



RESEARCH ARTICLES

Human Service Professionals', Educators', and Students' Attitudes Toward Psychedelics and Psychedelic Therapy

Michelle K. Shuler¹, E. A. Keller-Dupree

¹ Health Professions, Texas Tech University Health Sciences Center

Keywords: Psychedelics, human services, ketamine, psilocybin, psychedelic assisted therapy, professional attitudes, MDMA

<https://doi.org/10.52678/001c.132043>

Journal of Human Services

Vol. 44, Issue 1, 2025

Human service professionals are a vital component of the helping services. Their attitudes toward psychedelics and psychedelic treatments are critical for future integration into community and social service. This descriptive study explored the attitudes about psychedelics used in treatment among 72 human service students, educators, and professionals. Participants expressed uncertain attitudes about possible psychiatric and cognitive risks related to psychedelic use. However, most participants agreed that psychedelic use under medical supervision is *not unsafe*. The majority of participants strongly agreed that psychedelics show promise in treating psychiatric disorders and deserves further research. When randomly grouped, nonsignificant differences existed between those who reported prior psychedelic use compared to those who did not. Overall, this research highlights the need for further investigation into what constitutes appropriate psychedelic use education and training for human service professionals. Addressing such educational and training gaps can help ensure competency, knowledge, and skills for future use.

Therapeutic uses for consciousness-altering psychedelic drugs are gaining attention from mental health counselors (Curtis et al., 2020; Hearn et al., 2022), social workers (C. Hutchison & Bressi, 2021), psychologists (Davis et al., 2022), and psychiatrists (Reiff et al., 2020). In Western culture, psychedelics emerged to treat psychiatric disorders in the 1950s. During this time, drugs, such as lysergic acid diethylamide (LSD), showed initial therapeutic use for mood disorders and alcohol dependence (Carhart-Harris & Goodwin, 2017). However, prohibitive legislation in the 1960s effectively ended all psychedelic treatment. The 1990s saw a spike in interest and research around psychedelics in several countries (Hermle et al., 1992; Strassman & Qualls, 1994; Vollenweider et al., 1997). Such research informs the re-emergence of psychedelics to treat mental health disorders. The current attention on psychedelics can potentially bring the human services field to a new study, practice, and policymaking frontier. However, because of the war on drugs, negative media portrayal, and a general misperception, there remains a significant stigma associated with psychedelic use. This stigma could pose an important deterrent to the acceptance and integration of psychedelic therapies into the human services field.

Despite the schedule I status and stigma around psychedelics, the Federal Drug Administration (FDA) could approve some psychedelic drugs as treatment for depression, anxiety, addiction, obsessive-compulsive disorder, and trauma-related disorders (Kalfas et al., 2023). Experts in the field have noted that these treatments could be “potential game changers” (Kalfas et al., 2023, p. 2117) for conditions such as treatment-resistant depression. With emerging treatments come new clinical, ethical, legal, and social justice considerations demanding the attention of human service providers. Therefore, human service providers must be prepared to assess individuals, coordinate care, assist with informed decision-making, address potential harm reduction education and community needs, and engage in growing conversations and research around psychedelic therapies.

The purpose of this study was to assess human service students', educators', and professionals' attitudes toward the use of psychedelics in mental health treatment. Interestingly, research related to such attitudes can be found in the closely related psychiatry, psychology, social work, and counseling fields (Barnett et al., 2018; Davis et al., 2022; Hearn et al., 2022; C. A. Hutchison & Bressi, 2020). Similar research on human service professionals' attitudes toward this emerging specialty area will increase our understanding of the mental health treatment workforce. A deeper understanding can further inform the education and training necessary to develop a competent human service workforce. Understanding professional attitudes toward psychedelic treatment modalities is essential, given that attitudes may impact the willingness to refer or offer such treatments to clients. As the psychedelic science field grows, serious consideration of such modalities in the human services context is needed.

Psychedelics and Their Therapeutic Application

Psychedelics are in a class of substances often referred to as hallucinogens (meaning hallucination-producing) (Levinthol, 2023). Technically, “psychedelics” is used to refer to the “classic” drugs which include (a) lysergic acid diethylamide (LSD), (b) psilocybin, found in magic mushrooms, (c) ayahuasca, and (d) dimethyltryptamine (DMT), found in plants and animals (Barnett et al., 2018; Hearn et al., 2022). Today, when referring to psychedelic-assisted therapy, the term “psychedelics” has broadened to include other substances such as 3,4-methylenedioxymethamphetamine (MDMA) and ketamine, a dissociative anesthetic with some hallucinogenic effects.

The therapeutic use of mind-altering substances is currently experiencing what many call a renaissance (George et al., 2022; Hadar et al., 2023; Sessa, 2018). Over the past 15 years, research and clinical trials investigating psychedelic therapeutic uses have established the safety profiles and therapeutic potential of multiple psychedelics (Belouin & Henningfield, 2018; Hearn et al., 2022). A review of psilocybin, MDMA, and ketamine, substances either clinically approved by the FDA or fast-tracked for FDA approval, will follow.

Psilocybin

Research and clinical trials on psilocybin therapeutic applications provide evidence of its effectiveness in addressing cancer-related anxiety and depression (Agin-Liebes et al., 2020; Griffiths et al., 2016; Grob et al., 2011; Ross et al., 2016; Swift et al., 2017), treatment-resistant depression (Carhart-Harris et al., 2016, 2018), major depressive disorder (Davis et al., 2020; Luoma et al., 2020), obsessive-compulsive disorder (Johnson & Griffiths, 2017; Moreno et al., 2006), nicotine use disorder (Johnson et al., 2008), and substance use (Bogenschutz et al., 2015). Results of multiple studies indicate benefits such as acute improvements in mental health functioning, long-term benefits of increases in wellbeing and optimism, and continued decrease in mental health symptoms after treatment (Agin-Liebes et al., 2020; Carhart-Harris et al., 2017; Johnson et al., 2008; Johnson & Griffiths, 2017). In 2018, the FDA granted psilocybin-assisted therapy break-through therapy designation for treatment-resistant depression “Break-through therapy” status by the FDA expedites development and review of drugs where “preliminary evidence demonstrates clinical evidence the drug may have substantial improvement on at least one clinically significant endpoint over available therapy” (FDA, 2020, para. 1).

MDMA

MDMA, like psilocybin, was granted break-through therapy status by the FDA in 2017 (Feduccia et al., 2019; MAPS, 2017). Results of previous randomized double-blind studies in participants with chronic treatment-resistant post-traumatic stress disorder (PTSD) demonstrated symptom remission in 83% of the subjects, compared to 25% among those receiving psychotherapy and placebo, with symptom remission remaining at 74% at mean follow-up of 45 months (Mithoefer et al., 2011, 2013). In September 2023, the journal *Nature Medicine* published the MAPP2 confirmatory phase 3 study results evaluating the efficacy and safety of MDMA-assisted therapy in the treatment of moderate to severe PTSD. Study results suggest that MDMA-assisted therapy reduced PTSD symptoms in an ethnodiverse population (Mitchell et al., 2023).

