according to the central limit theorem, larger sample sizes ($n > 30$) tend towards a normal distribution (Field, 2017, p. 49).

Boxplots and Z-scores were used to assess for outliers within perception and knowledge variables, which involved calculating total correct knowledge responses. One outlier was revealed within the knowledge variable (Z-score less than -2.68; $Z = -3.42$) (Khan Academy, n.d.). Considering the context of this outlier (the only participant who got zero out of seven knowledge questions correct), the researcher chose to include this outlier in analyses to avoid introducing inadvertent bias, as this response was still deemed to be meaningful. Although unusual, getting zero knowledge questions correct is a natural possibility within the population sampled, especially considering extreme values are a normal part of distributions (Frost, 2021).

Demographics

Participants were asked to share their demographic information. The demographic results for age, province, and gender are presented in Table 1. The mean age was 33 overall (SD = 10.5), 31 for students (SD = 8.5), and 41 for psychologists (SD = 11.5).

Table 1

Province and Gender

	Frequency	Percent
Province		
Alberta	49	35.8
British Columbia	17	12.4
New Brunswick	6	4.4
Newfoundland and Labrador	2	1.5
Nova Scotia	1	0.7
Ontario	40	29.2
Quebec	11	8.0
Saskatchewan	8	5.8
Nunavut	1	0.7
Yukon	1	0.7
Other	1	0.7
Gender		
Man	19	13.9
Woman	111	81.0
Non-binary	4	2.9
Transgender	1	0.7
Prefer not to say	1	0.7
Missing	1	0.7

Participants were additionally asked to share their ethnicity, religion, and highest education (see Table 2). Because participants were able to ‘select all that apply’, and not all participants answered all of the demographic questions, ‘percent’ represents the percentage within the number of responses to that question, and ‘percent of all participants’ refers to the percentage of all participants (n = 137) in the study.

Table 2*Ethnicity, Religion, and Highest Education*

	Frequency	Percent	Percent of all participants
Ethnicity			
African	1	0.6	0.7
Asian	15	9.5	10.9
Black or African American	2	1.3	1.5
Caucasian or White	108	68.4	78.8
European	13	8.2	9.5
First Nations, Métis, or Inuit	7	4.4	5.1
Latinx or Hispanic	5	3.2	3.6
Middle Eastern	1	0.6	0.7
Prefer not to say	3	1.9	2.2
Other (Jewish, Indian Guyanese and Kenyan)	3	1.9	2.2
Religion			
Atheist	18	11.8	13.1
Agnostic	31	20.4	22.6
Christianity	16	10.5	11.7
Eastern	11	7.2	8.0
Islam	0	0.0	0.0
Indigenous Spirituality	2	1.3	1.5
Judaism	6	3.9	4.4
None	15	9.9	10.9
Spiritual/mixed	45	29.6	32.8
Prefer not to say	6	3.9	4.4
Other (Neo-Pagan, Roman Catholic)	2	1.3	1.5
Highest education			
Currently enrolled in a psychology graduate program	64		46.7
Master's degree	58		42.3
PsyD	3		2.2
PhD	10		7.3
Missing	2		1.5

Participants were also asked to share whether they are a registered psychologist and if they answered yes, they were additionally asked to share how many years they've been

registered. Due to the inclusion criteria of having to be either a psychology graduate student or a registered psychologist, participants who responded ‘yes’ to being registered were regarded as registered psychologists, and those who selected ‘no’ were regarded as students. Results of registration status and years registered are presented in Table 3. It should be noted that although 41 out of 137 participants who responded to the question asking about registration status (one response to this question was missing) indicated they were registered, only 38 participants shared how many years they have been registered (three missing responses).

Table 3
Registration Status and Years Registered

		Frequency	Percent
Registered			
	Yes	41	29.9
	No	96	70.1
Years Registered			
	>1	2	5.3
	1 - 3	10	26.3
	4 – 6	7	18.4
	7 – 9	3	7.9
	10 – 12	5	13.2
	13 -15	4	10.5
	16+	7	18.4
	Total	38	
	Missing	3	

Participants who identified as a current graduate student were asked to share what university they attend and what year of their program they are in. Results pertaining to year of program can be seen in Table 4. Results regarding university attended are not presented to protect participant anonymity.

Table 4*Year of Program*

		Frequency	Percent	Percent of all participants
Year of program				
	Not a student	47	35.9	34.3
	First	23	17.6	16.8
	Second	22	16.8	16.1
	Third	18	13.7	13.1
	Fourth or greater	21	16.0	15.3
	Total	131	100.0	95.6
	Missing	6		4.4

The survey included an optional yes-or-no question about participants' personal previous use of psychedelics. A 'yes' response to this question indicated previous personal use of psychedelics, and 'no' indicated no personal experience with using psychedelics. Within the sample of 137 participants, 83 (60.6%) said yes, 50 (36.5%) said no, and 4 (2.9%) responses were missing.

Knowledge

The second research question sought to assess the levels of knowledge amongst students and psychologists, and whether they differed significantly. There were seven knowledge questions within the survey, each of which had four multiple choice options with one correct answer. The number of correct responses for each participant was totaled. See Table 5 for frequencies of total correct knowledge questions for all participants.

Table 5*Frequencies of Total Correct Responses to Knowledge Questions*

		Frequency	Percent
Total correct knowledge questions	0	1	0.7
	1	1	0.7
	2	6	4.4
	3	24	17.5
	4	37	27.0
	5	40	29.2
	6	23	16.8
	7	5	3.6

The mean for total number of correct responses was 4.4 for all participants, 4.4 for students, and 4.6 for psychologists (see Table 6). With respect to the second research question (whether students and psychologists differ in their knowledge of psychedelics), it appears that psychologists, on average, got a slightly higher number of knowledge questions correct.

Table 6*Mean Total Correct Knowledge Questions*

		N	Mean	Standard deviation
Total correct	Overall	137	4.4	1.3
	Students	96	4.4	1.3
	Psychologists	41	4.6	1.4

In order to assess whether this difference in knowledge among psychologists and students was significant, an independent samples t-test was conducted. This test compares the means of two groups to assess whether there is a significant difference between population means (IBM, 2024). The current data met the assumptions of the test: independent samples, normal distributions of the outcome variable within each group, and homogeneity of variances, as evidenced by the similar standard deviations for each group in Table 6, and a significance

value of 0.577 for Levene's test which indicates homogeneity of variances (Geert van den Berg, n.d.).

At an alpha level of 0.05, the p-value was 0.338, therefore the null hypothesis of there being no significant difference between students and psychologists with respect to total correct knowledge questions was not rejected. Thus, there is insufficient evidence to conclude that there is a significant difference between students and psychologists with respect to knowledge of psychedelics.

Perceptions

Perceptions of psychedelic therapy were assessed using both quantitative and qualitative survey items. Qualitative findings of perceptions are overviewed first using descriptive statistics, and quantitative perception items are overviewed next using both descriptive and inferential statistics.

Qualitative Findings

Qualitative items within the survey assessed specific aspects of perceptions, such as concerns, learning interests, inclusion of PAP in education, clinical availability of PAP, and general/additional thoughts. As described in the previous chapter, short-answer responses were thoroughly reviewed for familiarization with responses, assessed for patterns of meaning, coded and labelled according to the identified main categories. These qualitative findings provided more detailed and nuanced descriptions of perceptions of psychedelic therapy and are summarized below.

Concerns. Participants were asked to select from a list (or select 'other' and describe in short-answer format) what their biggest concerns were if psychedelics were to be legalized for clinical use. The most commonly endorsed concern was 'lack of trained providers', which was endorsed by 85.4% (n = 117) of participants. The next most common

concerns in the current study, in order of popularity, were ‘use when contraindicated’ (n = 88, 63.8%), ‘logistics of sessions’ (n = 67, 48.9%), ‘medication interactions’ (n = 60, 43.8%), ‘exploitation of patients’ (n = 58, 42.3%), ‘cost/insurance coverage’ (n = 40, 29.2%), ‘time requirement’ (n = 29, 21.2%), ‘other’ (n = 26, 19.0%), and ‘addictive potential’ (n = 24, 17.5%). No participants selected ‘no concerns’.

From the 26 participants who selected ‘other’ and provided a written response, three categories emerged: (1) logistical and safety concerns, (2) ethical, cultural, and spiritual concerns, and (3) knowledge gaps and skepticism. The second category was the most common.

Logistical and safety concerns encompassed issues related to dosage regulation, strain consistency, long-term negative consequences, and the overall safety of clients, suggesting a need for rigorous protocols and safeguards. Ethical, cultural, and spiritual concerns, the most frequently mentioned category, detailed concerns about access inequality, the commodification of psychedelics, and the potential disrespect for cultural and spiritual practices. Lastly, the category of knowledge gaps and skepticism described concerns regarding psychedelic therapy's safety, efficacy, and long-term effects, revealing a demand for more comprehensive and accessible education, as well as more robust research in this field.

Learning Interests. Participants were asked to share their learning interests as they pertained to psychedelic therapy. Participants could select items from a list provided or select ‘other’ and write a short-answer response to detail other learning interests. The most commonly endorsed learning interests were ‘how to conduct sessions’ (n = 105, 76.6%) and ‘patients who should be excluded [from treatment]’ (n = 104, 75.9%). The next most

commonly selected items in the current study, in order of popularity, were ‘side effects’ (n = 97, 70.8%), ‘potential benefits’ (n = 94, 68.6%), ‘management of ‘bad trips’’ (n = 93, 67.9%), ‘medication interactions’ (n = 83, 60.6%), ‘pharmacology of psychedelics’ (n = 75, 54.7%), ‘addictive potential’ (n = 50, 36.5%), ‘other’ (n = 10, 7.3%), and ‘nothing’ (n = 1, 0.7%).

From the 10 participants who selected ‘other’ and provided a short-answer response, four categories were identified: (1) comprehensive training and process understanding, (2) evidence base and integration with evidence-based treatments, (3) ethical and contextual considerations, and (4) already engaged in training. The first group of responses, comprehensive training and process understanding, was the most common group of learning interests that emerged, and participants expressed an interest in learning more about the specific training and procedures involved in PAP. For example, one participant wrote, “psychological mechanisms of treatment effectiveness”. The second grouping outlined a desire to learn more about the current evidence base of PAP and how it may be integrated with other evidence-based treatments. The third category described interest in learning about the ethical and cultural contexts that surround PAP. With respect to this category, one participant said:

...Ketamine is administered and the client is left alone in a room with no support, no instructions as to how to make the most of their time, nothing. This exemplifies psychedelic treatment divorced from the context of ceremony. We don't necessarily have to have a full-on, day-long retreat in the woods but the current format is treating psychedelics as a medication to be dispensed, not as an experience focused on wellness and well-being.

Finally, the fourth grouping appeared in responses wherein participants stated they were already engaged in training on PAP.

Information Sources Used. Participants were asked to select from a list (or select ‘other’ and write a short-answer response) which outlined the information sources they have used to learn about psychedelic therapy. The most commonly selected information sources were ‘academic journals’ (n = 97, 70.8%) and ‘colleagues’ (n = 90, 65.7%). The other information sources selected, in order of popularity, were ‘documentaries’ (n = 67, 48.9%), ‘podcasts’ (n = 65, 47.4%), ‘news/magazine articles’ (n = 63, 46.0%), ‘books’ (n = 46, 33.6%), ‘social media’ (n = 40, 29.2%), ‘textbooks’ (n = 37, 27.0%), ‘other’ (n = 36, 26.3%), and ‘television’ (n = 17, 12.4%).

Of the 37 participants who selected ‘other’, three categorical groupings were identified from short-answer responses: (1) formal education and training, (2) experiential learning and self-motivated research, and (3) professional development and networking. Of these three categories, the third one of professional development and networking was the most common. For example, one participant wrote “research talks and continuing education presentations.”

Inclusion of Psychedelic Therapy in Education. Participants were then asked to select ‘yes’ or ‘no’ as to whether they were taught about psychedelics in their formal education. Out of 137 participants, 42 (30.7%) said ‘yes’ and 95 (69.3%) said ‘no’. This finding shows that a majority (69.3%) of participants did not receive education on psychedelics within their formal education programs.

