



Disengaged: A systematic review of community engagement in psychedelic-assisted therapy research

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ABSTRACT

People of color have been significantly underincluded in psychedelic-assisted therapy (PAT) research, despite facing challenges commonly addressed in PAT and often more severe symptoms. It may be the case that people of color are underincluded because PAT researchers have not used approaches designed to promote sample diversity. Community-engaged research (CEnR) is a research paradigm that has demonstrated success in promoting participant diversity. We hypothesize that the absence of CEnR in psychedelic science may be a contributing factor to the lack of diversity in psychedelic studies. To examine the prevalence of CEnR practices in PAT research, we conducted a systematic review of the past 10 years of psilocybin, MDMA, and LSD clinical trials in the United States. We reviewed each study ($N = 27$) to assess whether researchers incorporated CEnR using the Continuum of Community Engagement and reached out to each individual study team to ensure comprehensiveness. Our analysis revealed that only 3/27 (11.11 %) studies incorporated CEnR. In the rare instances CEnR was integrated, PAT researchers used community consultation, which involves relatively little engagement with community members. To improve representation in PAT trials, we recommend incorporating the CEnR principles of 1) mapping and engaging local stakeholders, 2) leveraging existing university-hospital infrastructures, 3) co-designing research and outreach initiatives, 4) securing dedicated CEnR resources, and 5) establishing mechanisms for ongoing evaluation. This systematic review supports that there has been a paucity of community-engaged practices in PAT research, which can be addressed by incorporating our recommendations for implementing CEnR in PAT studies.

1. Introduction

Research on psychedelic-assisted therapy (PAT) has yielded promising results as a potential treatment for behavioral health issues with persistent positive effects (Aday et al., 2020; Bogenschutz et al., 2022; Carhart-Harris and Goodwin, 2017). In clinical trials, PAT has been shown effectiveness for posttraumatic stress disorder (PTSD; Mitchell et al., 2021), substance use disorder (SUD; Ezquerra-Romano et al., 2018; Nicholas et al., 2022), depression (Haikazian et al., 2023), and anxiety (Luoma et al., 2020). As a result, there have been rapid changes in psychedelic research, public policy, perception, and access over the last decade (Aday et al., 2023).

Despite promising findings, PAT research has been critiqued for its systematic under-inclusion of people of color (Haft et al., 2025; Hughes and Garcia-Romeu, 2024; Michaels et al., 2018). People of color comprise a small proportion of PAT research samples, despite their disproportionate exposure to the conditions PAT research is treating (National Academies of Sciences and Medicine, 2024). For example, compared to White people, marginalized groupmembers often endure more frequent and severe depression and anxiety (Hall-Clark et al., 2016; Himle et al., 2009; Mulia and Bensley, 2020), PTSD (Alegría et al., 2013; McLaughlin et al., 2019; Reid, 2024), and SUD (National Survey on Drug Use and Health, 2020), due in part to structural stressors such as racism, poverty, and neighborhood disorder (National Academies of

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Sciences, 2024). Therefore, their under-representation in PAT research excludes them from the potential benefits of an innovative and effective treatment (Buchanan, 2021; Smith et al., 2022) and hinders the field's generalizability by failing to address all groups' needs (Haefel and Cobb, 2022; Knepper and McLeod, 2018).

1.1. Individual-level explanations for underinclusion

Scholars have offered multiple explanations for the under-inclusion of marginalized groups in PAT research, including that they may not trust or be motivated to engage in PAT because of their recurrent exposure to discrimination in healthcare settings (Williams and Labate, 2020) or because of mistrust in research due to historical and contemporary harms done to their communities (Strauss et al., 2021). Further, though there is no research directly linking the effects of the War on Drugs (e.g., race-based criminalization of drug use) on people of color's willingness to engage in substance-related research, some have hypothesized that these issues may impact their trust and motivation to participate in PAT research (Williams et al., 2024; Williams and Labate, 2020). Additionally, PAT research requires that people invest hours of their time at multiple time points, sometimes without the guarantee that they'll receive active treatment during the study. Given the time commitment required of PAT research, those who can join may be wealthier and consequently have more flexible schedules. Relatedly, race and socioeconomic status are confounded in the US, such that people of color are more likely to be poor and working multiple jobs, constricting free time and opportunities to participate in research, such as PAT (United States Census Bureau, 2020). Yet, despite these challenges, recent publications indicate that people of color are equally highly motivated to engage in PAT as White people (Carter et al., 2023; Glynos et al., 2024), suggesting other issues may contribute to this underinclusion.

1.2. Research-level explanations for underinclusion

Researchers have found that research techniques can contribute to people of colors' underinclusion in studies (George et al., 2014; UyBico et al., 2007; Versavel et al., 2023). For instance, PAT researchers often conduct recruitment from clinic settings (rather than community settings) or implement studies in predominantly White areas (Reid and Buchanan, 2024; Versavel et al., 2023). These approaches constrain people of color's opportunity for research participation (Sugden and Moulson, 2015). Given this literature, it is possible that inclusion disparities in PAT research may be because researchers are not using approaches that are designed to increase people of color's participation in studies (Buchanan, 2021; Williams et al., 2024). Although many approaches are designed to increase the representation of marginalized group members in research, community-engaged research practices may be the most effective and well-known.