Ketamine

Ketamine was first approved by the FDA in the 1960s as a surgical anesthetic. More recently it is being used as a non-opioid pain medication (Levinthal, 2023; Pourmand et al., 2017). When used in psychedelic therapy, Ketamine has shown considerable promise in off-label application as a clinical antidepressant. For example, several studies indicate positive therapeutic applications for major depressive disorder, suicidality, bipolar depression (Abdallah et al., 2015), PTSD (Feder et al., 2014), and treatment-resistant depression (TRD) (Levinthal, 2023). Zarate et al. (2006) study results, in patients with treatment-resistant depression, found that 71% of participants treated with Ketamine met response criteria, 29% met remission criteria

within 24 hours of administration, and 33% sustained these effects at one-week follow-up. Findings from studies such as these show both the immediate and longer-term benefits of symptom reduction when using Ketamine for conditions such as TRD.

Professional Attitudes Toward Psychedelics

Interest in psychedelic-assisted therapy (PAT) is growing. Such growth might be related to evidence suggesting its' positive impact on psychological, existential, and spiritual outcomes of seriously ill patients (Beaissant et al., 2020; Hearn et al., 2022; C. Hutchison & Bressi, 2021). Other factors may also contribute to the growing interest in psychedelic use. Personal psychedelic use is also growing. Recent studies also report past-year LSD use (for any purpose) increased 56% (Yockey et al., 2020) and past-year psilocybin use increased slightly among the general population (Johnson et al., 2019). Additional reports indicate some users even seek out mental health services after positive or challenging experiences with psychedelics (Carbonaro et al., 2016; Davis et al., 2020; Gorman et al., 2021). Considering these factors, it seems likely that human service professionals will come into contact with many who are either curious, seeking to use, or have already engaged in psychedelic use.

This upward trend in interest and psychedelic use has the potential to impact human service professionals training and education. Today, human service professionals collaborate with other providers to educate, advocate, and support clients regarding prescription medication and treatment options. Furthermore, human service professionals often engage in interventions to (a) enhance well-being, (b) change policy around domestic human conditions, (c) diverse, equitable and inclusive services advocacy, (d) raise social and political consciousness, and (e) support the underserved (Cimmino, 2004; Mehr & Kanwischer, 2011). Novel treatment options integration, such as psychedelics, will undoubtedly bring changes in the human service areas listed above.

Hutchison and Bressi (2020) pointed out potentially similar changes in the social work field. In their article, the authors highlight how such novel treatments will “usher in new clinical, ethical, legal, and social justice considerations” (p. 356). Human service professionals, like those in the social work field, should also be prepared for changes with needs assessment, care coordination, client-informed decision-making, and contribute to the growing body of literature and research around psychedelic therapies. Given that attitudes impact how professionals engage with clients, Hearn et al. (2022) remind professionals that understanding attitudes toward novel treatment modalities is important. It is within that reminder that the conceptualization of the article originated.

Previous studies examining psychiatrists (Barnett et al., 2018), psychologists (Davis et al., 2022), and counselors (Hearn et al., 2022) in the U.S. show that attitudes toward psychedelic use were mixed. More specifically, when looking at professional attitudes toward psychedelic use in

therapy, results varied. In a study of psychiatrists, 42.5% ($N = 324$) agreed that psychedelic use in therapy shows promise treating psychiatric disorders (Barnett et al., 2018). Additionally, 28.7% further noted that psychedelics may improve outcomes in therapy. A similar study by Davis et al. (2022) showed psychologists' responses to be uncertain or neutral regarding treatment application and outcomes. In this study, 41.6% of the psychologists showed a neutral attitude when asked if psychedelic use in therapy may improve outcomes, and 37.7% remained neutral when asked if psychedelic use shows promise in treating psychiatric disorders. Those in the counseling field seemed to be more aligned with positive attitudes toward the psychedelic use in therapy. Hearn et al. (2022) surveyed professional counselors ($N = 223$) and found that 63% strongly agree/agree that psychedelics show promise in treating psychiatric disorders. In this study, nearly two-thirds of professional counselors (65.4%) strongly agree/agree that psychedelics may improve outcomes in therapy.

When considering the potential long-term cognitive impact of psychedelic use, less than half (47.8%) of the psychiatrists surveyed viewed psychedelic use as a risk for long-term cognitive impairment (Barnett et al., 2018). However, more than half (64.9%) of the psychiatrists indicated that psychedelic use increases the risk for psychiatric disorders (Barnett et al., 2018). Similarly, less than half (34.6%) of psychologists in the Davis et al. (2022) study agreed that psychedelic use increases the risk of subsequent cognitive impairment, and nearly half (47.9%) believed psychedelic use increases the risk for psychiatric disorders. Hearn et al. (2022) surveyed professional counselors ($N = 223$) and found, on average, counselors neither agreed nor disagreed (33.7%) that psychedelic use increases the risk of psychiatric disorders. However, a slightly larger percentage (42.3%) strongly disagree/disagree than strongly agree/agree (32.4%) that psychedelic use increases the risk of cognitive impairment. When asked if psychedelic use is unsafe even under medical supervision, roughly one-third (34.5%) of the psychiatrists agreed (Barnett et al., 2018). Interestingly, less (17.2%) of the psychologists believed medically-assisted psychedelic use is unsafe. Even fewer counselors (11.2%) who participated in the Hearn et al. study (2022) indicated that psychedelic use under medical supervision is unsafe. Consistent with Barnett et al. (2018) and Davis et al. (2022) studies, mixed findings were identified by counselors for supporting the recreational use of psychedelic. When asked if the use of psychedelics deserves further research, psychiatrists (80.5%), psychologists (84.7%), and counselors (95.9%) all agreed.

These studies explored professional attitudes towards psychedelics and treatment outcomes, psychedelic treatment impact on cognitive functioning, psychedelic treatment medical safety, and future psychedelics research. All areas are typically addressed within professional clinical education and training, yet the somewhat varied responses between professions are interesting and deserve further consideration. One possible explanation could be the differences in training and education each profession receives. Human

service professionals are unique support to mental health services in that their experience, training, and scope can lead to interrelated work. Human services education and training will be at the front line, preparing new professionals to address the changing needs of those served. Therefore, a deeper understanding of human service providers' attitudes toward psychedelic use is imperative. Given the critical role that human service professionals play in client well-being and mental health outcomes, this article seeks to address the gaps in the literature regarding human service professionals' attitudes toward the emerging psychedelic use, both in and out of treatment. Therefore, this study examined (a) Participants' attitudes toward psychedelic use, (b) Participants' views on the acceptability of psychedelic or medication assisted therapy, and (c) differences, if any, for attitudes toward psychedelic use based on demographic comparisons.