Participants were further asked whether they believed psychedelic therapy should be included in psychology education programs with a ‘yes’ or ‘no’ question with the opportunity

to share their reasoning behind their response. Out of 137 participants, 19 (13.9%) selected 'no', and 17 participants provided written explanations. Within these written responses, four groupings emerged: (1) legislation and regulatory concerns, (2) needs more research/evidence, (3) specialization and program structure, and (4) other/undecided.

The first group of responses described legislation and regulatory concerns reflects the current legal landscape surrounding psychedelics. A participant noted, "with current legislation, I don't see the need. However, if legislation were to expand and psychologists were more likely to encounter clients who needed to provide psychedelic therapy, then I would say 'yes'". The second group of responses, 'needs more research/evidence', was the most common, and emphasized a need for more research and evidence demonstrating safety and efficacy before widespread incorporation into formal education programs. For example, one participant stated, "not until research is allowed to move forward and its efficacy is proven in large scale randomised trials". Concerns about specialization and program structure suggest that some participants believe psychedelic therapy should be an optional or specialized area of study rather than a core component of all psychology programs. One participant said:

I think psychedelic therapy should be included only for professionals who wish to be specialized in this area. I think the Ph.D. program is already long enough that adding it as a mandatory element in our curriculum would be frustrating - ex. students who wants to be specialized in child psychology would find this module a little bit useless.

Lastly, the other/undecided category indicated a variety of concerns and uncertainties that may not fit neatly into the predefined groupings. An example of a response within this label was, "it's not for everyone - including both clients and therapists. It's a unique calling and I

really feel the medicine finds the healer, and not the other way around.”

On the other hand, a majority of participants (n = 118, 86.1%) selected ‘yes’ to the inclusion of psychedelic therapy in education programs. Out of these 118 participants, 105 provided short-answer explanations for their belief. These answers revealed four main groupings of responses: (1) research and evidence base, (2) education and awareness, (3) ethical and cultural considerations, and (4) other.

The first grouping suggested support for inclusion of psychedelic therapy within education programs due to the empirical support PAP has demonstrated thus far, with some participants regarding PAP as an empirical treatment option. One participant stated, “yes, because I think there is a lot is misperceptions and it has been shown to be effective and all evidence-base treatments should be taught”. The second grouping emphasized the importance of psychologists being informed of innovative treatment options, especially since some clients may already be accessing PAP as treatment. For example, a participant explained, “even if not for direct use, to understand brain effects, etc., for clients already using such substances”. The third category underscored the ethical obligation that psychologists have to be well-informed of the risks and benefits of treatment options, and of the cultural contexts specific to PAP. One participant noted:

Yes for its documented benefits and it’s non documented benefits - that is, these have been used for millennia by Indigenous populations and other cultures worldwide - its spiritual and emotional use are valid in cultural sense. As Western science develops, we can investigate psychedelics from an empirical perspective yet we must remember the source.

The fourth category encompassed responses that did not quite fit into the three previously

mentioned categories, and included notions such as being uninformed on PAP, a need for more research, and uncertainty regarding the efficacy and applicability of PAP. For example, a response within this category was as follows:

If the data supports its utility, we should be able to provide this form of therapy for our patients. First step is more research on it but if it is supported, we are doing a disservice to our clients and the mental health of our community members if we are prohibiting a valuable tool towards mental health improvement...

Clinical Availability of PAP. Participants were asked to explain why/why not they believe psychedelics should be available for clinical use. Out of 137 participants, 131 (95.6%) provided a short answer response, which yielded five main categories: (1) support for use with proper training and standards, (2) need for further research and caution, (3) ethical and cultural considerations, (4) unsure/insufficient information, and (5) don't currently support.

The first category was the most common and described support for the clinical use of PAP with emphasis on proper training, establishment and adherence to applicable standards, and professional oversight. An example of a response from this category was, "yes it should be available and there should be established learnings and parameters for clinicians to best support clients". The second category emphasized a need for further research to better understand PAP and its associated benefits and risks. The third category highlighted ethical and cultural considerations, including the need to acknowledge and respect the historical ethical and cultural contexts that surround psychedelic use, as well as considerations for how certain factors (e.g., social, psychological, and spiritual processes) may impact the mechanisms and efficacy of PAP. One participant explained:

I believe that psychedelics should absolutely be available for clinic use, with some caveats: corporations can't be allowed to set the benchmarks, production, and access to what this means. Second, psychedelic treatment has to be easily available for those interested in accessing it. Third, we must be conscious of the ceremonial nature of much of these substances: administering ayahuasca (for example) without appropriate guidance and curation of a trip is simply throwing substances at a problem and hoping it resolves without further effort on our part (much like we do with SSRIs and SNRIs now)...

The fourth category encompassed responses that were marked by a stated lack of sufficient knowledge on the topic to take a stance. Finally, the fifth category included responses that opposed the clinical use of psychedelics due to concerns surrounding safety, misuse, and insufficient evidence on their efficacy. Examples within this category include, “not now, I don’t believe there is enough strong evidence on the benefits. Other treatment options should replace” and “no. I believe their risk of misuse is too great, and I believe it's an attempt to shortcut important long-term trauma therapy with a quicker ‘solution’”.

General/Additional Thoughts. Participants were granted the opportunity to share any additional general thoughts they may have on the clinical use of psychedelics. Four categories were uncovered from the 131 participants who responded: (1) promising potential and advocacy for proper use, (2) need for more research/evidence, (3) concerns for ethical practice, safety, and cultural considerations, and (4) don’t know enough/openness to learning.

The first category was found to be the most common, revealing that a majority of participants shared a positive outlook on the clinical use of psychedelics. Responses cited awareness of promising preliminary research with emphasis on the need for ethical

administration processes. One participant wrote, “believe it would be best done as collaborative service delivery between psychologists/psychotherapists and medically trained professionals such as psychiatrists/medical practitioners. Appears promising for treatments but need strict oversight and training”. The second category called for a need for more research to establish the efficacy and safety of psychedelics, as well as ways to maximize benefits and reduce risks associated with psychedelic use. One participant said, “I think there is great potential in psychedelic therapies but there are still many unknowns and gaps in the research (i.e., long term side effects, all drug interactions particularly important with mood altering meds)...”. The third category was marked by concerns regarding ethical practice, safety, and cultural considerations; more specifically, issues surrounding commodification, potential client exploitation due to vulnerable states, accessibility, and the need for anti-racist and trauma-informed practices. For example, one participant stated:

It seems they arise from a tradition that is highly exploitative and are uniquely positioned to put health professionals in an unequal position of power and patients in a vulnerable position. I am concerned that their marketing is in the interests of drug companies rather than patients. I am for their recreational legalization and for individuals to choose how they would like to use them, or even to discuss psychedelic experiences as part of therapy, but not for their use in therapy. I don't see anyone engaging with the downsides seriously, instead it is marketed as a miracle cure with few to no downsides. It seems very irresponsible and blind to history.

The fourth and final category included responses wherein participants expressed a lack of knowledge on psychedelics to take an informed stance. Within this category, some participants further noted that they wished they had learnt about psychedelics within their

formal education. One response within this category noted, “I do not feel that I am well-informed enough to judge how useful psychedelics would be clinically (and whom they might be useful for) - I am open to learning more and to supporting the clinical use of psychedelics if an evidence-based treatment approach that incorporates psychedelics becomes available”.

Quantitative Perception Findings

The response options for each perception question were coded as follows: strongly disagree = -2, somewhat disagree = -1, neither agree nor disagree = 0, somewhat agree = 1, and strongly agree = 2, with negatively worded questions being reverse coded. This reverse coding was to ensure that the coding of variables was consistent (i.e., lower scores represent less favourable perceptions of psychedelics, and higher scores reflect more favourable perceptions). A mean perception value of 0.86 was found for the overall sample, which is indicative of a generally positive perception of psychedelic therapy among participants.

The mean perception value for psychologists and students was 0.89 and 0.84, respectively (see Table 7). To test if the difference in perceptions between students and psychologists was statistically significant, an independent samples t-test was conducted. Levene’s test for equality of variances showed that equal variances could be assumed ($F = 0.085$, $p = 0.771$; Geert van den Berg, n.d.). The independent samples t-test yielded a significance value of 0.483. Therefore, there was insufficient evidence to conclude that there is a statistically significant difference in perceptions between students and psychologists within this sample.

Table 7

Perception Mean Values

		N	Mean	Standard Deviation
Mean	Overall	137	0.86	0.35
	Students	96	0.84	0.36
	Psychologists	41	0.89	0.43

Perceptions and Knowledge. Pearson’s correlation was used to assess whether there was a correlation between knowledge and perceptions for all participants. This analysis revealed a correlation coefficient of 0.325 with a significance value of <0.001 , indicating a positive correlation. Since the p-value is less than 0.05, it can be concluded that there is a statistically significant moderate positive correlation between knowledge and perceptions. This suggests that higher levels of one variable (e.g., knowledge) tend to be associated with higher levels of the other variable (e.g., perceptions).

To further assess this correlation, the researcher ran Pearson’s correlation analyses for each of the two groups (psychologists and students). There was a statistically significant moderate correlation between knowledge and perceptions for students ($r(94) = 0.314$, $p = 0.002$). The correlation between perceptions and knowledge for psychologists also revealed a statistically significant moderate correlation ($r(39) = 0.313$, $p = 0.047$). This suggests that within both groups, higher knowledge levels are associated with more positive perceptions of psychedelics.

Demographics

The fourth research question aimed to determine whether certain demographics, including previous use of psychedelics, were significantly associated with perceptions or

knowledge. This was investigated by examining the impact of gender and previous use of psychedelics on knowledge and perceptions. Due to the scope of the current research and substantial missing data for age, university, and years registered as a psychologist, these demographic variables were not analyzed, leaving the second hypothesis (i.e., younger age will be associated with more favourable perceptions than older age) unresolved.

Gender and Perceptions

Due to the low sample size within some of the gender identities (e.g., transgender $n = 1$, nonbinary $n = 4$), normality was difficult to assess, so a nonparametric test was used to assess whether gender impacted perceptions or knowledge. The assumptions of the Kruskal-Wallis test (Laerd Statistics, n.d.) were all met: an ordinal dependent variable, three or more categorical and independent groups within the independent variable (gender), and independence of observations. These conditions were also true for both perceptions and knowledge as the dependent variable.

When assessing the impact of gender identity on perceptions, the Kruskal-Wallis test resulted in a significance value of 0.078, thereby retaining the null hypothesis that the distribution of perception is not significantly different across genders. This is in contrast to the third hypothesis that men will exhibit more favourable perceptions towards psychedelic therapy than women.

Gender and Knowledge

The Kruskal-Wallis test was also used to assess whether knowledge significantly varies across genders, resulting in a significance value of 0.237. Thus, the null hypothesis that the distribution of knowledge is not significantly different across genders was true.

Previous Use and Perceptions

The survey included an optional yes-or-no question about participants' personal previous use of psychedelics. A 'yes' response to this question indicated previous personal use of psychedelics, and 'no' indicated no personal experience with using psychedelics. Within the sample of 137 participants, 83 said yes, 50 said no, and 4 responses were missing.

The independent samples t-test was used to compare mean perceptions between those who have used psychedelics and those who haven't. Levene's test suggested that the assumption of equal variances was met ($F = 1.602$, $p = 0.208$; Geert van den Berg, n.d.). Independent samples t-test yielded a statistically significant ($t = 3.638$, $p < 0.001$) difference in perceptions for those who have used psychedelics versus those who have not. This result had a moderate effect size ($d = 0.683$).

The independent samples t-test was also run on both the student and psychologist samples to assess for associations between previous use and perceptions. Levene's test suggested that the assumption of equal variances was met for both the student ($F = 0.525$, $p = 0.471$) and psychologist ($F = 0.422$, $p = 0.520$) samples. Independent samples t-test revealed a statistically significant ($t = 2.398$, $p = 0.019$) difference in perceptions with a moderate effect size ($d = 0.516$) for students, and a statistically significant ($t = 3.134$, $p = 0.003$) difference in perceptions with a large effect size ($d = 1.012$) for psychologists. Overall, these results indicate that there is a significant difference in perceptions for those who reported previous use of psychedelics versus those who reported no use for the overall sample, as well as within the samples of both students and psychologists.