1.3. Community-engaged research

Community-engaged research (CEnR) is defined by the Centers for Disease Control and Prevention as research that "work(s) collaboratively with and through groups of people... to address issues affecting the well-being of those people" (National Institutes of Health [NIH] 2011, p. 7). This approach recognizes that racism hinders marginalized groups from participating in research, which in turn diminishes science's applicability to their experiences (NIH, 2011; Wallerstein and Duran, 2017). Therefore, CEnR research is an approach that focuses on ensuring that diverse groups are included in research to enhance science's relevance, rigor, and reach (Balazs and Morello-Frosch, 2013; Warren et al., 2018).

Community-engaged research has a 30-year history rooted in participatory traditions that sought to democratize knowledge production (Freire, 2020; Harding, 1991) and reduce inequities in public health and clinical research (NIH, 2011; Wallerstein, 2017). Emerging from the

participatory action research movements of the 1970s-1980s and formally recognized by the NIH and CDC in the 1990s, CEnR has evolved into a broad family of approaches including community-based participatory action research (CBPR), participatory evaluation, and community-engaged translational science—each emphasizing mutual benefit, shared decision-making, and bidirectional learning (Drahota et al., 2016; Israel et al., 1998; Minkler and Wallerstein, 2003). Over the past three decades, CEnR approaches have consistently enhanced racial and ethnic diversity in research, particularly in the areas of HIV prevention (Rhodes and Langtiw, 2018) and mental and physical health disparities (Las Nueces et al., 2012; Wallerstein and Duran, 2010). Overall, CEnR has shown that marginalized groups and other under-represented groups are more likely to participate in research when they have been involved in shaping research as partners rather than subjects (Sprague, 2016; Wallerstein, 2017).

Community-engaged research exists on a continuum (Fig. 1) ranging from no involvement with community partners to community-driven and led projects (Key et al., 2019). Starting from the leftmost side of the continuum, a project will exhibit no engagement if the scholars have not partnered with community members in any capacity. Next, "community-informed" engagement involves researchers using insights from the community, often without the community's explicit awareness. For example, researchers might attend community listening sessions, extract ideas from the discussions, and design a study without informing participants of their role in shaping the research. "Community consultation" involves researchers seeking feedback from community members and selectively integrating suggestions into their projects, such as adapting recruitment strategies based on input. "Community participation" goes further, engaging community members in active roles like advisory boards, shaping research questions, suggesting methods, or guiding the dissemination of findings. In the "community-initiated" approach, community members identify a problem and ask researchers to study it. However, community members may not engage in research design, analysis, or dissemination. In contrast, "community-based participatory research" (CBPR) involves collaboration at every stage, from topic selection to sharing results. At the far-right end of the continuum, "community-driven" research defers to the community as community members guide the entire research process, from problem identification to dissemination.

2. Current study

Given the effectiveness of CEnR practices in increasing participation from marginalized group members in other scientific studies, the current study examines whether and how PAT researchers use CEnR. Toward this goal, we conducted a systematic review of clinical trials of PAT using the most studied psychedelic substances, including psilocybin, 3,4-methylenedioxymethamphetamine (MDMA), and lysergic acid diethylamide (LSD) for behavioral health conditions conducted over the last decade. We evaluated the degree to which researchers implemented CEnR practices. We then discuss if and how CEnR practices (or lack thereof) in PAT research may explain the lack of diversity consistently observed in psychedelic clinical trials. To our knowledge, this is the first study to assess CEnR in PAT research.

3. Methods

3.1. Search strategy

We searched PubMed and PsycINFO for PAT clinical trials published over the last ten years (between 2014 and 2024). We restricted our search to past ten years because the past decade represents the most recent and methodologically mature phase of the psychedelic renaissance (Carhart-Harris and Goodwin, 2017). During this period, PAT research has reemerged after decades of prohibition, producing studies that adhere to modern ethical, clinical, and methodological standards.

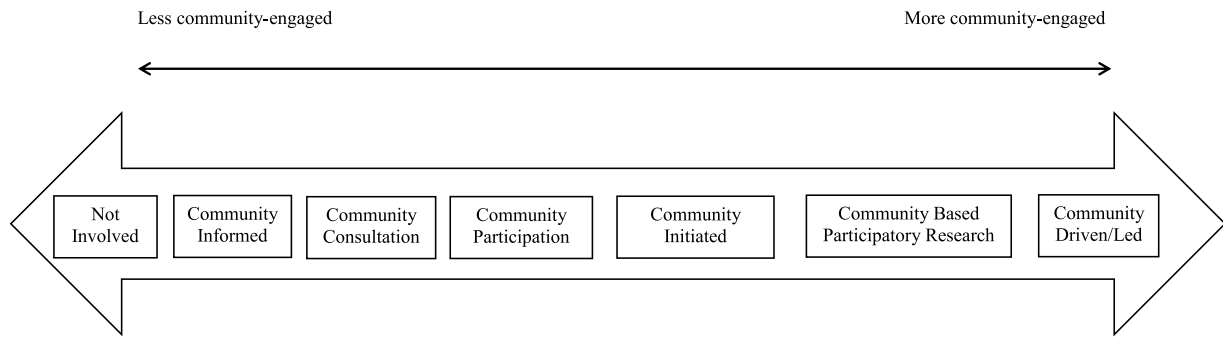


Fig. 1. Continuum of community-engagement. Figure adapted from Key et al., (2019).