Methods

Participants

Study participants included 72 human service trainees and professionals, with 77.8% being undergraduate or graduate human service students ($n = 52$ and $n = 4$, undergraduate and graduate, respectively), and 22.2% being human service educators ($n = 14$ and $n = 2$, undergraduate and graduate education, respectively). Geographically, participants identified residence within the Southern United States ($n = 42$; 58.3%) followed next by the Northeastern region ($n = 21$; 29.2%), with 5 participants being located in the Midwest (6.9%) and 4 being in the Western United States (5.6%). Age distributions included 20-29 year olds ($n = 15$; 20.8%), 30-39 year olds ($n = 26$; 36.1%), 40-49 year olds ($n = 12$; 16.7%), and individuals who were 50 or older in age ($n = 19$; 26.4%). In terms of gender, 80.6% ($n = 58$) identified as female, 13.9% ($n = 10$) identified as male, 4.2% ($n = 3$) identified as nonbinary or transgender, and 1.4% ($n = 1$) preferred not to answer. Of the participants, 66.7% (48 of 72) answered the demographic question for years of experience as a human service professional, with 33.3% ($n = 24$) reporting having less than 1 year of experience as a human service professional, 23.6% ($n = 17$) reporting have 1-10 years of experience, 4.2% ($n = 3$) reporting 11-20 years of experience, and 5.6% ($n = 4$) reporting experience for 21 or more years. When asking participants to self-assess their knowledge of the risks and benefits associated with psychedelic use, 12.5% ($n = 9$) reported "not at all knowledgeable", while 58.3% ($n = 42$) and 25% ($n = 18$) reported "somewhat knowledgeable" and "very knowledgeable", respectively. Lastly, 58.3% ($n = 42$) of participants reported previously using psychedelics in the past with 81% ($n = 34$ of 42) reporting "positive" or "very positive" experiences from that psychedelic use.

Instrumentation

Participant attitudes toward psychedelics were assessed by completing a modified version of the survey originating in the Barnett et al. (2018) study assessing psychiatrist attitudes toward psychedelics. For the purposes of this study, the modified Barnett survey will subsequently be referred to as the Psychedelics Attitudes Survey (PAS). Modification of items on the PAS involved changing language from “psychiatrist” to “human service professional” to better reflect the population of interest, a modification practice which mirrors use of this instrument in prior research completed by Hearn et al. (2022) with counselors. Each of the nine items were rated on a three-point scale with 1 indicating “disagree”, 2 indicating “neutral”, and 3 indicating “agree.” Sample items include “The use of psychedelics deserves further research” and “The use of psychedelics by human service professionals should be part of their psychedelic assisted therapy training.” Four items were reverse-scored to account for negatively worded items pertaining to attitude, for example “The use of psychedelics increases the risk of psychiatric disorders.” Higher overall scores on the PAS indicated more favorable attitudes toward psychedelic use, with the highest score available being 27. Few, if any, validated instruments exist for assessing attitudes on psychedelics (Zuljevic et al., 2022), though “satisfactory psychometric properties” (Zuljevic et al., 2022, p. 4) have been identified for Barnett’s et al., (2018) original survey for psychedelic-related beliefs, attitudes, and experiences.

Participants also completed a modified version of the Treatment Acceptability Rating Form-Revised (TARF-R; Reimers et al., 1991), which measures participants’ views on the acceptability of psychedelic or medication assisted therapy. The instrument includes two vignettes, one with the language of “Psychedelic Assisted Therapy” and one with “Medication Assisted Therapy” as well as seven additional items measuring acceptability of either treatment type. Each item on the TARF-R was measured on a three-point scale with 1 indicating “disagree”, 2 indicating “neutral”, and 3 indicating “agree.” Sample items include “If I had a client with an opiate use disorder, I am very confident that [medication or psychedelic] assisted therapy would be effective for them” and “I find [medication or psychedelic] assisted therapy to be very acceptable”. The item “I think it is very likely that there might be disadvantages to [medication or psychedelic] assisted treatment” was reverse-scored to account for the negatively worded item pertaining to treatment acceptability for psychedelic use. Higher overall scores on the TARF-R indicated more favorable attitudes toward psychedelics as an acceptable treatment, with the highest score available being 21. Psychometrics for the TARF-R have not been established however its use has been documented within current literature (e.g., Armstrong et al., 2023; Davis et al., 2022).

Lastly, participants also completed a demographic survey which included variables such as gender, age, education/professional-status, years of experience, prior psychedelic use, and for those who used, the positive or negative nature of that experience.

Procedures

Prior to participant recruitment or data collection, the current study was submitted and approved by the principal investigator's (PI) college Internal Review Board. Participants for this study were recruited from undergraduate and graduate programs offering human services degrees and attendees at the 2023 National Organization of Human Services (NOHS) Annual conference in Arlington, Virginia. The PI identified human services programs from the list of members and accredited programs found on the Council for Standards in Human Service Education (CSHSE) webpage and via Google search. Program representatives were provided a link to the survey for this study. A flier was provided with information regarding the study and a link to complete the survey for participants who were recruited from the NOHS conference. To address any questions regarding the study, the PI's contact information was included in the flier.

Data collection occurred via the online platform SurveyMonkey. Clicking the link to the survey acknowledged informed consent, and participants were reminded that closing out the link at any time would terminate their voluntary participation in the study. Participants first completed the demographic questionnaire and the PAS. Next, prior to beginning questions on the TARF-R, participants were randomly assigned to a vignette group using a participant randomization feature within SurveyMonkey. Participants received brief information pertaining to the use of either Medication Assisted Therapy or Psychedelic Assisted Therapy and then completed the TARF-R, thus concluding their participation in the study.

Results

The current study sought to understand human service professionals', students', and educators' attitudes toward psychedelic use. Results can help to inform how service providers approach the prospect of psychedelic-assisted therapy with future or current clients. This research mirrors the descriptive studies completed by Barnett et al. (2018) for psychiatrists, Davis et al. (2022) for psychologists, and Hearn et al. (2022) for counselors, with a specialized focus on human service providers.

First, using Statistical Package for Social Sciences (SPSS) software, descriptive statistics analyses were conducted for each demographic variable for both the PAS and TARF-R. Due to significantly uneven sample sizes for gender, student status, educator status, and years of experience in the human services profession, any comparisons must be made cautiously. For example, male participants reported higher PAS and TARF-R scores compared to female participants (22.80 versus 21.12 and 17.10 versus 15.71 on the PAS and TARF-R, respectively), with outcomes being nonsignificant. Similarly,

undergraduate human service professional students reported higher PAS and TARF-R scores than did graduate human service professional students (21.32 versus 20.00 and 16.32 versus 13.50 on the PAS and TARF-R, respectively), with findings being nonsignificant. Graduate educators of human service professionals reported higher PAS scores than did undergraduate educators (21.00 versus 20.14, respectively), though graduate educators scored lower than undergraduate educators on TARF-R scores (15.00 versus 15.57, respectively). In both of these analyses, again, findings were nonsignificant. Nonsignificant differences were also shown based on years of experience as a human service professional, with the highest PAS and TARF-R scores being reported by those who had 20 years or more of experience.