Pearson's correlation revealed a positive correlation between previous use and perceptions overall ($r(131) = 0.317$, $p < 0.001$), for students ($r(91) = 0.244$, $p = 0.019$), and for psychologists ($r(38) = 0.453$, $p = 0.003$). Overall, it can be concluded that there is a

significant difference in perceptions with respect to previous use, with previous use being associated with more favourable perceptions.

Previous Use and Knowledge

The independent samples t-test was used to compare knowledge between those who have used psychedelics and those who haven't. Levene's test suggested that the assumption of equal variances was met ($F = 0.135, p = 0.714$). Independent samples t-test yielded a statistically significant ($t = 4.930, p < 0.001$) difference in knowledge for those who have used psychedelics versus those who have not. This result had a large effect size ($d = 0.877$).

Independent samples t-test was also run on both the student and psychologist samples. Levene's test suggested that the assumption of equal variances was met for both students ($F = 1.533, p = 0.219$) and psychologists ($F = 1.136, p = .251$). Independent samples t-test revealed a statistically significant ($t = 3.282, p = 0.001$) difference in knowledge with a moderate effect size ($d = 0.708$) for students, and a statistically significant ($t = 3.889, p < 0.001$) difference in knowledge with a large effect size ($d = 1.255$) for psychologists.

Pearson's correlation revealed a positive association between previous use and knowledge overall ($r(131) = 0.394, p < 0.001$), for students ($r(91) = 0.326, p < 0.001$), and for psychologists ($r(38) = 0.534, p < 0.001$). Overall, it can be concluded that there is a significant difference in knowledge with respect to previous use, with previous use being associated with higher levels of knowledge.

It should be noted that SPSS automatically excludes missing cases from analyses when running Pearson's correlation and independent samples t-test, otherwise known as listwise deletion (IBM, 2020). Thus, the four missing responses to the question assessing previous use of psychedelics were not included in these analyses.

CHAPTER 5: Discussion

The findings outlined in Chapter Four offered valuable insights into the current state of knowledge and perceptions of psychedelic therapy within the field of psychology. The following section discusses the findings and implications related to the qualitative items, after which quantitative perception results implications are discussed.

Qualitative Perceptions

The following section discusses results from the qualitative items within the survey that sought to illuminate perceptions regarding psychedelic therapy as they pertained to concerns, learning interests, information sources used, inclusion of PAP in education programs, clinical availability of PAP, and any general/additional thoughts.

Concerns

As outlined in the results section, the most commonly selected concerns regarding PAP were lack of trained providers and use when contraindicated. The category of ethical, cultural, and spiritual concerns was found to be the most common within written responses, and included issues related to access inequality, commodification of psychedelic medicine, and disregard for cultural practices. Mayer et al. (2021) also found that healthcare providers expressed concerns over the accessibility of psychedelic therapy. This finding was also evident among health professionals, patients, and the public according to a systematic review by Wells et al. (2024). This highlights the need for culturally sensitive and ethical frameworks and providers. Further, it is important to recognize and honour Indigenous perspectives, historical usage, and ways of knowing when adopting psychedelic therapy into Western practices (Payer et al., 2024). It will also be important to balance the need for equitable access with maintaining effective and culturally informed psychedelic therapy frameworks and

practices.

While some organizations may seek to increase accessibility of PAP by reducing the time and labour involved, thereby making treatment more time- and cost-effective for clients, this undermines the cultural framework within which PAP has historically been conducted (Marcus & Dakwar, 2024). This study's findings of concerns which emphasized knowledge gaps and skepticism about psychedelic therapy's safety, efficacy, and long-term effects unveiled a perceived need for more comprehensive education and research in the field of PAP.

The frequencies of the concerns participants selected, as well as the other concerns described within short-answer responses, highlight important considerations that may be addressed through rigorous training programs for providers, the development of clear and ethical guidelines and regulations, and more research to ensure the safe and ethical implementation of psychedelic therapy. Indeed, exposure to and consideration of ineffectiveness and harm is inherent to driving positive change with any treatment approach (Gambrill, 2007). Thus, acknowledging and addressing psychologists' concerns regarding PAP within both practice and research is imperative to maximize benefits and reduce risks. Additionally, integrating cultural and ethical considerations into policy and practice, and providing education to the public about the evidence-based benefits and risks of psychedelic treatments, could help ensure a more informed and equitable approach to the clinical use of psychedelics. Indeed, public perceptions help shape societal norms and can influence drug policy (Wells et al., 2024).

Learning Interests

The most commonly selected learning interests were 'how to conduct sessions' and

‘patients who should be excluded [from treatment]’. The categories that emerged from short-answer responses were (1) comprehensive training and process understanding, (2) evidence base and integration with evidence-based treatments, (3) ethical and contextual considerations, and (4) already engaged in training, with the first category being the most common.

Similar to the current study, Barnett et al.’s (2021) study also found that how to conduct sessions was one of the most common learning interests. Procedural learning interests (e.g., logistics of conducting sessions and clients who should be excluded from treatment) are crucial topics to include within psychedelic training programs. This is needed to enhance practitioner knowledge, ethics, and skill, similarly to how counselling graduate programs include coursework and practicums on procedural counselling skills, such as interventions, in order to meet registration standards set forth by colleges. For example, the College of Alberta Psychologists (CAP) requires registrants to have graduate level coursework credits in psychological assessment and evaluation, as well as psychological intervention and consultation (College of Alberta Psychologists, 2023). The learning interests in this study may highlight not only relative areas of interest, but also underdeveloped knowledge bases that would need to be enhanced in order for psychologists to have more comprehensive understanding and skills as it pertains to PAP, thus providing valuable information for education and training programs.

In all, it seems that participants had many learning interests, especially with respect to the process of administering psychedelic therapy. Participants also seemed to be interested in learning how to ensure safety and maximize benefits by gaining knowledge in how to conduct sessions, which patients should be excluded from treatment, and potential side

effects and benefits. These results align with Barnett et al.'s (2021) finding that potential benefits of psychedelic therapy, how to conduct psychedelic therapy, and the side effects of psychedelics were the most commonly reported learning interests among psychiatrists in the U.S.

The Professional Practice Guidelines for Psychedelic-Assisted Therapy (American Psychedelic Practitioners Association & Brainfutures, 2023) stresses the importance of specialized, comprehensive training for psychedelic therapists. Educational programs may seek to provide training on the herein reported learning interests, as these areas of learning likely point to areas of interest and areas for growth. As psychedelic therapy, and therefore psychedelic therapy training, gains more traction in the field of counselling psychology, it will be important for psychologists to be well-informed of administration processes that may be used to maximize benefits and minimize risks, ensure more ethical services, and allow both clients and practitioners to have access to accurate information.

Information Sources Used

The most commonly selected information sources identified by participants were academic journals and colleagues. Of the short-answer responses, three categories emerged: (1) formal education and training, (2) experiential learning and self-motivated research, and (3) professional development and networking.

It is encouraging to discover that the most common learning source was academic journals, as this suggests a strong foundation in evidence-based practice. Since psychedelic therapy is gaining more popularity in the media, it makes sense that many participants also reported learning from colleagues and media sources, such as documentaries, podcasts, and news/magazine articles. This trend highlights the growing interest in psychedelic therapy

within the general public and the media's role in disseminating information. However, it also raises concerns about the potential for misinformation and the need for critical appraisal skills among professionals when interpreting these sources. As with all forms of treatment, it is an ethical imperative that psychologists use reliable learning sources in order to obtain an accurate knowledge base of psychedelic therapy. This falls in line with evidence-based practice in psychology, a cornerstone of ethical psychological practice, which states that practitioners should seek to integrate research evidence of best practices with clinical expertise (American Psychological Association [APA], 2021). The APA (2021) policy statement on evidence-based practice in psychology (EBPP) further states that research conducted and used should be both clinically relevant and internally valid, which underscores the need to use reliable information sources with valid research methods, such as those within academic, peer-reviewed sources.

Inclusion of Psychedelic Therapy in Education

When asked whether they were taught about psychedelics in their formal education, 42 (30.7%) participants said 'yes' and 95 (69.3%) said 'no', revealing that a majority of participants did not receive formal education on psychedelics within their education programs. If psychedelic therapy gains legality and accessibility in Canada, it may be important for applied psychology education programs to begin incorporating more teachings on psychedelics. It is important for psychologists to be knowledgeable about treatment options that their clients may seek in order to provide accurate information, especially since some clients may choose to seek psychedelic therapy from another provider or organization that currently provide PAP (e.g., Bloom Psychedelic Therapy and Research Centre, Field Trip Health).

When further asked to share whether they believe psychedelic therapy should be included in psychology education programs, 19 (13.9%) participants selected ‘no’, and 17 of those participants provided written explanations. From the written explanations, four categories emerged: (1) legislation and regulatory concerns, (2) needs more research/evidence, (3) specialization and program structure, and (4) other/undecided. The first category reflected the current legal landscape surrounding psychedelics. As the laws and regulations surrounding psychedelics continue to evolve, so may opinions regarding the inclusion of psychedelic therapy in education programs. It will be important for future research to continue assessing this question.

The second category in this section, ‘needs more research/evidence’, was found to be the most common. This implies that some participants believe psychedelic therapy does not have enough evidence or research to support its inclusion in formal education. This cautious stance emphasizes the need for empirical validation before widespread educational adoption. This notion is supported by the APA (2021) policy statement on EBPP, which states that the purpose of integrating best research evidence with clinical expertise is to promote effective and ethical psychological practice by utilizing empirically supported interventions and methods. However, the APA (2021) policy statement goes on to assert, “it is important not to assume that interventions that have not yet been studied in controlled trials are ineffective.” Clinical trial processes that involve drugs such as psychedelics are rigorous and riddled with challenges, such as difficulties recruiting representative samples, difficulties with blinding participants due to the pronounced subjective effects garnered by psychedelic substances, and the resulting susceptibility to placebo effects associated with difficulties in participant blinding (BioPharma Services, 2024). Considering the relatively recent reemergence of the

clinical use of psychedelics within psychology, the literature is still preliminary and thus PAP is not considered by all to be an empirically-based practice yet. For example, the FDA's Psychopharmacologic Drugs Advisory Committee (PDAC) recently voted against Lykos Therapeutic's (2024) new drug application to use midomafetamine (MDMA) capsules in conjunction with psychotherapy (MDMA-assisted therapy) as a treatment for PTSD, citing concerns surrounding recent Phase 3 trials and the need for more research demonstrating safety and efficacy. In response, Lykos Therapeutics (2024) has stated that they remain committed to addressing the FDA's concerns in order to ensure safe and responsible integration of MDMA-assisted therapy into the healthcare system, pending approval.

The third category demonstrates that some participants have concerns regarding program structure, and some suggest that psychedelic therapy would be more appropriate as a specialization. This could allow interested students to pursue in-depth knowledge without overhauling existing curricula. The fourth and final category encompasses concerns that may not fit into the aforementioned categories, highlighting the complexity of the issue and the need for ongoing dialogue and research.

In contrast to the 19 participants who indicated they did not believe psychedelic therapy should be included in education programs, 118 (86.1%) of participants stated that they do indeed believe psychedelic therapy should be included in education programs, and 105 participants provided written explanations. Four categories emerged from written responses: (1) research and evidence base, (2) education and awareness, (3) ethical and cultural considerations, and (4) other.

Responses within the research and evidence base category stated that empirical treatment options should be taught in education programs, and they regarded PAP as an

empirical treatment option. Incorporating psychedelic therapy into education programs would support future psychologists in being well-informed.