Earlier research, particularly from the mid-20th century, was often limited by small sample sizes, inadequate controls, inconsistent diagnostic criteria, and less rigorous trial designs (Carhart-Harris and Goodwin, 2017). Restricting our review to the past ten years allows us to

synthesize findings that are representative of contemporary research practices and standards of evidence. Although CEnR frameworks have been established for more than three decades, the modern era of PAT research is comparatively recent. Limiting our review to this

Table 1

Assessment of community engagement in psychedelic research.

Study	N	% White	Study Design	Study Focus	Drug Used	Used CEnR	CEnR Type	Project Phase CEnR Used
Aaronson et al., (2024)	15	80 %	Open-label trial	Bipolar II & major depressive episodes	Psilocybin	No	N/A	N/A
Agrawal et al., (2023)	30	80 %	Open-label trial	Depression & cancer	Psilocybin	No	N/A	N/A
Agrawal et al., (2024)	30	80 %	Open-label trial	Major depression & cancer	Psilocybin	No	N/A	N/A
Bogenschutz et al., (2015)	10	30 %	Proof-of-concept study	Alcohol use disorder	Psilocybin	No	N/A	N/A
Bogenschutz et al., (2022)	97	78.9 %	RCT	Alcohol use disorder	Psilocybin	No	N/A	N/A
Ching et al., (2023)a			Protocol	OCD*	Psilocybin	Yes	Community consultation	Treatment design
Ching et al., (2023)b			Protocol	OCD	Psilocybin	No	N/A	N/A
Danforth et al., (2018)	12	50 %	Pilot study	Social anxiety & autism	MDMA	No	N/A	N/A
Davis et al., (2021)	24	92 %	RCT	MDD•	Psilocybin	No	N/A	N/A
Goodwin et al., (2022)	233	92 %	RCT	MDD	Psilocybin	No	N/A	N/A
Goodwin et al., (2023)	19	78.9 %	Open-label trial	Depression in people taking SSRI ^o	Psilocybin	No	N/A	N/A
Griffiths et al., (2016)	51	94 %	RCT	Anxiety & mood symptoms & cancer	Psilocybin	No	N/A	N/A
Johnson et al., (2014)	15	93 %	Pilot study	Tobacco use disorder	Psilocybin	Yes	Community consultation	Recruitment design
Lear et al., (2023)			Protocol	Social anxiety disorder	MDMA	Yes	Community consultation	Recruitment design
Lewis et al., (2023)	12	91.6 %	Pilot study	Depression or adjustment disorder & cancer	Psilocybin	No	N/A	N/A
Mitchell et al., (2021)	90	76.7 %	RCT	PTSD†	MDMA	No	N/A	N/A
Mithoefer et al., 2018	26	85 %	RCT	PTSD	MDMA	No	N/A	N/A
Molla et al., (2024)	39 _i		RCT	Mild depression	LSD	No	N/A	N/A
O'Donnell et al., (2022)	93 _i		RCT	Alcohol use disorder	Psilocybin	No	N/A	N/A
Ot'alora et al., (2018)	28	92.9 %	RCT	Chronic PTSD	MDMA	No	N/A	N/A
Peck et al., (2023)	10 _i		Feasibility study	Anorexia nervosa	Psilocybin	No	N/A	N/A
Raison et al., (2023)	104	89.4 %	RCT	Major depressive disorder	Psilocybin	No	N/A	N/A
Ross et al., (2016)	29	90 %	RCT	Anxiety & depression symptoms & cancer	Psilocybin	No	N/A	N/A
Schneier et al., (2023)	12	75 %	Pilot study	Body dysmorphia	Psilocybin	No	N/A	N/A
Skosnik et al., (2023)	19	84.2 %	RCT	MDD	Psilocybin	No	N/A	N/A
Sloshower et al., (2023)	22	72.7 %	Placebo-controlled fixed-order trial	MDD	Psilocybin	No	N/A	N/A
Wolfson et al., (2020)	18	83.3 %	Randomized pilot study	Anxiety & depression	MDMA	No	N/A	N/A

Note. *obsessive compulsive disorder; •major depressive disorder; _iracial demographic characteristics were not reported; †posttraumatic stress disorder

contemporary period allows us to examine whether and how CEnR approaches have been adopted within the current methodological and regulatory context of psychedelic research.