When exploring knowledge of risks and benefits of psychedelic use, participants who reported greater knowledge of the risks and benefits also reported higher PAS scores, compared to those with limited knowledge or no knowledge (22.94 versus 21.43 versus 19.00 for very knowledgeable, somewhat knowledgeable, and not at all knowledgeable, respectively), though differences were nonsignificant. The same outcomes were found for the TARF-R, with those individuals with greater knowledge indicating higher scores (17.78 versus 15.67 versus 13.11 for very knowledgeable, somewhat knowledgeable, and not at all knowledgeable, respectively), though nonsignificant in those differences.

When exploring age-related differences on the PAS, a one-way analysis of variance (ANOVA) showed nonsignificant outcomes between the groups. However, when investigating age-related difference on TARF-R outcomes using an ANOVA, statistically significant differences were evidenced, $F(3, 68) = 5.49$, $p < .01$. A Bonferroni's post-hoc analysis was then conducted to see where differences existed between the age groups, with results indicating a statistically significant difference between 30-39 year olds and 40-49 years olds ($p = .001$) and between 40-49 year olds and those who identified as 50 and older ($p = .012$). Findings suggest that age may not impact psychedelic use attitudes, but it may influence views of treatment acceptability, per participants in this study.

Across all participants, 42 of 72 (58.3%) reported prior psychedelic use. An independent sample t test confirmed that individuals with prior psychedelic use scored statistically significantly higher on the PAS, $t(70) = 3.57$, $p < .001$, meaning that individuals with prior psychedelic use reported more favorable attitudes pertaining to psychedelic use in therapy. Participants who reported prior psychedelic use also scored statistically significantly higher on the TARF-R, $t(70) = 2.44$, $p < .018$, suggesting that those with prior psychedelic use reported higher treatment acceptability for psychedelic or medication assisted therapy. Findings for PAS and TARF-R scores for each demographic variable and grouping category can be found in [Table 1](#).

Following a general analysis of demographic outcomes for the PAS and TARF-R, a more nuanced investigation into TARF-R outcomes followed, based on the vignette grouping category of Medication Assisted Therapy

Table 1. Descriptives and Survey Results per Demographic Variable

Variable	n	%	PAS		TARF-R	
			M	(SD)	M	(SD)
Gender						
Female	58	80.0%	21.12	4.43	15.71	3.24
Male	10	13.9%	22.80	3.12	17.10	2.47
Transgender/Nonbinary	3	4.2%	23.00	3.56	15.67	2.62
Total	71 of 72	98.7%	22.31	3.70	16.16	2.78
Age						
20-29 years old	15	20.8%	20.93	4.54	15.33	2.77
30-39 years old	26	36.1%	22.35	3.50	17.00*	2.59
40-49 years old	12	16.7%	21.50	4.23	13.08*	3.68
50 and older	19	26.4%	20.37	4.56	16.53*	2.52
Total	72 of 72	100.0%	21.29	4.21	15.33	2.89
Student						
Undergraduate	52	92.9%	21.32	4.34	16.32	3.05
Graduate	4	7.1%	20.00	6.00	13.50	2.69
Total	56 of 72	77.8%	20.66	5.17	14.91	2.87
Educator						
Undergraduate	14	87.5%	20.14	3.89	15.57	3.34
Graduate	2	12.5%	21.00	3.00	15.00	3.00
Total	16 of 72	22.2%	20.57	3.45	15.29	3.17
Years of Human Service Professional Experience						
Less than 1	24	33.3%	20.58	4.55	15.63	2.81
1-10 years	17	23.6%	20.88	4.71	15.41	3.38
11-20 years	3	4.2%	22.33	3.09	16.00	2.83
More than 20 years	4	5.6%	22.75	3.11	16.50	2.18
Total	48 of 72	66.7%	21.64	3.87	15.89	2.80
Knowledge of Risks and Benefits of Psychedelic Use						
Not at all knowledgeable	9	12.5%	19.00	3.62	13.11	2.85
Somewhat knowledgeable	42	58.3%	21.43	3.85	15.67	3.08
Very knowledgeable	18	25.0%	22.94	4.72	17.78	2.33
Total	69 of 72	95.8%	21.12	4.06	15.52	2.75
Prior Psychedelic Use						
Yes	42	58.3%	22.81*	3.70	16.62*	3.13
No	30	41.7%	19.40*	4.25	14.83*	2.83
Total	72 of 72	100.0%	22.11	3.98	15.73	2.98
Experience of Psychedelic Use (for those with prior experience)						
Very negative	2	2.8%	17.50	3.50	8.00	1.00
Negative	6	8.3%	18.50	2.81	15.00	2.58
Positive	19	26.4%	23.00	3.11	16.84	2.50
Very Positive	15	20.8%	25.00	2.28	18.13	1.86
Total	42 of 42	100.0%	21.00	2.93	14.49	1.99

* indicates statistically significant differences

or Psychedelic Assisted Therapy. Specifically, four grouping categories were created as follows: (a) Group 1 – Prior psychedelic use and Medication Assisted Therapy vignette; (b) Group 2 – Prior psychedelic use and

Table 2. TARF-R Scores Based on Vignette Grouping Variables

Group	TARF-R			
	<i>n</i>	%	M	SD
Group 1: Prior psychedelic use and Medication Assisted Therapy vignette	19	26.39%	16.84	2.96
Group 2: Prior psychedelic use and Psychedelic Assisted Therapy vignette	23	31.94%	16.43	3.37
Group 3: No prior psychedelic use and Medication Assisted Therapy vignette	19	26.39%	15.55	3.86
Group 4: No prior psychedelic use and Psychedelic Assisted Therapy vignette	11	15.28%	15.88	3.17

Psychedelic Assisted Therapy vignette; (c) No prior psychedelic use and Medication Assisted Therapy vignette; and (d) No prior psychedelic use and Psychedelic Assisted Therapy vignette. An ANOVA was conducted to determine if treatment acceptability responses on the TARF-R differed based on the four grouping categories. Results supported a nonsignificant difference between groups on treatment acceptability based on the grouping categories, $F(3, 68) = 2.33, p = .082$.

Further investigation into group averages on the TARF-R did, however, show that individuals in Group 3 (no prior psychedelic use and Medication Assisted Therapy vignette) and those in Group 4 (no prior psychedelic use and Psychedelic Assisted Therapy vignette) reported lower TARF-R scores than those in Group 1 (Prior psychedelic use and Medication Assisted Therapy vignette) and Group 2 (Prior psychedelic use and Psychedelic Assisted Therapy vignette). Though nonsignificant, findings do suggest that individuals without prior psychedelic use may rate both psychedelic-assisted and medication-assisted therapy with lower treatment acceptability than those with prior psychedelic use. A visual display of findings from this additional analysis are provided in [Table 2](#).