Education and awareness emerged as the most common category, with participants underscoring the importance of psychologists being informed of innovative treatment options, which is a claim that has also been made by participants in another similar research study (Mayer et al., 2021). While not every psychologist may be inclined or licensed to provide or recommend psychedelic therapy to their clients, the ethical obligation for psychologists to be at least informed of the risks and benefits of treatment options available to their clients remains, and psychologists should have the opportunity to seek further education in it if desired. Further, many participants noted that education and awareness play a key role in dispelling stigma and myths surrounding psychedelics. By focusing on education and awareness, psychologists can play a pivotal role in addressing and reducing the stigma associated with psychedelics. Providing accurate information can help mitigate misconceptions and promote a more informed discussion about the use of psychedelics in therapy. As the history of psychedelics is riddled with ethical and cultural complexities, it is important for educational content to address these issues sensitively. Psychologists could also play a key role in dispelling stigma by providing clients with accurate information regarding this treatment option.

Responses within the ethical and cultural considerations category extended the notion that psychologists have an ethical obligation to be well-informed of treatment options by also understanding and emphasizing cultural and spiritual aspects of psychedelics. If education programs do decide to incorporate psychedelic therapy into their curricula, participants within this category argue that programming must acknowledge and honour the cultural

history of psychedelic therapy. Responses categorized as other expressed uncertainty due to lack of knowledge on the topic, need for more research, skepticism about efficacy, or uncertainty about the applicability of PAP for various presenting issues and populations. Being a registered psychologist in Canada comes with the responsibility of continuing education to stay current with advances demonstrated by new research, and to strive to be as culturally sensitive and competent as possible in a field (and society) that is constantly evolving. Indeed, Standard II.9 of the fourth and newest edition of the *Canadian Code of Ethics for Psychologists* (CPA, 2017) states that psychologists must maintain competence by keeping up to date with relevant research and techniques in order to minimize risks and maximize benefits. Standard I.1 further states that psychologists must demonstrate respect for the knowledge and cultural perspectives of others. With regards to Western use of psychedelics, this respect would logically extend to the knowledge and cultural practices that have surrounded historical Indigenous and religious psychedelic use for thousands of years (Garcia-Romeu & Richards, 2018).

One study in the U.S. that sought to assess the interactions between naturalistic psychedelic use and healthcare providers showed that among participants who had a psychiatric care provider, 58% of them disclosed their use to their providers (Boehnke et al., 2023). Cited reasons for nondisclosure included stigma, inadequate provider knowledge, and legal concerns. Incorporating PAP into education programs can help providers have adequate knowledge levels. Given the current finding that perceptions are positively associated with higher levels of knowledge, inclusion of PAP in curricula may positively shift the discourse regarding psychedelics among psychologists, which in turn can reduce stigma and support clients in feeling safer in discussing their psychedelic use. This could help to ensure that

clients have access to providers who are well-informed and more open to discussing psychedelic use, thereby increasing client safety. Thus, the inclusion of psychedelic therapy within education programs is becoming increasingly indicated as it continues to grow in popularity and accessibility.

Clinical Availability of PAP

When asked to explain why/why not they believe psychedelics should be available for clinical use, 131 (95.6%) participants provided a written explanation, revealing five main categories: (1) support for use with proper training and standards, (2) need for further research and caution, (3) ethical and cultural considerations, (4) unsure/insufficient information, and (5) don't currently support.

The first category, 'support for use with proper training and standards', was the most common and reflects support for the clinical use of psychedelics with emphasis on proper training and adherence to established standards. This endorsement underscores a growing recognition of the therapeutic potential of psychedelics, particularly in treating mental health conditions that are resistant or unresponsive to current treatment options. Reynolds et al. (2021) also found that healthcare professionals in New Zealand expressed openness towards PAP due to a lack of efficacy within the currently available treatment options for those with mental health issues associated with cancer. Participants emphasized the importance of professional oversight and the establishment of rigorous standards to ensure safety and efficacy. This aligns with the growing body of research suggesting that psychedelics, when administered under controlled conditions, can offer significant benefits for certain mental health disorders (Johnson & Griffiths, 2017). The emphasis on professional training and adherence to best practices reflects a cautious optimism, advocating for a balanced approach

that mitigates risks while exploring therapeutic benefits.

Some responses stressed the need for further research to fully understand the benefits and risks associated with psychedelics. This cautious stance is reflective of the current state of psychedelic research, which, despite promising results, is still in its relative infancy and requires more rigorous, long-term studies to establish comprehensive safety and efficacy profiles (Petranker et al., 2020). Media rhetoric that poses psychedelics as a panacea or “miracle drug” tends to undermine the need for more research to ensure safety before widespread adoption and may be yet another source of misinformation about psychedelics (Wells et al., 2024). Interestingly, this misinformation is on the opposite end of the pole from historically negative misinformation about psychedelics that touted them as dangerous and of no clinical use. Nonetheless, it is important to avoid producing unrealistic expectations about the benefits of PAP. Concerns about inflated effect sizes due to expectancy effects and the need for randomized controlled trials (RCTs) highlight the importance of robust scientific inquiry. These views align with calls in the literature for more extensive research to ensure that clinical recommendations are based on solid evidence and free from bias, conflicts of interest, and methodological limitations in order to avoid sensationalism (Petranker et al., 2020).

A notable group of participants focused on ethical and cultural considerations, stressing the need for a respectful approach to integrating psychedelics into clinical practice, and emphasizing the importance of respecting cultural contexts. These responses point to the broader ethical implications of psychedelic therapy, emphasizing that its integration into clinical settings must be done with sensitivity to cultural and individual differences. It also suggests that standards and guidelines should be developed to navigate the complex ethical

landscape surrounding the use of psychedelics. This may be an especially critical consideration for PAP due to how the historical unethical use of psychedelics contributed to the criminalization and misperceived notions of psychedelics that remain prevalent today.

Because of the lack of understanding of the neurobiological mechanisms of psychedelic therapy, there are potentially social, psychological, and spiritual processes that impact efficacy (Gobbi et al., 2022). This further drives the importance of sociocultural considerations for PAP, emphasizing the need to acknowledge and honour cultural practices that have enveloped historical psychedelic use (Garcia-Romeu & Richards, 2018). These historical practices could provide invaluable information for how to cultivate healing by mitigating an individual's psychological state, and the environment or context within which the drug is taken, respectively known as set and setting, which have been shown to have a significant impact on the nature of the drug experience (Garcia-Romeu & Richards, 2018; Johnson et al., 2008). Further, research has found a correlation between the occurrence of mystical experiences induced by psychedelics and psychotherapeutic benefits, thereby suggesting utility in consideration of spiritual practices and perspectives (Hartogsohn, 2022; Roseman et al., 2018).

Another significant portion of participants advocated for further research and caution, acknowledging the potential benefits but stressing the importance of comprehensive studies to fully understand the risks and benefits of PAP. This category reflects a prudent stance, advocating for an evidence-based approach to the integration of psychedelics into clinical practice. This cautious optimism is indicative of a broader trend in the scientific community, which calls for rigorous research protocols to substantiate the therapeutic claims of psychedelics (Petranker et al., 2020).

Some participants expressed uncertainty or felt they lacked sufficient information to form a definitive opinion, indicating a need for greater awareness and understanding of psychedelic therapy. This category suggests the need for educational initiatives to disseminate accurate information about the potential benefits and risks of psychedelics, as well as the current state of research in this field. Addressing this information gap is crucial for fostering informed and accurate public discourse and facilitating the acceptance of psychedelics as a legitimate therapeutic option.

A minority of participants opposed the clinical use of psychedelics, citing concerns about safety, potential misuse, and insufficient evidence to support their efficacy. This opposition reflects legitimate concerns that must be addressed through robust research and transparent communication of findings. The concerns about safety and potential misuse highlight the importance of developing strict regulatory frameworks and safety protocols to mitigate risks associated with psychedelic therapy.

Overall, while there is considerable support for the clinical use of psychedelics under specific conditions, there remains a strong call for ongoing research, ethical considerations, and cautious implementation to ensure safe and effective integration into mental health treatment.

General/Additional Considerations

The final qualitative survey item invited participants to share any general/additional thoughts they may have on the clinical use of psychedelics, to which 131 participants responded to. Four categories emerged: (1) promising potential and advocacy for proper use, (2) need for more research/evidence, (3) concerns for ethical practice, safety, and cultural considerations, and (4) don't know enough/openness to learning.

Overall, a majority of participants shared a positive outlook on psychedelics, with the

first category ('promising potential and advocacy for proper use') emerging as the most prevalent. Many participants expressed an awareness of promising results seen in preliminary research, while driving home the importance of ethical administration (e.g., in combination with psychotherapy, appropriate screening and therapeutic environment). One participant stated, "we should be exploring any and all avenues that can aid with mental health," noting the importance of having multiple treatment options available for clients. This may be especially relevant for individuals who have not been responding to traditional treatment methods. Indeed, the field of psychology is inherently a process of exploring innovative treatments, especially for those with unmet needs.

The expressed concerns for ethical practice, safety, and cultural considerations yielded many thought-provoking points, such as issues concerning the commodification of traditional medicines, the importance of anti-racism and trauma-informed practices, potential for client exploitation due to vulnerable states, and limited accessibility to PAP. These concerns may be relevant to organizations that provide PAP in Canada, as well as to relevant regulatory bodies that provide standards and guidelines for how PAP may be ethically implemented and regulated as the field continues to emerge. It follows that research, practice, training, and education in psychedelic therapy should include these considerations to avoid potential exploitation (of both clients and of the cultural practice of using psychedelic medicines) and to ensure respectful use of psychedelics. The call for more research highlights the necessity for ongoing scientific studies to establish the efficacy and safety of psychedelic therapies. This evidence base is crucial for gaining broader acceptance within the clinical community and for informing ethical guidelines. The Government of Alberta (2022) introduced new requirements for the PAP, which outlined administrative and service

requirements for PAP in Alberta. This suggests that regulatory bodies are moving towards setting forth guidelines and standards for PAP that may help address ethical concerns.

A number of participants were also transparent about not having enough knowledge on psychedelics to take a stance for or against. Some participants shared that they would have liked to learn about psychedelics in their formal education, which is in line with the current finding that 86.1% of participants are in favour of the inclusion of psychedelic therapy within formal education programs. This highlights the need for more psychologists and psychologists in training to be educated on psychedelic therapy, and for more programs to include (or provide the option to take) an introduction to this treatment option. Although many psychology graduate programs are already saturated with various treatment options, to not at least include introductory information on psychedelic therapy would leave clinicians with a knowledge gap on available services, thereby introducing a potential disservice to clients. It is understandably unfeasible for clinicians to be versed in all treatment options, but being able to provide a general overview of the risks and benefits of PAP, and offer referral services to psychedelic therapy when indicated (or requested) is important for clients who may seek to explore their options.

Quantitative Findings

The following section discusses the quantitative findings on perceptions and knowledge, both individually and how these two variables impacted each other. The impact of demographics such as gender and previous use are also discussed.

Perceptions of Psychedelic Therapy

The first research question was to explore participant perceptions of psychedelic therapy, and whether there was a significant difference in perceptions between students and

psychologists. The mean value of 0.86 for perceptions suggests that, on average, all participants leaned towards agreeing with statements that favourably assessed the safety, acceptability, and therapeutic potential of psychedelic therapy, reflecting a supportive or open attitude towards its use.

Contrary to the first hypothesis, the results did not show a significant difference between students and psychologists in their perceptions of psychedelic therapy. These results are also in contrast to previous research findings (Barnett et al., 2018; Hearn et al., 2022) that students/trainees were more likely to express positive attitudes than practicing professionals. The current findings suggest that both students and psychologists share similar views on psychedelic therapy.

This homogeneity in perceptions between the two samples may indicate that the discourse around psychedelic therapy is approaching a relative level of consensus within the field, which could potentially be driven by a recent increase in research and media coverage on PAP. The positive perceptions among both students and registered psychologists underscore the potential for PAP to gain broader acceptance and implementation. Given the importance of professional perceptions in the adoption of new therapeutic modalities, this uniformity could facilitate the acceptance and integration of psychedelic therapy into mainstream clinical practice (e.g., Norcross & Wampold, 2018; Stern et al., 1999; Stirman et al., 2013).