Our search terms included: ('Psilocybin' OR "Psilocybin" OR 'MDMA' OR "N-Methyl-3,4-methylenedioxymphetamine" OR "Lysergic Acid Diethylamide" OR "LSD") AND ('randomized controlled trial' OR 'controlled clinical trial' OR randomized OR placebo OR 'drug therapy' OR randomly OR trial). We also reviewed the reference list of eligible articles to identify additional studies, and we engaged with experts in the field to ensure our search captured all relevant studies. Our methods followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021).

3.2. Study selection and data extraction

After uploading all articles from our systematic search into Covidence (a literature review management software of Veritas Health Innovation, Melbourne, Australia), we screened relevant literature at the level of title, abstract, and full text. We screened articles for whether they were original clinical studies testing the effects of psilocybin, MDMA, or LSD-assisted therapy among people with a behavioral health condition, included human participants in the US, and were published in English within the last ten years (2014–2024). Covidence automatically tabulates interrater reliability and identified that the reviewer's proportion of agreement was 0.95 and the Cohen's Kappa was 0.45, indicating moderate agreement across the review.

3.3. Analysis

We reviewed the full-text of each study to assess whether researchers engaged in CEnR. We reviewed each section because CEnR can occur at various stages of the research study (e.g., hypothesis construction) but not at others (e.g., data analysis). Additionally, drawing from the CEnR continuum, we reviewed and evaluated what kind of CEnR studies used, if any. We then constructed an ad hoc table that allowed us to track whether a study used CEnR, what kind of CEnR they used, and at what stage of the study CEnR was implemented (see Tables 1 and 2). Finally, after reviewing each study, we contacted the corresponding authors to identify whether they conducted any form of CEnR that was not noted in their final publication.

Table 2
Cumulative statistics of PAT studies.

Racial Demographics ^a	Substance Studied	Issue Investigated
White <i>n</i> = 761 (73.31 %)	Psilocybin <i>n</i> = 20 (74.07 %)	Depression <i>n</i> = 10 (37.03 %)
Black <i>n</i> = 23 (2.22 %)	MDMA <i>n</i> = 6 (22.22 %)	Anxiety <i>n</i> = 3 (10.71 %),
Latine <i>n</i> = 31 (2.99 %)	LSD <i>n</i> = 1 (3.70 %)	PTSD <i>n</i> = 3 (10.71 %)
Multiracial <i>n</i> = 24 (2.31 %)		alcohol use disorder <i>n</i> = 3 (10.71 %)
Indigenous <i>n</i> = 12 (1.16 %)		Obsessive compulsive disorder <i>n</i> = 2 (7.40 %)
Asian <i>n</i> = 13 (1.25 %)		anxiety and depression <i>n</i> = 2 (25.00 %)
"non-White" <i>n</i> = 3 (0.28 %)		Bipolar-II and depression <i>n</i> = 1 (3.57 %)
Middle-Eastern <i>n</i> = 1 (0.09 %)		Tobacco use disorder <i>n</i> = 1 (3.57 %)
		Anorexia nervosa <i>n</i> = 1 (3.57 %)
		Body dysmorphia <i>n</i> = 1 (3.57 %)

Note. ^aNumbers do not total to 1038 because several studies did not report the total number of participants of color.

4. Results

Our search yielded 1461 studies for review. Covidence identified and eliminated 205 duplicates, leaving 1256 studies to be screened at the title and abstract level. Title and abstract review excluded 1205 studies, resulting in 51 remaining for full-text review. Of these, we excluded 23 studies because they occurred outside of the U.S., were secondary data analyses, were retracted, or because their designs or content areas were unrelated to our areas of interest. This process resulted in 27 publications being included in our final analysis. A PRISMA Flow diagram depicting the search process is presented in Fig. 2.

Throughout the past ten years and across these 27 studies, 1038 people have participated in PAT behavioral health research with psilocybin, MDMA, or LSD in the US. The majority of participants were White (73.31 %), followed by Latine (2.99 %), multiracial (2.31 %), Black (2.22 %), Asian (1.25 %), and Indigenous (1.16 %) participants (Tables 1 and 3). Four studies did not report the number of people of color in their study (Davis et al., 2021; Goodwin et al., 2022; Goodwin et al., 2023; Lewis et al., 2023), preventing us from calculating totals of all non-White participants. One study included one person from the Middle East. One study (Aaronson et al., 2024) divided its participants into White and "Non-White," making determining the non-white racial sample characteristics impossible. Notably, as mentioned above, four studies reported the number of White participants in their study but omitted data on any other racial groups, even while acknowledging that their samples were not entirely White (Davis et al., 2021; Goodwin et al., 2022; Goodwin et al., 2023; Lewis et al., 2023). Further, two studies (Molla et al., 2024; O'Donnell et al., 2022) reported their total number of sample participants but did not detail participant racial demographics. Most studies assessed the effects of psilocybin on a behavioral health issue (*n* = 20, 74.07 %), followed by MDMA (*n* = 6; 22.22 %) and LSD (*n* = 1; 3.70 %). The majority of investigations focused on addressing depression (*n* = 10; 35.71 %), followed by anxiety (*n* = 3; 10.71 %), PTSD (*n* = 3; 10.71 %), alcohol use disorder (*n* = 3; 10.71 %), obsessive-compulsive disorder (*n* = 2; 7.40 %), combined anxiety and depression (*n* = 2; 25.00 %), and one study each addressed Bipolar-II, tobacco use disorder, anorexia nervosa, and body dysmorphia (see Table two for cumulative statistics).