Discussion

The current study explored attitudes about psychedelic use, using a modified assessment tool from Barnett et al. (2018) as well as psychedelics treatment acceptability, using the Treatment Acceptability Rating Form (Reimers et al., 1991). Overall findings suggest that significant differences in the PAS and TARF-F were not evidenced based on gender, student status, educator status, knowledge of the risks or benefits of psychedelic use, or years of experience as a human service professional. Uneven sample sizes can impact the statistical power of a test, resulting in difficulty detecting significant differences, even if one existed. This understanding is one possible explanation for the nonsignificant findings on both the PAS and TARF-R for the aforementioned grouping variables. Attitudes about psychedelic use and their treatment acceptability were found to significantly differ, however, based on age-related variables. PAS and TARF-R scores were highest for participants in the 30-39 age range (36.1%) and those who had previously used psychedelics. These findings suggested participants who were older and

had no previous experience using psychedelic held less positive attitudes toward psychedelics. Age and previous use were also identified by Hearn et al. (2022) to have an impact on participant attitude.

When randomly grouping participants who had and who did not have previous psychedelic use histories into two vignette categories (Psychedelic Assisted Therapy and Medication Assisted Therapy), statistically significant differences were not found. However, trends in outcome differences did exist, with those participants who reported previous psychedelic use showing higher TARF-R scores than those who did not have previous psychedelic use, regardless of the vignette grouping category. Such results are similar to previous studies that found prior psychedelic use enhanced the lives of the majority of participants (Carbonaro et al., 2016; Davis et al., 2020; Hearn et al., 2022). A possible correlation between previous use and more positive attitudes towards psychedelic treatment might have implications for future training. Hearn et al (2022) explored the connection between personal psychedelic use in training to work in psychedelic-assisted therapy, finding mixed attitudes. Further research appears warranted as a lack of personal experience with psychedelics has the potential to impact a professional's attitude toward therapeutic psychedelic use.

When compared to the Barnett et al. (2018), Davis et al. (2022), and Hearn et al. (2022) studies, the current sample (30.1% agree; 35.6% neither agree nor disagree; 34.2% disagree) were aligned with psychologists in being less certain regarding the increased risk for long term cognitive impairment of psychedelic use. However, human services professionals neither agreed nor disagreed (43.8%) that psychedelic use increases the risk of psychiatric disorders. When asked the same question, nearly half of the psychologists (47.9%) and almost two-thirds of the psychiatrists agreed. Differences in attitudes between professionals might be a result of education and training. Human service professionals have not likely had significant training in psychiatric diagnosis and treatment due to psychedelic or other substance use. A lack of such education could be addressed with the inclusion of harm reduction course work aimed at psychedelic use. As mentioned by Hearn et al. (2022), such education is necessary to help address any stigmatized perspective of psychedelics.

When asked if the use of psychedelics is unsafe even under medical supervision, human service professionals aligned with the views of counselors, psychologists, and psychiatrists indicating they disagreed. Medical consultation is indicated an expectation of any professional, new or otherwise, working with psychedelic treatment (Curtis et al., 2020). Medical consultation can address pharmacological questions and provide support for any negative incidents during treatment. As indicated by Hearn et al. (2022), safety concerns may be eased by the presence of a medical provider.

Overall, human service professionals strongly agreed psychedelics show promise in treating psychiatric disorders (65.7%) and deserve further research (94.5%). Positive attitudes toward treatment and need for more research

suggest that human service professionals and other mental health professionals hold somewhat similar attitudes. However, it is unclear if human service professionals are currently engaging in such research and training. At a time when professions, such as clinical social workers, are engaging in clinical trials and training to become MDMA-assisted therapists (C. Hutchison & Bressi, 2021) it seems imperative the human service professionals add their voices.

Limitations

An apparent low response rate is a primary limitation of this study. The low response rate indicates participants may not represent the entire human services population and may lead to skewed results. Another obvious limitation to the current study is that uneven sample sizes within grouping variables made comparison data hard to achieve without violating assumptions of normality. Future studies would benefit from increasing sample size to ensure that relevant data comparisons can be made. The study is also limited because it does not focus on variables other than attitudes about psychedelics. For example, acquired knowledge about psychedelic use or psychedelic-assisted therapy could have an impact on attitudes and treatment acceptability. More research on acquired knowledge can be addressed once professional organizations, licensing bodies, and regulatory agency adopt such standards.

Lack of regional representation also limited this study. As the regulatory status of psychedelics shifts across the United States, it will be important to investigate various regional attitudes. For example, Oregon and Colorado have adopted regulatory policies that address psychedelic-assisted therapy. Human service professionals who reside in these states may have differing attitudes than those in other regions of the U.S. Lack of participant diversity clearly limits the generalizability of findings to those who identify with non-dominant groups. Hearn et al. (2022) pointed out that non-dominant groups may hold increased skepticism about some substances due to historical abuses with the medical system and legal oppression from the war on drugs. It is imperative to address these limitations and develop a greater understanding of diverse human service providers' perceptions about psychedelics.

Another limitation to the study is the limited psychometric support of the assessment tools being used. Prior studies completed by Barnett et al. (2018) and Remiers et al. (1991) offer a blueprint for assessing attitudes pertaining to psychedelic use as well as treatment acceptability. It is our hope that as future studies advance these important topics, psychometrically-supported instrumentation will follow, thus allowing a broad utility across the helping professions.

Conclusion/Implication

As interest in psychedelics and psychedelic therapy grows, professionals need to be educated on the evidence base regarding their therapeutic use. It is crucial for patients to feel comfortable discussing psychedelics with their

service providers, and in turn, that service providers are knowledgeable in their responses. Studies such as this provide an initial glimpse into human service professionals' attitudes about psychedelic use and their acceptability in treatment. Understanding these trends allows educators and supervisors to augment training to ensure that students and professionals are equipped with accurate and relevant information. Continued research in this area will align with suggestions made by Hearn et al. (2022) to development best practices to support psychedelic users with “nonpathologizing” perspectives and to collaborate with other health care professionals (p. 371).

Furthermore, there should be clarity around how training and education is delivered. Belouin et al. (2022) and Gorman et al. (2021) point out that training programs should provide guidance around who may be eligible to receive this training, what type of regulations might be necessary, and provide specific guidance around ethical challenges that might arise. Improving education and training will inform ethical and effective treatment of clients seeking such services.

Given the role human service professionals might play in future psychedelic-assisted therapies, the lack of research presents a significant gap and, at the same time, an opportunity to develop alongside this burgeoning field. Further research may begin to clarify curriculum development, training application, and potential policy-focused change. For example, human service educators might begin to incorporate psychedelic-assisted therapy lectures into classes, which in turn can impact students' knowledge and skills. Such education might be welcomed among students who hold more positive attitudes and who have had positive experiences with psychedelics. For those who have not had prior experiences with psychedelics, such education might address psychedelic treatment options' acceptability. Considering the increase in LSD and psilocybin use (Johnson et al., 2019; Yockey et al., 2020), it would behoove human service educators to assist students in gaining knowledge of how psychedelics might present in the community and how to manage and work with those seeking assistance.