Overall, the findings suggest promise regarding the acceptance and integration of psychedelic therapy within the field of applied psychology. Collaboration between educational institutions, policy makers, and mental health professionals is needed to further the understanding the potential applications of PAP. As researchers continue to receive new exemptions and funding that allow them to use psychedelics in clinical settings, it is essential

for educational institutions and professional organizations to proactively develop programming that may support psychologists' knowledge and use of PAP (Payer et al., 2024). Future research should continue to explore the nuances of attitudes towards psychedelics, as well as the impact of educational interventions on these perceptions.

Further, public perceptions of PAP are likely to have an impact on the clients that seek to access this type of therapy, as well as the practitioners and organizations who choose to provide it. Stigma has been shown to contribute to feelings of shame and a reduction in help-seeking behaviour (Cheng et al., 2018), and the stigma surrounding psychedelics may hinder some individuals from seeking or offering this type of therapy. By continuing to assess perceptions of psychedelics and psychedelic therapy, we may gain a clearer understanding as to the factors that perpetuate stigma and how this impacts clients who seek (and practitioners who offer) PAP.

Knowledge of Psychedelic Therapy

For the knowledge questions within the survey used to assess knowledge, participants scored a mean value of 4.4 questions of seven correct, which would equate to an average score of 62.9%. The median number of correct knowledge questions was 4, which would equate to a score of 57.1%. Notably, only eight participants out of 137 participants got 2 or less knowledge questions correct, and 76.6% of participants got 4 or more knowledge questions correct. Barnett et al. (2021) found that a majority (60.2%) of participants overestimated the prevalence rate for HPPD (i.e., 39.8% of participants selected the correct answer of a <0.1% prevalence rate). The same knowledge question pertaining to HPPD prevalence was used in the current study, with the removal of one response option to maintain consistency with other survey items. Interestingly, 58.7% of participants in the

current study selected the correct HPPD prevalence rate. This could be indicative of a growing knowledge base among psychologists, which is likely due to increased media coverage and research efforts.

Within education programs, qualitative descriptors of grade scores vary between provinces in Canada, and likely even between schools. When contextualizing these scores within the Alberta academic grading system, the mean score of 62.9% on knowledge questions within the current study would equate roughly to a C letter grade, which is often considered ‘satisfactory’ (Kohli, 2024; University of Lethbridge, 2024). Altogether, this distribution suggests that the majority of participants possessed a satisfactory level of knowledge about psychedelic therapy.

Although psychologists had a slightly higher mean score on the knowledge questions compared to students, this difference was not statistically significant. This suggests that both groups have a comparable level of knowledge about psychedelic therapy, challenging the assumption that professional experience translates to greater knowledge in this specific area.

Overall, it can be concluded that a majority of participants in the current study had a satisfactory level of knowledge of psychedelics. It is important to note that it is possible that students and psychologists participated in this study due to an interest in psychedelic therapy, which could explain the relatively adequate level of knowledge that was demonstrated by a majority of participants. The satisfactory knowledge level observed suggests that there is a foundational understanding of psychedelic therapy, but there remains substantial room for improvement. The rise of clinical and non-clinical use of psychedelics has led to an increasing demand for practitioners with knowledge on psychedelics to provide support for these individuals (Kopra et al., 2023). To ensure comprehensive understanding,

psychology education programs should consider integrating more content on psychedelic therapy. Additionally, continuing education for practicing psychologists should include updated information on emerging therapies like PAP.

Knowledge and Perceptions

The third research question explored whether the level of knowledge of psychedelics was associated with perceptions of their safety, risks, and therapeutic potential. This was assessed by looking for significant associations between knowledge and perceptions for the overall sample, as well as within the two samples of students and psychologists.

The results revealed a statistically significant small positive correlation between knowledge and perceptions for the overall sample. A statistically significant small positive correlation was also found within both the student and psychologist sample. These findings suggest that overall, greater knowledge about psychedelics is significantly associated with more favorable perceptions, similar to previous findings (Barnett et al., 2021). This might be due to the influence of educational experiences, exposure to recent research, or peer/colleague discussions that positively frame psychedelics.

Overall, these results highlight the importance of educational interventions in shaping perceptions of psychedelics, particularly among students. They also suggest a need for further research to explore what influences psychologists' perceptions and how these might differ from those of students. Understanding these dynamics can inform strategies to educate and engage different groups in discussions about psychedelic therapies.

These findings have important implications for the future of psychedelic therapy. As more evidence and educational resources become available, enhancing the knowledge base of both students and psychologists could lead to broader acceptance and more informed

decision-making regarding the use of PAP. It also suggests that educational initiatives focusing on evidence-based information about psychedelics could shift perceptions positively, potentially reducing stigma and increasing the willingness to explore these therapies in clinical settings. Further, the correlation between higher knowledge levels and positive perceptions suggests that as more robust evidence and educational resources for PAP become available, the general acceptance of PAP is likely to grow. This could facilitate policy changes and the development of standards and guidelines that support the safe and effective use of psychedelics in clinical practice.

Impact of Demographics on Perceptions and Knowledge

The fourth research question aimed to assess whether demographics were significantly associated with perceptions or knowledge. This was investigated by examining the impact of gender and previous use of psychedelics on both knowledge and perceptions. Due to missing data for age, university, and years registered as a psychologist, these demographic variables were not analyzed, leaving the second hypothesis (i.e., younger age will be associated with more favorable perceptions than older age) unresolved.

Gender, Perceptions, and Knowledge. Results indicated that gender identity did not have a significant impact on knowledge. In opposition to the third hypothesis, gender also did not have a significant impact on perceptions. This is in contrast to Hearn et al. (2022) and Barnett et al.'s (2018) findings that men held more favourable views towards psychedelics. However, these results are in agreement with Barnett et al.'s (2021) follow up study that did not find gender to have a significant impact on perceptions. Overall, the findings suggest that gender did not significantly impact perceptions or knowledge of psychedelic therapy. These results highlight the need for further research with larger and

more diverse sample sizes to better understand the influence of demographic variables, including but not limited to gender, on perceptions and knowledge of psychedelic therapy.

Future studies should also consider the intersectionality of various demographic factors, such as age, race, socioeconomic status, and cultural background, in addition to gender. This holistic approach can provide a more nuanced understanding of how different aspects of identity interact to influence perceptions and knowledge, as demographic factors have a substantial impact on how we perceive and interact with concepts (Seziş, 2023). Analyses such as multiple regression may be used to assess these intersections by exploring mediators and moderators as well.

Previous Use, Perceptions, and Knowledge. The fourth and final research question assessed whether previous use of psychedelics was significantly associated with perceptions. Results revealed a significant correlation between previous use and perceptions, indicating that participants with prior personal use of psychedelics held more favorable views of psychedelics than those without such experience. This supports the fifth hypothesis that previous use would be associated with more favourable perceptions of psychedelics and aligns with findings by Wells et al. (2024) in their review of perceptions of PAP. The correlation was notably stronger among psychologists ($r(38) = 0.453$, $p = 0.003$) than in the student ($r(91) = 0.244$, $p = 0.019$) sample, which was further supported by the significant independent samples t-tests. The findings revealed that the effect size for psychologists was large ($d = 1.012$) compared to a moderate effect size ($d = 0.516$) for students, underscoring the substantial impact of personal use on psychologists' perceptions.

These findings have several important implications. The statistically significant association between previous use and more favourable perceptions may point to the negative

impact of misconceived notions on the effects of psychedelics has on perceptions. In theory, this positive association may be an indication that personal use of psychedelics can have a dispelling effect on notions that were perhaps misconstrued due to stigma and misinformation. However, it is difficult to determine whether personal use of psychedelics led to a positive shift in perceptions, or whether individuals with previous use already held positive perceptions of psychedelics. The latter notion is conceivable, as it is likely that those with more positive perceptions of psychedelics would be more likely to try them. It should be noted that factors aside from personal use, such as having a knowledge base on psychedelics, can also impact perceptions. Thus, misconceived notions can be dispelled not only by personal use, but also by other factors such as acquiring an adequate and accurate knowledge base.

The data also revealed a statistically significant relationship between previous use and knowledge ($t = 4.930$, $p < 0.001$, $d = 0.877$), with participants who reported previous psychedelic use demonstrating higher knowledge levels than those without such experience. This association was further observed in both the student and psychologist samples, with psychologists showing a large effect size ($d = 1.255$), compared to a moderate effect size ($d = 0.708$) among students. Independent samples t-tests further supported the significant relationship between previous use and knowledge, as well as the pronounced significance seen within the psychologist's sample. This distinction highlights the unique role personal use may play in enhancing understanding, particularly in professional contexts.

Individuals with personal experience using psychedelics tended to have higher levels of knowledge, which may be due to their direct encounters with the effects and contexts of use. This enhanced understanding can likely be linked to more nuanced views about the

safety and therapeutic potential of psychedelics gained by personal use. Because of the ineffable and widely varied nature of psychedelic experiences, these nuances can be lost when attempting to translate clinical findings into real-world psychedelic experiences (Payer et al., 2024; Villiger, 2024). Those with personal experience therefore may serve as valuable resources in educational settings, offering firsthand accounts and insights that can complement clinical and academic knowledge, helping bridge the gap between theoretical understanding and practical experience. Further, psychologists with personal experience of psychedelics may contribute to reducing the stigma associated with psychedelic use through open discussions of their experiences.

Interestingly, the idea that personal experience with psychedelics is crucial for psychologists who hope to administer psychedelic therapy was highlighted by participants within the qualitative responses of the current survey. Participants alluded to the idea that no amount of theoretical learning can replace experiential knowledge that comes from firsthand use. Indeed, the idea that the phenomenology of a psychedelic experience is only attainable through personal experience has been touted by scholars who are well-known in the field of psychedelic science (Phelps, 2017). According to Stanislav Grof (1980), “it is impossible for the future LSD therapist to acquire deeper understanding of the process without first-hand experience” (p. 101). Hoffer and Osmond (1967) suggest that therapists gain an enhanced sense of empathy and attunement with what clients may experience during a psychedelic therapy session if they have had a psychedelic experience themselves. Within a MAPS Phase 1 study, researchers gained FDA approval to allow therapists in the MDMA Therapy Training Program to be participants in a study on the psychological effects of MDMA therapy on healthy participants (MAPS, 2021).

However, arguments have also been made against the need for psychedelic therapists to be required to have first-hand experience with psychedelics. Some researchers believe that other experiences (such as holotropic breathwork and other non-drug related forms of mystical experiences) can provide a similar level of experiential knowledge due the profound alterations in affect, perception, and realizations that are induced, likening them to the psychedelic experience (Emmerich & Humphries, 2023; Villiger, 2024). This increases accessibility for therapists to become psychedelic therapists despite being medically or otherwise contraindicated from taking psychedelics. Additionally, there is no evidence to suggest that psychedelic therapists with personal psychedelic experience have better treatment outcomes because this has never been studied. However, self-reports by therapists who have personal experience with psychedelics have reported experiencing positive personal and professional effects. Altogether, personal psychedelic experiences have a low risk profile and may be valuable for psychedelic therapists. Therefore, Villiger (2024) argues that while it's unjustifiable to make personal experience a requirement, it should be offered to training psychedelic therapists as an option.

Lastly, educational programs can be designed to address both individuals with and without previous experience with psychedelics. For those without prior use, programs can focus on providing comprehensive, evidence-based information to build knowledge and foster informed perceptions. For those with previous use, educational programs may seek to deepen their understanding of psychedelic therapy by integrating theoretical and experiential knowledge. Providing the opportunity for those who have personally used psychedelics to combine academic knowledge with their personal experiences within educational settings can provide a more holistic understanding of psychedelics. Integrative approaches that include

scientific research, clinical data, and personal experiences can create a more engaging and informative learning experience. However, special consideration must be given to the ethical implications surrounding personal discourse in classroom or training settings, especially as it pertains to privacy and autonomy (Spence et al., 2014). In turn, if education or training programs seek to integrate clinical and personal perspectives on psychedelics, emphasis must be placed on creating and maintaining a sense of safety (Luft & Stevens, 2024).