4.1. Results from analysis of published research

Three studies in this sample incorporated CEnR into their projects (Ching et al., 2023; Johnson et al., 2014; Lear et al., 2023). Although they did not explicitly label their work as CEnR, each used a community consultation approach to shape their project. Lear (2023) stated that they communicated with local health care systems that had contact with or represented marginalized groups to engage these groups in enrollment for their study. They also stated that their treatment manual was designed to enable interventionists to deliver culturally appropriate care. Ching (2023) consulted participants from a prior study and found that participants felt that a second and more potent dose of psilocybin would have a more meaningful impact on OCD. Therefore, Ching et al. designed a new study based on this feedback. Importantly, these papers were protocols, so we could not assess their racial sample diversity and whether their use of CEnR impacted their sample diversity.

4.2. Results from correspondence with authors

We reached out to all 25 authors who published these 27 studies. Six (24 %) of the 25 distinct authors responded to our request for information regarding their use of CEnR. Our correspondence allowed us to find that one other author group conducted community engagement (community consultation), which was not noted in their paper (Johnson et al., 2014). This author indicated that as they were organizing the study, they had informal discussions with providers at a cancer hospital and spoke with potential trial participants about whether they had

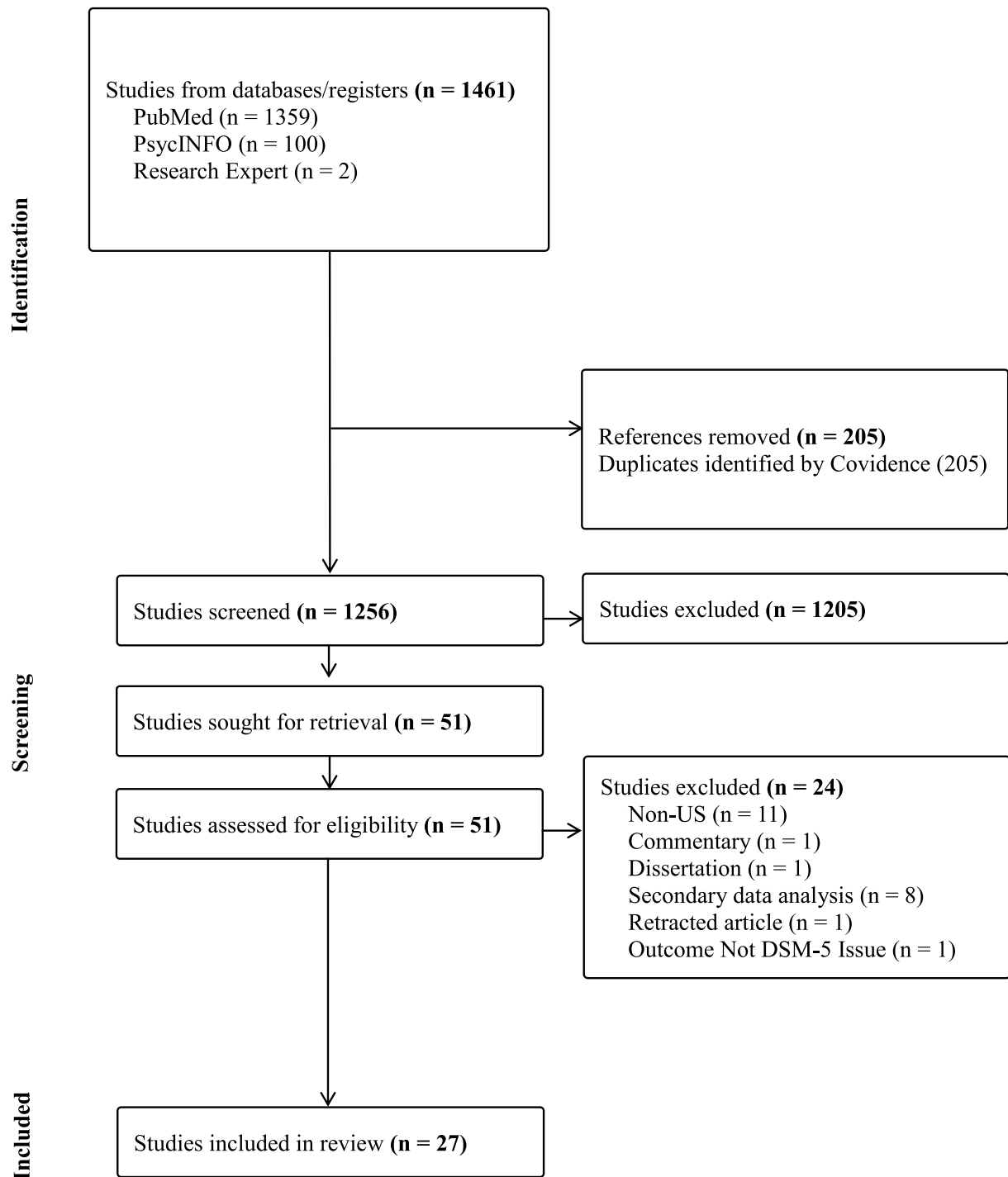


Fig. 2. Prisma flow diagram.