Another factor to consider would be self-reported knowledge of psychedelic use, psychedelic-assisted therapy, and how this knowledge was acquired. Wells et al. (2024) and Noorani et al. (2022) suggest this area of research is necessary because media messages and hype around this topic effects peoples' perceptions and attitudes. Mis-information and bias (both negative and positive) towards psychedelic use and treatments, gained through the media, could be addressed through appropriate training and education.

Potential advances in regulatory approval for certain psychedelic treatments and a rise in clinical trials promoting treatment outcomes viability highlight the need for human service professionals to deeply consider their application and implications for shaping the future. As Hearn et al. (2022) point out, stake holding professional organizations, such as The National Association of Human Service Professionals, have not yet adopted standards reflecting

knowledge, skills, or competencies required to work with psychedelics. Future research should include stakeholders and professional organizations preparedness to address and respond to such novel treatments. The human services field plays an integral part in all aspects of individual treatment, advocacy, research, and raising social and political awareness. These roles create the opportunity to bring unique and novel perspectives to the helping services. The speed at which psychedelic research and treatment is accelerating demands they add their voice, knowledge, and experience to the development of new frontiers in psychedelics and psychedelic treatment integration.

Submitted: June 17, 2024 EDT. Accepted: October 25, 2024 EDT. Published: February 28, 2025 EDT.



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CCBY-4.0). View this license's legal deed at <http://creativecommons.org/licenses/by/4.0> and legal code at <http://creativecommons.org/licenses/by/4.0/legalcode> for more information.

References

- Abdallah, C. G., Sanacora, G., Duman, R. S., & Krystal, J. H. (2015). Ketamine and rapid-acting antidepressants: a window into a new neurobiology for mood disorder therapeutics. *Annual Review of Medicine*, 66, 509–523. <https://doi.org/10.1146/annurev-med-053013-062946>
- Agin-Liebes, G. I., Malone, T., Yalch, M. M., Mennenga, S. E., Ponté, K. L., Guss, J., Bossis, A. P., Grigsby, J., Fischer, S., & Ross, S. (2020). Long-term follow-up of psilocybin-assisted psychotherapy for psychiatric and existential distress in patients with life-threatening cancer. *Journal of Psychopharmacology (Oxford, England)*, 34(2), 155–166. <https://doi.org/10.1177/0269881119897615>
- Armstrong, S. B., Levin, A. W., Xin, Y., Horan, J. C., Luoma, J., Nagib, P., Pilecki, B., & Davis, A. K. (2023). Differences in attitudes and beliefs about psychedelic-assisted therapy among social workers, psychiatrists, and psychologists in the United States. *Journal of Psychedelic Studies*, 7(1), 61–67. <https://doi.org/10.1556/2054.2023.00245>
- Barnett, B. S., Siu, W. O., & Pope, H. G. (2018). A survey of American psychiatrists' attitudes toward classic hallucinogens. *The Journal of Nervous and Mental Disease*, 206(6), 476–480. <https://doi.org/10.1097/NMD.0000000000000828>
- Beaumont, Y., Sanders, J., Sager, Z., Tulsky, J. A., Braun, I. M., Blinderman, C. D., Bossis, A. P., & Byock, I. (2020). Defining the roles and research priorities for psychedelic-assisted therapies in patients with serious illness: Expert clinicians' and investigators' perspectives. *Journal of Palliative Medicine*, 23(10), 1323–1334. <https://doi.org/10.1089/jpm.2019.0603>
- Belouin, S. J., Averill, L. A., Henningfield, J. E., Xenakis, S. N., Donato, I., Grob, C. S., Berger, A., Magar, V., Danforth, A. L., & Anderson, B. T. (2022). Policy considerations that support equitable access to responsible, accountable, safe, and ethical uses of psychedelic medicines. *Neuropharmacology*, 219, 109214. <https://doi.org/10.1016/j.neuropharm.2022.109214>
- Belouin, S. J., & Henningfield, J. E. (2018). Psychedelics: Where we are now, why we got here, what we must do. *Neuropharmacology*, 142, 7–19. <https://doi.org/10.1016/j.neuropharm.2018.02.018>
- Bogenschutz, M. P., Forcehimes, A. A., Pommy, J. A., Wilcox, C. E., Barbosa, P. C., & Strassman, R. J. (2015). Psilocybin-assisted treatment for alcohol dependence: A proof-of-concept study. *Journal of Psychopharmacology (Oxford, England)*, 29(3), 289–299. <https://doi.org/10.1177/0269881114565144>
- Carbonaro, T. M., Bradstreet, M. P., Barrett, F. S., MacLean, K. A., Jesse, R., Johnson, M. W., & Griffiths, R. (2016). Survey study of challenging experiences after ingesting psilocybin mushrooms: Acute and enduring positive and negative consequences. *Journal of Psychopharmacology*, 30(12), 1268–1278. <https://doi.org/10.1177/0269881116662634>
- Carhart-Harris, R. L., Bolstridge, M., Day, C. M. J., Rucker, J., Watts, R., Erritzoe, D. E., Kaelen, M., Giribaldi, B., Bloomfield, M., Pilling, S., Rickard, J. A., Forbes, B., Feilding, A., Taylor, D., Curran, H. V., & Nutt, D. J. (2018). Psilocybin with psychological support for treatment-resistant depression: six-month follow-up. *Psychopharmacology*, 235(2), 399–408. <https://doi.org/10.1007/s00213-017-4771-x>
- Carhart-Harris, R. L., Bolstridge, M., Rucker, J., Day, C. M., Erritzoe, D., Kaelen, M., Bloomfield, M., Rickard, J. A., Forbes, B., Feilding, A., Taylor, D., Pilling, S., Curran, H. V., & Nutt, D. J. (2016). Psilocybin with psychological support for treatment-resistant depression: an open-label feasibility study. *The Lancet. Psychiatry*, 3(7), 619–627. [https://doi.org/10.1016/S2215-0366\(16\)30065-7](https://doi.org/10.1016/S2215-0366(16)30065-7)