Implications

The findings of this study have several important implications for the field of psychology, especially as it pertains to the integration of psychedelic therapy into clinical practice and education. First, the significant association between knowledge and favourable perceptions of psychedelic therapy underscores the importance of enhancing education in this area. Participants who demonstrated higher levels of knowledge about psychedelics also held more positive attitudes towards their therapeutic potential. This may suggest that increased access to reliable, evidence-based information about psychedelic therapy may help to reduce stigma and promote more informed and open-minded attitudes among psychologists and students. Given that a majority of participants reported not having received formal education on psychedelic therapy, integrating this topic into psychology curricula may be a critical steppingstone to advancing the field of psychedelic therapy. This could help fill a significant knowledge gap and equip future psychologists with the necessary understanding to responsibly incorporate this emerging treatment into their knowledge base and practice. Some participants opposed education on psychedelics due to legal concerns, highlighting the importance of staying informed on regulations as the legal landscape evolves. For example, therapists might be asked to support clients who have used psychedelics outside the clinical

context, requiring them to understand integration without endorsing practices that may still be unregulated.

Additionally, the findings regarding personal use of psychedelics are noteworthy. The significant correlation between previous psychedelic use and more favourable perceptions, particularly among psychologists, points to how firsthand experience may shape professional attitudes. However, it remains unclear whether personal use leads to more favorable perceptions or vice versa. The question as to whether personal experience with psychedelics, or other forms of altered consciousness through practices such as meditation, has a significant impact on that individual's clinical use of (or willingness to recommend) psychedelic therapy has been debated (Phelps, 2017). This presents an opportunity for future research to explore the role of personal experience with psychedelics (or otherwise obtained altered states of consciousness) in shaping perceptions and professional competence in psychedelic therapy and to examine its impact on treatment outcomes. Further, education programs could be designed to accommodate both individuals with and without personal experience with psychedelics, fostering an inclusive and supportive learning environment. By integrating personal experiences with academic knowledge, these programs can create a more holistic and informed understanding of psychedelic therapy. However, ethical considerations regarding privacy, autonomy, and the role of personal disclosure in educational settings must be carefully navigated to ensure a safe and respectful learning space for all.

Another key implication of this study relates to the lack of significant findings regarding demographic variables such as gender. Although previous studies have suggested that men may hold more favorable views of psychedelics (Barnett et al., 2018; Hearn et al., 2022; Wells et al., 2024), this study did not find any significant differences in perceptions or

knowledge based on gender. This highlights the need for future research with larger and more diverse samples to explore the potential intersectional influence of gender and other demographic factors, such as age and cultural background. Understanding how these variables intersect to shape perceptions and knowledge is essential for developing targeted educational initiatives that address the unique needs and concerns of different groups.

The current findings also emphasize the importance of addressing ethical and procedural concerns as psychedelic therapy becomes more widely accepted. Clients may become curious about psychedelics through social media or anecdotal experiences, but may lack understanding of how these therapies might fit into their treatment plans. Openly addressing psychedelics within a clinical context helps normalize these treatments and help clients make informed decisions. Participants raised concerns about the lack of trained providers, pointing to the need for comprehensive training programs that ensure psychologists are adequately prepared to safely and effectively administer PAP. Familiarity with the unique processes of psychedelic therapy (such as preparation, session navigation, and integration) is essential. Traditional therapies don't typically engage with altered states of consciousness, so this demands a specific set of competencies, further emphasizing the need for specialized training, especially for those interested in administering psychedelic therapy. Informed consent protocols must be detailed to ensure clients understand the unique risks of altered states. As noted in participant responses, a lack of trained providers presents a risk to clients' safety and well-being, so therapists should undergo comprehensive training to develop and maintain competency. Developing standardized competencies could help provide consistent foundational knowledge, guiding educators and establishing clear training expectations for professionals, especially for those interested in administering PAP. Lastly,

participants noted that ethical guidelines and education should seek to honour the cultural roots of psychedelics and support clients' inclusion of traditional practices where appropriate. Indigenous communities have long used psychedelics in sacred rituals, and Western practitioners should approach this with cultural humility and sensitivity to avoid commodification and exploitation.

Limitations

While this study provides valuable insights into the perceptions and knowledge of psychedelic therapy among psychology students and professionals, there are several limitations to note. First, the sample size of 137, while sufficient for some statistical analyses, may not be large enough to generalize findings to the entire population of psychology students and psychologists in Canada. The difference in sample sizes between psychologists ($n = 41$) and students ($n = 96$) should also be taken into consideration when interpreting results, especially for analyses that compared the two groups. Data analyses on unequally sized samples results in a general loss in statistical power.

The study's participants were self-selected, which could introduce a selection bias. Those with strong opinions, interest, or experience in psychedelic therapy may have been more likely to participate, potentially skewing the results. Therefore, these results may not necessarily be entirely generalizable to the larger population of registered psychologists and psychology graduate students in Canada. Variances in sampling distributions are to be expected because samples from populations naturally vary (deVeaux et al., 2018).

Because the current study relies on self-reported data, these results may also be subject to various biases, including social desirability bias and response bias. Participants may have over- or under-reported their knowledge and perceptions to align with what they

perceive to be socially acceptable or desirable answers. This is especially true for the topic of this study, due to the current legal status and the polarizing history of psychedelics. As a cross-sectional study, the research provides a snapshot of perceptions and knowledge at a single point in time. This design did not account for the assessment of changes over time or the determination of causal relationships. Longitudinal studies would be necessary to understand how perceptions and knowledge evolve and to attempt to establish causality.

The questions used to measure perceptions and knowledge, while adapted from previous studies, may have limitations in their reliability and validity. The current survey was newly created for this study and does not have reliability or validity data. Although the researcher used acceptability questions that Davis et al. (2021) adapted from the original TARF-R (Reimers et al., 1991), reliability and validity data on the TARF-R are not necessarily generalizable here because only 7 out of 21 items from the TARF-R were used, and they were further modified by changing the language and response options.

The combination of different questions that were merged into a single 'perception' variable could have led to oversimplification or misinterpretation of nuanced views. Further, the knowledge aspect of the study consisted of only seven questions, which may not comprehensively capture the full spectrum of knowledge about psychedelic therapy. A more extensive and detailed assessment could provide a deeper understanding of psychedelic knowledge levels.

While the current study statistically analyzed gender and previous use of psychedelics with respect to perceptions and knowledge, other potentially relevant demographic and psychological variables were not assessed, due to missing data and other problems. Although some other demographic factors were measured (e.g., age, religion, race/ethnicity), these

variables were not statistically analyzed in the current study due to missing data, being outside of the scope of the current study, and/or they were collected as qualitative data to describe the sample. Future studies may seek to analyze these demographic variables and any others that may seem relevant.

Future Research

Future research is needed and may seek to address the current study limitations by utilizing larger and more diverse samples, longitudinal designs, more comprehensive and validated measurement tools, and accounting for a broader range of demographic and psychological factors. Studies may seek to assess the reliability and validity of the current instrument in assessing perceptions and knowledge of psychedelic therapy. Future research may also seek to use inferential statistics to further assess for associations between various demographics with perceptions and knowledge. By doing so, researchers can build a more robust understanding of the factors that shape perceptions and knowledge of psychedelic therapy, ultimately contributing to more informed and effective educational and policy initiatives.

The qualitative responses within this study highlight additional areas that warrant further exploration in future research. Considering the finding that most participants did not learn about psychedelics within their education programs and a majority further reported that they believe it should be included within curricula, it would be useful to further explore this belief within a student or prospective student sample. Student and prospective student reactions to the idea that psychedelic therapy may be added to the curriculum could be another interesting avenue to explore, as some participants in the current study mentioned concerns regarding the addition of yet another treatment option to their education. Future

research may seek to further examine areas of interest in learning, as well as common knowledge gaps. This may help inform curricula within education and training programs to ensure that psychologists are adequately equipped with the knowledge needed to help ensure the safety and efficacy of psychedelic therapy.

Several participants underscored the importance of respecting and honouring cultural contexts surrounding historical psychedelic use. Although psychedelic use in Western culture was popular in the 1960s and has regained popularity in recent years, Indigenous cultures around the world have been using these medicines for millennia (Williams et al., 2022). Participants in the current study reported concerns regarding a lack of cultural awareness surrounding psychedelic therapy, as well as the commodification of psychedelic medicines for profit. Seeking to elucidate Indigenous perspectives on psychedelics, especially regarding contemporary Western use of psychedelics, is critical in order to avoid further colonization and exploitation of Indigenous peoples and culture.

Conclusion

Psychedelic therapy is a groundbreaking approach that could address significant gaps in the treatment of mental disorders, including major depressive disorder (MDD), cancer-related anxiety, PTSD, and substance use disorders. With clinical trials of psychedelic therapy on the rise, continuing studies on the perceptions of this therapy are needed. Psychologists' perceptions of therapies are particularly critical for future implementation, and their attitudes towards psychedelic therapy have seldomly been addressed in the literature, especially in Canada. It is important to assess opinions regarding this field as the preliminary evidence of the efficacy and safety of psychedelic therapy point to the potential for more psychedelics to become legal medical treatment options for mental health in Canada.

Psychologists' perceptions of psychedelic therapy have been largely overlooked but are critical to assess as they may pose potential barriers for acceptance, dissemination, and the translation of research findings into clinical applications for psychedelic therapy, thereby impeding client accessibility. Considering the reemergence of psychedelics in research and clinical settings, this research is both timely and relevant in addressing barriers to this potential treatment option. It is also essential to continue to check in with public perception of these types of therapies, as perceptions may change as the field of psychedelic therapy continues to evolve. Perceptions are complex and nuanced interpretations and may constantly be subject to change by the influence of various factors such as cohort effects, new research findings, and media.

The purpose of the current study was to investigate the perceptions and knowledge of psychedelic therapy among psychology graduate students and registered psychologists in Canada through an online survey. Participants shared multifaceted insights on both the promise and challenges within the integration of psychedelics into clinical practice, offering nuanced insights into the evolving landscape of mental health treatment. The study further aimed to examine how perceptions and knowledge levels interacted, and how they varied based on registration status and demographic factors such as gender and previous experience with psychedelics.

The survey included several qualitative items to assess specific aspects of perceptions, such as concerns, learning interests, sources of learning information, inclusion of psychedelic therapy in education, and general thoughts on its clinical availability. The most common concern among participants was the lack of trained providers, while the primary learning interest was how to conduct PAP sessions. Participants primarily reported using academic

journals and colleagues as sources of information about psychedelic therapy. A significant majority (69.6%) reported that they were not taught about psychedelics in their formal education programs, yet most participants (86.2%) believed that psychedelic therapy should be included in psychology education. Cultural and ethical considerations were also noted, highlighting the need to recognize Indigenous and other relevant cultural perspectives, historical use, and knowledge into the Western adoption of psychedelic therapy.

The quantitative findings indicated no significant difference in perceptions of psychedelic therapy between students and psychologists. This suggests a general consensus within the field regarding the therapeutic potential and risks of psychedelics. Participants demonstrated a satisfactory level of knowledge about psychedelic therapy (based on common qualitative grade descriptions used in Alberta; Kohli, 2024), with no significant difference in knowledge levels between students and psychologists. A positive correlation was found between knowledge and favourable perceptions of psychedelic therapy, emphasizing the importance of evidence-based education in shaping positive attitudes. Previous personal use of psychedelics was significantly associated with both more favourable perceptions and with higher knowledge levels, suggesting that firsthand experience with psychedelics is associated with a more informed and positive outlook on their safety, risks, and therapeutic potential. Gender was not found to have statistically significant impact on perceptions nor knowledge.

These findings highlight a need to integrate psychedelic therapy education into counselling and psychology curricula to address the significant gap in formal training. The lack of trained providers and the expressed interest in learning how to conduct psychedelic therapy sessions underscores the need for evidence-based educational programs. The association between higher knowledge levels and more favourable perceptions suggests that

comprehensive education can positively influence attitudes towards psychedelic therapy. Enhancing knowledge through reliable sources can help foster informed decision-making, reduce stigma, and support the safe and effective use of psychedelic assisted therapy by ensuring psychologists are well-equipped with the necessary knowledge and skills to incorporate this emerging field into their practice. As psychedelic therapy gains popularity and accessibility, it is crucial to address procedural concerns and ethical considerations to maximize benefits and minimize risks in clinical practice.