insights into the best recruitment methods for their study. Despite these efforts, 93.33 % of the study's participants were White.

5. Discussion

We found a low level of CEnR in PAT studies with psilocybin, MDMA, and LSD. Of the 27 published studies in the last 10 years, only three used CEnR, each using community consultation. Moreover, consistent with other studies (Michaels et al., 2018; Stauffer et al., 2022; Hughes et al., 2024), we found that White people were overrepresented in the PAT research, accounting for > 70 % of study participants vs 57.1 % in the

general population (United States Census Bureau, 2024). Additionally, we found that multiple studies did not report racial demographic characteristics. This runs counter to the requirements set forth by the American Psychological Association (American Psychological Association, 2019) and the American Medical Association (Flanagin et al., 2021) that researchers report their sample demographic characteristics, including race and gender. When researchers do not report the racial composition of their study samples, it obscures whether findings are applicable across diverse populations and limits the ability to assess generalizability, relevance, and equity of the research. Our findings raise several additional concerns discussed in depth below regarding the

Table 3
Racial characteristics breakdown by study.

Study	N	White	Black	Latine	Multiracial	AI/AN	Asian	"non-White"	Middle Eastern
Aaronson et al., (2024)	15	12						3	
Agrawal et al., (2023)	30	24	3	1	0	0	2		
Agrawal et al., (2024)	30	24	3	1			2		
Bogenschutz et al., (2015)	10	3	1	4		2			
Bogenschutz et al., (2022)	97	75	4	14		1	3		
Ching et al., (2023)a	N/A								
Ching et al., (2023)b	N/A								
Danforth et al., (2018)	12	6	0	2	2	0	1		1
Davis et al., (2021)	24	22	NR	NR	NR	NR	NR		
Goodwin et al., (2022)	233	215	NR	NR	NR	NR	NR		
Goodwin et al., 2023	19	15	NR	NR	NR	NR	NR		
Griffiths et al., (2016)	51	48	2				1		
Johnson et al., (2014)	15	14					1		
Lear et al., (2023)	N/A								
Lewis et al., (2023)	12	11	NR	NR	NR	NR	NR		
Mitchell et al., (2021)	90	69	2	4	8	7			
Mithoefer et al., 2018	26	22	0	2	1	1	0		
Molla et al., (2024)	39								
O'Donnell et al. (2022)	93								
Ot'alora et al. (2018)	28	26	0	1	0	1	0		
Peck et al., (2023)	10								
Raison et al., (2023)	104	93	3	0	6	0	0		
Ross et al., (2016)	29	26	0	0	3	0	0		
Schneier et al., (2023)	12	9	0	0	0	0	3		
Skosnik et al., (2023)	19	16	2	0	1	0	0		
Sloshower et al., (2023)	22	16	2	2	1	0	0		
Wolfson et al., (2020)	18	15	1	0	2	0	0		
Total	1038	761	23	31	24	12	13	3	1
Total Percentages		73.31	2.22	2.99	2.31	1.16	1.25	0.0028	0.00096

continued racial homogeneity in PAT research and the generalizability of PAT research findings.

5.1. The maintenance of people of color's exclusion

Racial diversity among participants in PAT research is lacking, which limits our ability to determine whether findings are generalizable (Michaels et al., 2018; Stauffer et al., 2022; Hughes et al., 2024). While multiple systemic factors contribute to this underinclusion in PAT research (Herzberg and Butler, 2019), the limited application of CEnR may play a critical role. Scholars have argued that adopting robust CEnR approaches can increase racial diversity (Las Nueces et al., 2012). However, two research groups that reported using CEnR in their publications have only published their study protocols thus far (Ching et al., 2023; Lear et al., 2023), so we do not have enough data to assess whether CEnR impacted the inclusion of people of color in their studies. As for the authors who indicated that their research group used CEnR (community consultation) in the development of their study and who published their full study (Johnson et al., 2014), their sample was 93 % White. This potentially suggests that community consultation may not be a robust enough form of CEnR to overcome long-standing barriers to the participation of people of color in research. This aligns with a longstanding critique of CEnR approaches like community consultation—i.e., that CEnR approaches on the leftmost side of the continuum may be less effective at increasing racial diversity than those on the rightmost side (Key et al., 2019). More robust forms of engagement, such as CBPR or participatory action research, enhance racial diversity in research more successfully than community consultation (Balazs and Morello-Frosch, 2013; Collins et al., 2018; Las Nueces et al., 2012). Consequently, we suggest that researchers consider adopting the CEnR approaches on the right-hand side of the continuum. However, we acknowledge that although research demonstrates that these “deeper” forms of engagement enhance racial diversity in other fields, there is no evidence that they would do so for PAT research. Therefore, if future research is to use more robust CEnR approaches, researchers should empirically evaluate whether those approaches indeed enhance racial sample diversity.