- Carhart-Harris, R. L., & Goodwin, G. M. (2017). The therapeutic potential of psychedelic drugs: Past, present, and future. *Neuropsychopharmacology*, 42, 2105–2113. <https://doi.org/10.1038/npp.2017.84>
- Carhart-Harris, R. L., Roseman, L., ... Bolstridge, M. (2017). Psilocybin for treatment-resistant depression: fMRI-measured brain mechanisms. *Scientific Reports*, 7, 13187. <https://doi.org/10.1038/s41598-017-13282-7>
- Cimmino, P. (2004). *Exactly what is human services? The evolution of a profession, academic discipline, and social science*. Council for Standards in Human Service Education.
- Curtis, R., Roberts, L., Graves, E., Thompson-Rainey, H., Wynn, D., Krantz, D., & Wieloch, V. (2020). The role of psychedelics and counseling in mental health treatment. *Journal of Mental Health Counseling*, 42(4), 323–338. <https://doi.org/10.17744/mehc.42.4.03>
- Davis, A. K., Agin-Liebes, G., España, M., Pilecki, B., & Luoma, J. (2022). Attitudes and beliefs about the therapeutic use of psychedelic drugs among psychologists in the United States. *Journal of Psychoactive Drugs*, 54(4), 309–318. <https://doi.org/10.1080/02791072.2021.1971343>
- Davis, A. K., Barrett, F. S., & Griffiths, R. R. (2020). Psychological flexibility mediates the relations between acute psychedelic effects and subjective decreases in depression and anxiety. *Journal of Contextual Behavior Science*, 15, 39–45. <https://doi.org/10.1016/j.jcbs.2019.11.004>
- Feder, A., Parides, M. K., Murrough, J. W., Perez, A. M., Morgan, J. E., Saxena, S., Kirkwood, K., Aan Het Rot, M., Lapidus, K. A., Wan, L. B., Iosifescu, D., & Charney, D. S. (2014). Efficacy of intravenous ketamine for treatment of chronic posttraumatic stress disorder: A randomized clinical trial. *JAMA Psychiatry*, 71(6), 681–688. <https://doi.org/10.1001/jamapsychiatry.2014.62>
- Feduccia, A. A., Jerome, L., Yazar-Klosinski, B., Emerson, A., Mithoefer, M. C., & Doblin, R. (2019). Breakthrough for trauma treatment: Safety and efficacy of MDMA-assisted psychotherapy compared to paroxetine and sertraline. *Frontiers in Psychiatry*, 10, 650. <https://doi.org/10.3389/fpsy.2019.00650>
- George, D. R., Hanson, R., Wilkinson, D., & Garcia-Romeu, A. (2022). Ancient roots of today's emerging renaissance in psychedelic medicine. *Culture, Medicine, and Psychiatry*, 46, 890–903. <https://doi.org/10.1007/s11013-021-09749-y>
- Gorman, I., Nielson, E. M., Molinar, A., Cassidy, K., & Sabbagh, J. (2021). Psychedelic harm reduction and integration: A transtheoretical model for clinical practice. *Frontiers in Psychology*, 12, 645246. <https://doi.org/10.3389/fpsyg.2021.645246>
- Griffiths, R. R., Johnson, M. W., Carducci, M. A., Umbricht, A., Richards, W. A., Richards, B. D., Cosimano, M. P., & Klinedinst, M. A. (2016). Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial. *Journal of Psychopharmacology*, 30(12), 1181–1197. <https://doi.org/10.1177/0269881116675513>
- Grob, C. S., Danforth, A. L., Chopra, G. S., Hagerty, M., McKay, C. R., Halberstadt, A. L., & Greer, G. R. (2011). Pilot study of psilocybin treatment for anxiety in patients with advanced-stage cancer. *Archives of General Psychiatry*, 68(1), 71–78. <https://doi.org/10.1001/archgenpsychiatry.2010.116>
- Hadar, A., David, J., Shalit, N., Roseman, L., Gross, R., Sessa, B., & Lev-Ran, S. (2023). The psychedelic renaissance in clinical research: A bibliometric analysis of three decades of human studies with psychedelics. *Journal of Psychoactive Drugs*, 55(1), 1–10. <https://doi.org/10.1080/02791072.2021.2022254>
- Hearn, B. G., Brubaker, M. D., & Richardson, G. (2022). Counselors' attitudes toward psychedelics and their use in therapy. *Journal of Counseling & Development*, 100, 364–373. <https://doi.org/10.1002/jcad.12429>

- Hermle, L., Funfgeld, M., Oepen, G., Botsch, H., Borchardt, D., ... Gouzoulis, E. (1992). Mescaline-induced psychopathological, neuropsychological, and neurometabolic effects in normal subjects: Experimental psychosis as a tool for psychiatric research. *Biological Psychiatry*, 32, 976–991. [https://doi.org/10.1016/0006-3223\(92\)90059-9](https://doi.org/10.1016/0006-3223(92)90059-9)
- Hutchison, C. A., & Bressi, S. K. (2020). MDMA-assisted psychotherapy for posttraumatic stress disorder: Implications for Social Work practice and research. *Clinical Social Work Journal*, 48, 421–430. <https://doi.org/10.1007/s10615-018-0676-3>
- Hutchison, C., & Bressi, S. (2021). Social work and psychedelic-assisted therapies: Practice considerations for breakthrough treatments. *Clinical Social Work Journal*, 49, 356–367. <https://doi.org/10.1007/s10615-019-00743-x>
- Johnson, M. W., & Griffiths, R. R. (2017). Potential therapeutic effects of psilocybin. *Neurotherapeutics*, 14(3), 734–740. <https://doi.org/10.1007/s13311-017-0542-y>
- Johnson, M. W., Hendricks, P. S., Barrett, F. S., & Griffiths, R. R. (2019). Classic psychedelics: An integrative review of epidemiology, therapeutics, mystical experience, and brain network function. *Pharmacology & Therapeutics*, 197, 83–102. <https://doi.org/10.1016/j.pharmthera.2018.11.010>
- Johnson, M. W., Richards, W., & Griffiths, R. (2008). Human hallucinogen research: guidelines for safety. *Journal of Psychopharmacology (Oxford, England)*, 22(6), 603–620. <https://doi.org/10.1177/0269881108093587>
- Kalfas, M., Taylor, R. H., Tsapekos, D., & Young, A. H. (2023). Psychedelics for treatment resistant depression: Are they game changes? *Expert Opinion on Pharmacotherapy*, 24(18), 2117–2132. <https://doi.org/10.1080/14656566.2023.2281582>
- Levinthol, C. F. (2023). *Drugs, behavior, and modern society* (9th ed.). Pearson.
- Luoma, J. B., Chwyl, C., Bathje, G. J., Davis, A. K., & Lancelotta, R. (2020). A meta-analysis of placebo-controlled trials of psychedelic-assisted therapy. *Journal of Psychoactive Drugs*, 52(4), 289–299. <https://doi.org/10.1080/02791072.2020.1769878>
- Mehr, J. J., & Kanwischer, R. (2011). *Human services: Concepts and intervention strategies* (11th ed.). Pearson.
- Mitchell, J. M., Ot'alara, G. M., van der Kolk, B., Shannon, S., Bogenschutz, M., Gelfand, Y., Paleos, C., Nicholas, C. R., Quevedo, S., Balliett, B., Hamilton, S., Mithoefer, M., Kleiman, S., Parker-Guilbert, K., Tzafaty, K., Harrison, C., Boer de, A., Doblin, R., Yazar-Klosinski, B., & MAPP2 Study Collaborator Group. (2023). MDMA-assisted therapy for moderate to severe PTSD: a randomized, placebo-controlled phase 3 trial. *Nature Medicine*, 29, 2473–2480. <https://doi.org/10.1038/s41591-023-02565-4>
- Mithoefer, M. C., Wagner, M. T., Mithoefer, A. T., Jerome, L., & Doblin, R. (2011). The safety and efficacy of {+/-}3,4-methylenedioxymethamphetamine-assisted psychotherapy in subjects with chronic, treatment-resistant posttraumatic stress disorder: The first randomized controlled pilot study. *Journal of Psychopharmacology*, 25(4), 439–452. <https://doi.org/10.1177/0269881110378371>
- Mithoefer, M. C., Wagner, M. T., Mithoefer, A. T., Jerome, L., Martin, S. F., Yazar-Klosinski, B., Michel, Y., Brewerton, T. D., & Doblin, R. (2013). Durability of improvement in post-traumatic stress disorder symptoms and absence of harmful effects or drug dependency after 3,4-methylenedioxymethamphetamine-assisted psychotherapy: A prospective long-term follow-up study. *Journal of Psychopharmacology*, 27(1), 28–39. <https://doi.org/10.1177/0269881112456611>
- Moreno, F. A., Wiegand, C. B., Taitano, E. K., & Delgado, P. L. (2006). Safety, tolerability, and efficacy of psilocybin in 9 patients with obsessive-compulsive disorder. *The Journal of Clinical Psychiatry*, 67(11), 1735–1740. <https://doi.org/10.4088/jcp.v67n1110>