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Appendix A: Letter to Graduate Psychology Departments

To Whom it May Concern,

My name is Victoria Cobuz and I'm a graduate student in the Master of Education Counselling Psychology program at the University of Lethbridge. I'm writing to you to ask if you would be willing to disseminate an online survey to the students in your graduate psychology/counselling program. I've included a document that you may share with students that briefly describes the nature of the study and includes a link to the online survey. The survey will take approximately 20-30 minutes to complete.

For my thesis, I will be assessing the perceptions held by Canadian psychologists' and students enrolled in a graduate level psychology program regarding psychedelic therapy. Psychologist's perceptions of therapies are critical for implementation, and the resurgence of psychedelic therapy in clinical and research settings point to the potential for it to become a viable treatment option in the future. The survey will assess demographics, general knowledge of psychedelics and recent research in the field, and perceptions on promise, risk, recreational use, concerns regarding psychedelic therapy and its legalization, associated learning interests, and knowledge sources used to inform oneself about psychedelic therapy. More information can be found on the attached document and on the online consent form, which can be found on the first few pages of the online survey.

Please inform me when you have forwarded this email to the students enrolled in this program and don't hesitate to reach out if you have any questions or concerns. Any assistance in the dissemination of this survey will be greatly appreciated.

This study has been approved by the Research Ethics Board at the University of Alberta and will be supervised by Dr. Toupey Luft. Contact information for the researcher and supervisor can be found below. You may also contact the Chair of the Research Ethics Board at the

University of Alberta (Phone: 780-492-2615, Email: reoffice@ualberta.ca) for verification of ethical approval or for any concerns (University of Alberta Ethics ID: Pro00130686). Thank you very much for your time and consideration.

Sincerely,

Researcher

Victoria Cobuz

Email: cobuzv@uleth.ca

Supervisor

Dr. Toupey Luft

Email: toupey.luft@uleth.ca

Appendix B: Brief Summary of Research

The field of psychedelic research has seen a revival in recent years that has yielded evidence for their therapeutic benefits. Psychedelics such as psilocybin (commonly known as “magic mushrooms”), 3,4-methylenedioxymethamphetamine (MDMA, also known as “molly” or ecstasy), lysergic acid diethylamide (LSD, commonly referred to as “acid”), and ketamine are psychoactive drugs that produce changes in mood, thought, and perception. Psychedelic therapy refers to the clinical use of psychedelics in combination with psychotherapy to treat mental disorders. Psychologists’ perceptions of therapies are critical for future implementation, and attitudes towards psychedelics and psychedelic therapy have seldomly been addressed in the literature, especially in Canada.

The study is titled Canadian Psychologists’ and Psychology Graduate Students’ Perceptions of Psychedelics and Psychedelic Therapy and will be investigated using an online survey. The survey will take approximately 20-30 minutes to complete. This study has five research objectives: 1) to elucidate perceptions of the safety, risks, and therapeutic potential of psychedelic therapy, as well as merit for further research, 2) to assess for associations between attitudes and demographics, 3) to assess for associations between opinions and knowledge, 4) to assess for differences in opinion between registered psychologists and graduate students in psychology programs, and 5) to assess for associations between opinions and previous use of psychedelics. To address the research objectives, an online survey will be administered to Canadian psychologists and graduate students in psychology programs. The survey will assess demographics, knowledge of psychedelics and recent psychedelic therapy research, and opinions regarding the safety, risks, promise, acceptability, and merit for further research using Likert

scale responses. The data will be tested for associations between opinions and psychedelic knowledge, as well as opinions and demographic variables.

This addition to the limited literature on the perceptions of psychedelics in Canada will contribute to the field by elucidating potential barriers for acceptance and dissemination of psychedelic therapy. This has implications for the accessibility of this potential treatment option that may meet unmet needs for individuals with mental disorders such as depression, anxiety, post-traumatic stress disorder, and substance use.

This study has been approved by the Research Ethics Board at the University of Alberta. Contact information for the researcher and supervisor can be found below. You may also contact the Chair of the Research Ethics Board at the University of Alberta (Phone: 780-492-2615, Email: reoffice@ualberta.ca) for verification of ethical approval or for any concerns (University of Alberta Ethics ID: Pro00130686). Thank you very much for your time and consideration. You may access the online survey by clicking the link below.

Researcher

Victoria Cobuz

Email: cobuzv@uleth.ca

Supervisor

Dr. Toupey Luft

Email: toupey.luft@uleth.ca

Survey link: [survey link]

Appendix C: Survey Preamble, Consent, and Questions

Canadian Psychologists' and Psychology Graduate Students' Perceptions of Psychedelics and Psychedelic Therapy

Welcome to my Survey

The following pages will detail the purpose of this research study, details of your participation, any risks to you, how the data will be used, and the consent form. It is not until you click the 'Next' button on the page titled 'Consent Form' that you will be providing your consent to participate in this study. Thank you for participating in my survey. Your feedback is important.

Purpose of the Study

You are being invited to participate in a study titled 'Canadian Psychologist and Psychology Graduate Students' Perceptions of Psychedelics and Psychedelic Therapy' that is being conducted by Victoria Cobuz.

Psychologists' perceptions of therapies are critical for future implementation, and their attitudes towards psychedelic therapy have seldomly been addressed in the literature, especially in Canada. The proposed study seeks to assess the perceptions of psychedelic therapy held by Canadian psychologists and graduate students in psychology programs through a survey. The survey will assess knowledge of recent psychedelic therapy research and psychedelics generally, as well as opinions regarding the safety, risks, promise, and merit or further research on psychedelics.

In order to participate in the study, you must be either a registered psychologist practicing or in a graduate psychology program in Canada, over the age of 18, residing in

Canada, and able to speak, read, and write in English. There will be attention filter questions in the survey that require participants to give a specified response. This is to help ensure participants are paying attention to survey questions and answering questions intentionally. If a participant does not provide the correct response to a filter question, the data from that participant will not be used in analyses.

Potential Risks

Completing this survey may cause some inconvenience to you, such as the time required to complete the survey (approximately 20-30 minutes). This risk is mitigated by allowing the option to withdraw at any time by exiting the survey with no consequences.

Another risk is the discomfort that may arise from expressing views regarding psychedelics, which are mostly illegal substances in Canada. This risk is mitigated by the researcher taking any means possible to keep data anonymous and confidential. More information about this can be found below, under the heading “Confidentiality/Anonymity.”

Potential Benefits

Participants who fully complete the survey may benefit by contributing to the advancement of knowledge about psychedelic therapy and may feel a sense of impact by contributing to this knowledge. Participants may also find personal interest in participating in this research.

Confidentiality/Anonymity

The research survey will not ask for personal information such as names, and other potentially identifying information collected (e.g., name of school or program, age) will not be

linked to identifying information of respondents. Data collected will be stored electronically on the researcher's laptop and kept password-protected and all data will remain anonymous throughout the study. Any printed files will be stored in a locked file cabinet. Only the researcher and research supervisor will have access to potentially identifying information, and all data will be kept confidential and will be destroyed after five years.

Right to Withdraw

Your participation in this research is voluntary. You have the right to withdraw at any time during the survey, for any reason, without explanation or penalty of any sort. If you do withdraw before submitting the completed survey, your data will be discarded. Only surveys that have been completed will be kept and used for data analysis and included in the results. Due to the anonymous nature of participation, data may not be withdrawn upon completion of the study.

Anticipated Use of Data

The researcher may use this data within their thesis, which may become available to the public pending thesis approval and defence. Further, the researcher may pursue publication of this study, in which case data will become publicly available. Individual responses will not be reported or published, but rather presented as aggregate data (e.g., number of psychologists vs. graduate students, number of Albertan participants vs. those from British Columbia). Data will be kept anonymous and destroyed after five years.

Follow-up of Findings

To obtain results from the study, please contact the researcher, Victoria Cobuz, at cobuzv@uleth.ca.

Questions or Concerns

If you have any questions or concerns, please contact the researcher, Victoria Cobuz, at cobuzv@uleth.ca. You may also contact the research supervisor, Dr. Toupey Luft, at toupey.luft@uleth.ca.

Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Alberta (Phone: 780-492-2615, Email: reoffice@ualberta.ca, University of Alberta Ethics ID: Pro00130686).

Consent Form

You may contact the researcher and the supervisor at their provided emails (listed above), and you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Chair of the Faculty of Education Human Subjects Research Committee at the University of Lethbridge (contact information provided above).

By clicking on the 'Next' button at the bottom of this page and by completing and submitting this survey, you are indicating that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Appendix D: Survey

Survey Respondent Demographic Information

- 1) Age:
 - a) 17 or younger
 - b) 18-20
 - c) 21-29
 - d) 30-39
 - e) 40-49
 - f) 50-59
 - g) 60 or older
- 2) Which province/territory do you currently reside in?
 - a) Alberta
 - b) British Columbia
 - c) Manitoba
 - d) New Brunswick
 - e) Newfoundland and Labrador
 - f) Nova Scotia
 - g) Ontario
 - h) Prince Edward Island
 - i) Quebec
 - j) Saskatchewan
 - k) Northwest Territories
 - l) Nunavut
 - m) Yukon
- 3) Gender identity:
 - a) Man
 - b) Woman
 - c) Transgender
 - d) Non-binary
 - e) Prefer not to say
 - f) Other (please specify):
- 4) Ethnic identity:
 - a) Caucasian or White
 - b) First Nations, Metis, or Inuit
 - c) Arab
 - d) Chinese
 - e) Japanese
 - f) Filipino
 - g) Korean
 - h) South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
 - i) Southeast Asian (e.g., Vietnamese, Cambodian, Thai, etc.)

- j) European
 - k) Latinx, Hispanic, or Chicanx
 - l) African American, Black, or Caribbean
 - m) Other (please specify):
- 5) Religious affiliation:
- a) Abrahamic
 - b) Eastern
 - c) Spiritual/mixed
 - d) Atheist
 - e) Agnostic
 - f) Indigenous Spirituality
 - g) None
 - h) Prefer not to say
 - i) Other (please specify):
- 6) Current training level:
- a) Enrolled in a psychology graduate program
 - b) Master's degree
 - c) PsyD
 - d) PhD
- 7) Are you currently a registered or provisional psychologist?
- a) Yes
 - b) No
 - i) If yes, how many years have you practiced as a registered or provisional psychologist?
 - (1) Less than 1 year
 - (2) 1-3 years
 - (3) 4-6 years
 - (4) 6-8 years
 - (5) 9-11 years
 - (6) 12 or more years
- 8) If you are a student, please indicate which university you are currently attending.
- a) Acadia University
 - b) Adler Professional School of Professional Psychology
 - c) Athabasca University
 - d) Brandon University
 - e) Briercreech College and Seminary
 - f) Canada Christian College & School of Graduate Theological Studies
 - g) City University
 - h) Concordia University
 - i) Gonzaga University
 - j) McGill University
 - k) Memorial University of Newfoundland
 - l) Providence Theological Seminary

- m) Saint Paul University
 - n) Simon Fraser University
 - o) St. Stephen's College (affiliated with University of Alberta)
 - p) Thompson Rivers University
 - q) Trinity Western University
 - r) Tyndale Seminary
 - s) Université de Laval
 - t) Université de Moncton
 - u) Université de Montréal
 - v) Université de Saint-Boniface
 - w) Université de Sherbrooke
 - x) Université de Québec à Montréal
 - y) Université de Québec à Rimouski
 - z) Université du Québec à Trois-Rivières
 - aa) Université du Québec en Abitibi-Témiscamingue
 - bb) Université du Québec en Outaouais
 - cc) University of Alberta
 - dd) University of British Columbia
 - ee) University of Calgary
 - ff) University of Guelph
 - gg) University of Lethbridge
 - hh) University of Manitoba
 - ii) University of New Brunswick
 - jj) University of Northern British Columbia
 - kk) University of Ottawa
 - ll) University of Regina
 - mm) University of Saskatchewan
 - nn) University of Toronto
 - oo) University of Victoria
 - pp) University of Winnipeg
 - qq) Western University
 - rr) Wilfrid Laurier University
 - ss) Yorkville University
 - tt) Other (please specify):
- 9) If you are a student, what type of program are you in?
- a) Masters
 - b) PsyD
 - c) PhD
- 10) If you are a student, what year of your program are you in?
- a) First
 - b) Second
 - c) Third
 - d) Fourth or greater

Knowledge Questions

The following questions will ask about your knowledge pertaining to psychedelic research and on psychedelic substances generally such as 5-methoxy-N,N-dimethyltryptamine (5-MeO-DMT); ayahuasca; N,N-Dimethyltryptamine (DMT); lysergic acid diethylamide (LSD); psilocybin; and 3,4-methylenedioxy-methamphetamine (MDMA).