5.2. The importance of addressing generalizability and accessibility of PAT research

People of color and other marginalized groups often experience disproportionate levels of impoverishment and low socioeconomic status (SES; United States Census Bureau, 2020). This segregation and socioeconomic disparity raise legitimate concerns about the availability, applicability, and generalizability of PAT research for marginalized groups (Williams et al., 2024). Notably, CBPR and other forms of “deep” CEnR can enhance the relevance of PAT research by ensuring that study designs are aligned with these communities’ real-life needs and circumstances (Balazs and Morello-Frosch, 2013). For PAT research, a robust CEnR approach would facilitate the development of interventions that are not only accessible and available but also culturally and contextually relevant. By engaging community members in the research process from the outset, researchers can better identify and address issues that might otherwise be overlooked (Sprague, 2016).

Moreover, integrating CEnR principles into clinical trial design could help ensure that, as PAT moves toward FDA approval and broader clinical use, access is not restricted to those with the greatest capacity to participate. By embedding equity considerations early in the research pipeline, CEnR can lay the groundwork for more inclusive care delivery infrastructures and practices once PAT becomes available outside research settings. Notably, the rapid commercialization of psychedelics may risk reproducing patterns of exclusion by pricing out marginalized groups (Brownlee and Walby, 2025). Thus, incorporating CEnR into clinical trials is also a strategy that can ensure people of color have a greater say in how psychedelics should best be commercialized to ensure their access.

5.3. How racism impacts health outcomes

Racism has profoundly influenced our social settings, including behavioral health environments (Bonilla-Silva, 2021). For instance, racial microaggressions—subtle yet harmful racist slights (Bonilla-Silva, 2021; Sue and Spanierman, 2020)—are common in therapy, particularly when clinicians lack experience working with people of color (Lee et al.,

2018; Sue et al., 2007). Similarly, environmental microaggressions, institutional practices communicating exclusionary social cues to oppressed groups (Sue and Spanierman, 2020), manifest in clinical settings through a lack of racial concordance in staff and visual cues, among other factors (Reid, 2024). Given that mindset and setting are integral features and drivers of a psychedelic experience (Hartogsohn, 2024), the lack of CEnR in PAT research may diminish the chances that our interventions and clinicians are capable of attending to matters of race and racism during treatment when they arise. Further, it may increase the risk of microaggressions and macroaggressions in PAT. Robust CEnR can potentially mitigate these issues by involving marginalized groupmembers in designing and implementing interventions.

6. Suggestions for incorporating CEnR in PAT research: practical steps

We recognize that multiple challenges likely limit researchers' use of CEnR in psychedelic research. CEnR requires intensive time, funding, and resources (NIH, 2011), and PAT trials are already incredibly resource-intensive (Aday et al., 2023). It also requires access to and partnerships with communities, organizations, and groups that are open to discussing drug use and behavioral health issues, both of which are highly stigmatized in the US. In light of this, we add to the growing literature of scholars (Close et al., 2021) offering suggestions that may assist PAT researchers in adopting CEnR. Many of our suggestions regarding community engagement flow from recommendations made by the National Institutes of Health (National Institutes of Health, 2011) and leading community engagement scholars (e.g., Wallerstein and Duran, 2010) and are adapted for PAT. Finally, our recommendations are guidelines for deeper community engagement than has currently been attempted in PAT research, as we recognize that engagement on the leftmost side of the Continuum (e.g., community consultation) may be less likely to enhance sample diversity.

6.1. Map and engage local stakeholders

6.1.1. Identify key community partners

Create a stakeholder map to identify local organizations, advocacy groups, harm reduction programs, and faith- or culturally based community centers that have historically worked with marginalized populations affected by behavioral health issues.

6.1.2. Conduct listening sessions

Host informal listening sessions or town hall meetings where community members and leaders can voice their concerns, priorities, and ideas regarding PAT research. This can help researchers understand the community context and tailor their engagement accordingly.

6.2. Leverage existing university-hospital infrastructure

6.2.1. Engage community outreach offices

Most universities and teaching hospitals have established community engagement or outreach offices. Researchers should collaborate with these offices to access existing community networks, arrange joint community events, and receive guidance on outreach and equity.

6.2.2. Formal partnership agreements

Develop Memoranda of Understanding (MOUs) that clearly outline mutual expectations, roles, and responsibilities between academic institutions and community organizations. This formalizes partnerships, ensures accountability, and builds trust over time.