- Multidisciplinary Association for Psychedelic Studies (MAPS). (2017). *Press release: FDA grants breakthrough therapy designation for MDMA assisted psychotherapy for PTSD, agrees on special protocol assessment for phase 3 trials*. <https://www.maps.org/news/media/6786pressreleasefdagrantsbreakthroughtherapydesignationformdmaassistedpsychotherapyforptsd,agreesspecialprotocolassessmentforphase3trial>
- Noorani, T., Bedi, G., & Muthukumaraswamy, S. (2022). Dark loops: Contagion effects, consistency and chemosocial matrices in psychedelic-assisted therapy trials. *Psychological Medicine*, 53(13), 5892–5901. <https://doi.org/10.1017/S0033291723001289>
- Pourmand, A., Mazer-Amirshahi, M., Royall, C., Alhawas, R., & Shesser, R. (2017). Low dose ketamine use in the emergency department, a new direction in pain management. *The American Journal of Emergency Medicine*, 35(6), 918–921. <https://doi.org/10.1016/j.ajem.2017.03.005>
- Reiff, C. M., Richman, E. E., Nemeroff, C. B., Carpenter, L. L., Widge, A. S., Rodriguez, C. I., Kalin, N. H., McDonald, W. M., & the Work Group on Biomarkers and Novel Treatments, a Division of the American Psychiatric Association Council of Research. (2020). Psychedelics and psychedelic-assisted psychotherapy. *American Journal of Psychiatry*, 177(5), 391–410. <https://doi.org/10.1176/appi.focus.19104>
- Reimers, T. M., Wacker, D. P., & Cooper, L. J. (1991). Evaluation of the acceptability of treatments for children's behavioral difficulties. *Child & Family Behavior Therapy*, 13(2), 53–71. https://doi.org/10.1300/J019v13n02_04
- Ross, S., Bossis, A., Guss, J., Agin-Liebes, G., Malone, T., Cohen, B., Mennenga, S. E., Belser, A., Kalliontzi, K., Babb, J., Su, Z., Corby, P., & Schmidt, B. L. (2016). Rapid and sustained symptom reduction following psilocybin treatment for anxiety and depression in patients with life-threatening cancer: a randomized controlled trial. *Journal of Psychopharmacology*, 30(12), 1165–1180. <https://doi.org/10.1177/0269881116675512>
- Sessa, B. (2018). The 21st century psychedelic renaissance: Heroic steps forward on the back of an elephant. *Psychopharmacology*, 235, 551–560. <https://doi.org/10.1007/s00213-017-4713-7>
- Strassman, R. J., & Qualls, C. R. (1994). Dose-response study of N,N-dimethyltryptamine in humans. I. Neuroendocrine, autonomic, and cardiovascular effects. *Archives of General Psychiatry*, 51(2), 85–97. <https://doi.org/10.1001/archpsyc.1994.03950020009001>
- Swift, T. C., Belser, A. B., Agin-Liebes, G., Devenot, N., Terrana, S., Friedman, H. L., Guss, J., Bossis, A. P., & Ross, S. (2017). Cancer at the dinner table: Experiences of psilocybin-assisted psychotherapy for the treatment of cancer-related distress. *Journal of Humanistic Psychology*, 57(5), 488–519. <https://doi.org/10.1177/0022167817715966>
- U.S. Food and Drug Administration. (2020, January 27). *Demonstrating substantial evidence of effectiveness for human drug biological products*. <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/demonstrating-substantial-evidence-effectiveness-human-drug-and-biological-products>
- Vollenweider, F., Leenders, K., ... Scharfetter, C. (1997). Positron emission tomography and fluorodeoxyglucose studies of metabolic hyperfrontality and psychopathology in the psilocybin model of psychosis. *Neuropsychopharmacology*, 16, 357–372. [https://doi.org/10.1016/S0893-133X\(96\)00246-1](https://doi.org/10.1016/S0893-133X(96)00246-1)
- Wells, A., Fernandes, M., & Reynolds, L. (2024). Perceptions and attitudes towards psychedelic-assisted psychotherapy among health professionals, patients, and the public: A systemic review. *Journal of Psychedelic Studies*, 8(1), 43–62. <https://doi.org/10.1556/2054.2023.00294>
- Yockey, R. A., Vidourek, R. A., & King, K. A. (2020). Trends in LSD use among US adults: 2015-2018. *Drug and Alcohol Dependence*, 212, 108071–108071. <https://doi.org/10.1016/j.drugalcdep.2020.108071>

- Zarate, C. A., Jr., Singh, J. B., Carlson, P. J., Brutsche, N. E., Ameli, R., Luckenbaugh, D. A., Charney, D. S., & Manji, H. K. (2006). A randomized trial of an N-methyl-D-aspartate antagonist in treatment-resistant major depression. *Archives of General Psychiatry*, 63(8), 856–864. <https://doi.org/10.1001/archpsyc.63.8.856>
- Zuljevic, M. F., Buljan, I., Leskur, M., Kaliterna, M., Hren, D., & Duplancic, D. (2022). Validation of a new instrument for assessing attitudes on psychedelics in the general population. *Scientific Reports*, 12, 1–10. <https://doi.org/10.1038/s41598-022-23056-5>