- 1) Which of the following psychedelics can be naturally derived?
 - a) LSD
 - b) Psilocybin
 - c) Ketamine
 - d) None of the above
- 2) What is the prevalence of hallucinogen use disorder among those 18 years of age and older in the U.S.?
 - a) <0.1%
 - b) 5%
 - c) 10%
 - d) 35%
- 3) Which Indigenous psychedelic from South America has led to a significant tourism industry, drawing large numbers of travelers from developed countries?
 - a) Ayahuasca
 - b) Ketamine
 - c) Psilocybin
 - d) LSD
- 4) Classical psychedelics (e.g., psilocybin, LSD, DMT) primarily act on the brain through which neurotransmitter system?
 - a) Cannabinoid
 - b) Dopamine
 - c) Norepinephrine
 - d) Serotonin
- 5) Which of the following psychedelics are available through legal exemptions for compassionate use in Canada, U.S., Switzerland, and Ireland?
 - a) MDMA
 - b) Psilocybin
 - c) LSD
 - d) None of the above
 - e) All of the above
- 6) Which psychedelic has been approved for the treatment of treatment-resistant depression in Canada and the US?
 - a) Esketamine
 - b) Ayahuasca
 - c) MDMA
 - d) None of the above
 - e) All of the above

- 7) Which of the following psychedelics has shown to be an efficacious treatment for cancer-related depression and anxiety in recent randomized clinical trials (e.g., Griffiths et al., 2016; Ross et al., 2016)?
 - a) Ayahuasca
 - b) MDMA
 - c) Psilocybin
 - d) None of the above
- 8) Please select 'strongly agree.'
 - a) Strongly disagree
 - b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree

Opinion Questions

The following questions will ask about your attitudes towards psychedelic substances such as 5-methoxy-N,N-dimethyltryptamine (5-MeO-DMT); ayahuasca; N,N-Dimethyltryptamine (DMT); lysergic acid diethylamide (LSD); psilocybin; and 3,4-methylenedioxy-methamphetamine (MDMA).

- 1) Psychedelics show promise in treating mental disorders.
 - a) Strongly disagree
 - b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree
- 2) Psychedelics show promise in treating substance use disorders.
 - a) Strongly disagree
 - b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree
- 3) I am concerned about the potential legalization of psychedelic compounds for medical use.
 - a) Strongly disagree
 - b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree
- 4) The federal government should fund research into potential psychedelic treatments for mental health and substance use disorders.
 - a) Strongly disagree

- b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree
- 5) Recreational/non-medical use of psychedelics should be legalized.
- a) Strongly disagree
 - b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree
- 6) Medical and clinical use of psychedelics should be legalized.
- a) Strongly disagree
 - b) Moderately disagree
 - c) Neutral
 - d) Moderately agree
 - e) Strongly agree
- 7) What are your biggest concerns (if any) if psychedelics are legalized for medical use (select all that apply)?
- a) Addictive potential
 - b) Cost/insurance coverage
 - c) Lack of trained providers
 - d) Logistics of psychedelic assisted psychotherapy sessions
 - e) Medication interactions
 - f) Exploitation of patients under the influence of psychedelics
 - g) Time requirement for psychedelic assisted psychotherapy sessions
 - h) Use in patients where it should be contraindicated (e.g., psychosis)
 - i) No concerns
 - j) Other _____
- 8) What are you most interested in learning about in preparation for the potential use of psychedelics in treatment (select all that apply)?
- a) Addictive potential
 - b) How to conduct psychedelic assisted psychotherapy
 - c) Management of “bad trips”
 - d) Medication interactions
 - e) Patients who should be excluded from treatment with psychedelics
 - f) Pharmacology of psychedelics
 - g) Side effects of psychedelics
 - h) Potential benefits
 - i) Nothing
 - j) Other _____
- 9) Which information sources have you used (if any) to inform yourself about potential psychedelic treatments (select all that apply)?
- a) Academic journal articles

- b) News/magazine articles
 - c) Documentary films
 - d) Podcasts
 - e) Television
 - f) Textbooks
 - g) Books
 - h) Colleagues
 - i) Other _____
- 10) Were you educated about psychedelics in your formal education?
- a) Yes
 - b) No
- 11) Do you think psychedelic therapy should be included within future psychology education programs?
- a) Yes
 - b) No
- i) Please explain the rationale behind your response. _____
- 12) What are your general thoughts about the clinical use of psychedelics?
- 13) Please write the word 'easy' as your answer to this question.
- 14) Please explain whether you believe psychedelics should be available for clinical use, and why/why not.
- 15) If you have any additional thoughts or concerns regarding psychedelic therapies, please feel free to share them here.
- 16) OPTIONAL QUESTION (keep in mind that no identifying information is connected to your response): Have you used psychedelics in the past?
- a) Yes
 - b) No

Acceptability of MAT or PAT (Modified by Davis et al. (2021) based on Treatment Acceptability Rating Form Revised (TARF-R), developed by Reimers et al., 1991)

Psychedelic-assisted therapy (PAT) refers to therapeutic practices that involve the ingestion of a psychedelic drug (e.g., MDMA, psilocybin) as an adjunct to psychotherapy for people experiencing mental disorders such as substance use, PTSD, depression, or anxiety. Please complete the items listed below. The items should be completed based on what you think about the use of psychedelic substances as part of treatment.

- 1) I have a very clear understanding of psychedelic-assisted therapy.
- a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree

- 2) I find psychedelic-assisted therapy to be very acceptable.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree
- 3) I am very open to my clients engaging in psychedelic-assisted therapy.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree
- 4) Given the clients I work with, I think psychedelic-assisted therapy would be a very reasonable treatment approach.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree
- 5) I think it is very likely that there might be disadvantages of psychedelic-assisted therapy.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree
- 6) I think it is very likely that psychedelic-assisted therapy could make permanent improvements in my clients' lives.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree
- 7) I am very confident that psychedelic-assisted therapy would be effective for my clients.
 - a) Strongly disagree
 - b) Disagree
 - c) Neutral
 - d) Agree
 - e) Strongly agree

Appendix E: Consent from Dr. Alan K. Davis (Davis et al., 2021)

Saturday, November 5, 2022 at 17:28:33 Mountain Daylight Time

Subject: Re: Request for Replication Permission
Date: Monday, October 10, 2022 at 7:31:19 AM Mountain Daylight Saving Time
From: Davis, Alan
To: Cobuz, Victoria

Caution: This email was sent from someone **outside of the University of Lethbridge**. Do not click on links or open attachments unless you know they are safe. Suspicious emails should be forwarded to phishing@uleth.ca.

Of course! Best of luck with your research!

A

Alan K Davis, PhD
Director, Center for Psychedelic Drug Research and Education
Assistant Professor
College of Social Work
Department of Psychiatry
Pronouns: he/they
[Contact](#)

Adjunct Assistant Professor
Center for Psychedelic and Consciousness Research
Johns Hopkins University School of Medicine

[College of Social Work](#) / [Research Gate](#) / [Johns Hopkins](#) / [Source Research Foundation](#)

From: Cobuz, Victoria <cobuzv@uleth.ca>
Sent: Thursday, October 6, 2022 5:10:01 PM
To: Davis, Alan <davis.5996@osu.edu>
Subject: Request for Replication Permission

Hi Dr. Davis,

My name is Victoria Cobuz and I'm a student at the University of Lethbridge in the M.Ed. Counselling Psychology program. I reached out to you about a year ago to ask for your consent to model my survey for a research proposal for a class assignment after the survey from your 2021 article, "Attitudes and Beliefs about the Therapeutic Use of Psychedelic Drugs among Psychologists in the United States." I'd like to thank you

again for granting me this permission; it was a strong component of my research proposal survey.

This is a highly understudied area within psychedelic therapy research, and I want to continue this important line of work within Canada. I was so inspired by your work and the quality of your design that I have decided to pursue a thesis on Canadian Psychologist and Psychology Graduate Students' Perceptions of the Clinical use of Psychedelics. Your adaptation of the TARG-R for PAT was a particularly fine addition to your survey.

Now that I am pursuing a thesis on this topic, I wanted to reach out to you again to ask for your permission to replicate part your survey here in Canada. I'm hoping to include the Acceptability of MAT or PAT (Modified based on Treatment Acceptability Rating Form Revised (TARG-R), developed by Reimers et al., 1991) within my survey. I could either use the scale verbatim, or slightly adapt the wording while maintaining the essence of the constructs, depending on what you would prefer. For the purpose of my study, I would only use the PAT and not include the parallel version for MAT. Lastly, if you granted me permission to use this scale, I would be certain to cite your work.

Please let me know what you think and if you have any questions. I would be happy to share a working version of my survey if that would be helpful for you. I look forward to hearing from you!

Many thanks,

Vicky Cobuz, B.Sc. (she/her)
M.Ed. Counselling Psychology Student
University of Lethbridge
cobuzv@uleth.ca

Appendix F: Consent from Dr. Brian Barnett (Barnett et al., 2021)

Saturday, November 5, 2022 at 17:29:28 Mountain Daylight Time

Subject: Re: Request for Replication Permission
Date: Thursday, October 6, 2022 at 3:34:16 PM Mountain Daylight Saving Time
From: Brian Barnett
To: Cobuz, Victoria

Caution: This email was sent from someone **outside of the University of Lethbridge**. Do not click on links or open attachments unless you know they are safe. Suspicious emails should be forwarded to phishing@uleth.ca.

Vicky,
It's so exciting to hear about this work! You've got my permission to use any component of the survey you'd like.

Thanks,
Brian

Sent from my iPhone

On Oct 6, 2022, at 5:10 PM, Cobuz, Victoria <cobuzv@uleth.ca> wrote:

Hi Dr. Barnett,

My name is Victoria Cobuz and I'm a student at the University of Lethbridge in the M.Ed. Counselling Psychology program. I reached out to you about a year ago to ask for your consent to model my survey for a research proposal for a class assignment after the survey from your 2021 article, "Psychedelic Knowledge and Opinions in Psychiatrists at Two Professional Conferences: An Exploratory Survey." I'd like to thank you again for granting me this permission; it was a strong component of my research proposal survey.

This is a highly understudied area within psychedelic therapy research, and I want to continue this important line of work within Canada. I was so inspired by your work and the quality of your design that I have decided to pursue a thesis on Canadian Psychologist and Psychology Graduate Students' Perceptions of the Clinical use of Psychedelics. I was especially intrigued by your idea to assess knowledge as a variable.

Now that I am pursuing a thesis on this topic, I wanted to reach out to you again to ask for your permission to replicate part your survey here in Canada. I'm hoping to use either verbatim or slightly adapted versions of your knowledge and opinion questions, depending on what you prefer. If you granted me this permission, I would be certain to cite your work.

Please let me know what you think and if you have any questions. I would be happy to share a working version of my survey if that would be helpful for you. I look forward to hearing from you!

Many thanks,

Vicky Cobuz, B.Sc. (she/her)
M.Ed. Counselling Psychology Student
University of Lethbridge

Page 1 of 2

cobuzv@uleth.ca