6.3. Co-design research and outreach initiatives

6.3.1. Joint research protocol development

Involve community partners from the outset in designing research protocols. Schedule regular co-design workshops where community stakeholders can contribute to developing recruitment strategies, consent processes, and culturally appropriate interventions.

6.3.2. Community advisory boards (CABs)

Establish a CAB composed of community leaders, representatives from local advocacy groups, and individuals with lived experience. CABs can guide research priorities, review protocols for cultural sensitivity, and suggest modifications that make participation safer and more appealing.

6.4. Secure and allocate dedicated resources

6.4.1. Dedicated funding streams

Advocate for grants or institutional funds specifically earmarked for CEnR initiatives. This may include support for community meetings, compensating community advisors, or even hiring dedicated community liaison staff.

6.4.2. Budget for relationship building

Include line items in research proposals that cover ongoing community engagement activities, recognizing that building trust is a long-term investment that requires sustained effort and resources.

6.5. Establish mechanisms for ongoing accountability and evaluation

6.5.1. Regular feedback loops

Schedule periodic joint evaluations with community partners to review the progress and impact of CEnR initiatives. These can involve surveys, focus groups, or feedback meetings, and the findings are continuously used to refine engagement strategies.

6.5.2. Transparent reporting

Ensure that research findings and the processes leading to them are disseminated back to the community in accessible formats. Collaborative dissemination (e.g., co-authored publications or community reports) validates community input and enhances trust. PAT researchers can foster meaningful partnerships that address historical mistrust and legal complexities by implementing these practical steps. Leveraging university and hospital infrastructures provides access to established community networks. It may offer a platform for sustained engagement that can ultimately improve PAT research.

7. Structural conditions potentially complicating CEnR and racial diversity

Although evidence suggests that people of color are equally motivated as White people to engage in PAT research, their participation remains low (Glynos et al., 2024). We contend that the lack of community-engaged research approaches may partially explain this. However, the War on Drugs and its attendant race-based criminalization of people of color who use drugs (Cummings and Ramirez, 2022) likely also poses a significant hindrance to enhancing the racial diversity of PAT research. It is possible that even if researchers adopted CEnR approaches that have been proven to increase racial sample diversity (e.g., CBPR), the stigma and fear of drug use caused by the War on Drugs may keep people from allowing researchers to study with drug-using communities of color.

Despite these challenges, researchers have used participatory research approaches to find creative and ethical entry points to study highly policed and surveilled groups. For instance, physicians and researchers partnered with the Black Panther Party's community health

clinics of the 1970s, and their collaboration was made possible through practices now recognized as central to CEnR, which are shared governance, mutual accountability, and co-developed health interventions that prioritized community needs over institutional needs (Nelson, 2011). Further, psychologist Anne Brodsky used participatory methods to partner with and study the underground and clandestine Revolutionary Association of Women of Afghanistan (Brodsky and Faryal, 2006). Her methods were grounded in confirmations of privacy and trust built through multiple community engagements, which reflected CEnR's core principles of responsiveness and long-term commitment. Thus, despite the challenging structural context surrounding PAT research related to race, CEnR approaches can potentially help researchers overcome significant obstacles to increase racial diversity.

8. Limitations and future directions

Our reliance on published reports may underestimate the extent of community engagement in PAT research. To combat this, we directly contacted PAT research teams whose work was included in this review. Although several researchers replied to our request for information regarding the extent of their use of CEnR, most did not. Consequently, we may have underestimated the use and types of CEnR in PAT. Further, researchers might use informal or unreported CEnR practices not explicitly labeled in the NIH or Continuum guide. This limitation demonstrates the importance of establishing clearer operational definitions and standardized reporting guidelines for CEnR in psychedelic research. Doing so could help illuminate the true extent of community engagement and allow us to assess CEnR's impact on participant diversity.

Finally, although CEnR is among the most well-established approaches for promoting equity in research participation, other strategies have been developed to address similar goals. Cultural tailoring and targeted recruitment campaigns, for instance, have improved representation in behavioral and clinical studies, but often do so without redistributing power or addressing historical mistrust (Kirmayer, 2012; Yancey et al., 2006). Similarly, the use of community health workers or peer navigators has enhanced engagement among marginalized groups in research (Viswanathan et al., 2010). However, these approaches typically operate within existing institutional logics rather than co-creating them. Finally, qualitative research traditions also tend to emphasize the recruitment of marginalized groups and the redistribution of power (Nelson and Evans, 2014). However, there are few RCTs that incorporate qualitative approaches into their studies. Overall, although there are other research approaches well-suited to recruiting marginalized groups that should be included in PAT research, CEnR represents the gold-standard approach.

9. Conclusion

Our study suggests that the lack of CEnR in PAT research may contribute to the persistent under-inclusion of people of color and concerns about the generalizability and applicability of PAT research for marginalized groups. Further, when CEnR is used, it is used in limited ways, possibly contributing to the lack of sample diversity. Future research should employ more robust CEnR strategies and assess their effectiveness in engaging historically marginalized populations in PAT clinical trials for mental health conditions.

Declaration of Competing Interest

None to disclose.

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