

Review

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Review

From Adults to Adolescents: Bridging Scientific Potential and Evidence-Based Paths for Psychedelic-Assisted Interventions

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Abstract

Psychedelic-assisted therapies have shown robust antidepressant and transdiagnostic effects in rigorously controlled adult trials. Extending this work to adolescents is scientifically compelling yet ethically complex, given neurodevelopmental vulnerabilities and the paucity of pediatric data. This review examines the historical context of psychedelic use, summarizes adult efficacy and mechanistic insights, explores adolescent-specific opportunities and risks, and considers applications in co-occurring neurodevelopmental disorders. Finally, it proposes a phased research and policy roadmap that emphasizes safety, transparency, and equitable access. The central conclusion is that investigation in adolescents is justified, but clinical use should proceed only within rigorously governed research frameworks.

Keywords: psychedelic-assisted therapy; adolescents; neurodevelopment

1. Introduction

For millennia, diverse cultures have used psychedelic substances in religious and healing contexts to promote psychological and spiritual well-being. Naturally occurring psychoactives such as psilocybin, ayahuasca, and peyote were used in guided rituals among adults to foster insight, emotional restoration, and social cohesion [1]. Mid-twentieth-century psychiatry began to systematically investigate the therapeutic potential of psychedelics such as psilocybin and lysergic acid diethylamide (LSD) for anxiety, depression, and substance use disorders. The early integration of these compounds even influenced some principles of the 12-step recovery movement, linking spirituality with transformative mental states.

By the early 1970s, scientific exploration of psychedelics declined sharply under growing sociopolitical and regulatory pressures [2]. Early theoretical models proposed that psychedelics could promote altered states of consciousness, enhance emotional release, and increase neural plasticity, thereby facilitating psychological healing [1]. These ideas, largely dormant for decades, are now being revisited with the support of neuroimaging and molecular neuroscience.

Over the past two decades, rigorous and ethically regulated clinical research has reestablished psychedelics as promising therapeutic agents. Modern studies suggest that structurally psilocybin and 3,4-methylenedioxymethamphetamine (MDMA), as shown in Figure 1, may modulate activity within the default mode network, enhance neuroplasticity, and disrupt maladaptive patterns of cognition and affect [3,4]. Although debate continues over whether these benefits derive primarily from neurochemical mechanisms or from the subjective experience itself, the emerging evidence has renewed optimism about their potential in treatment-resistant depression and posttraumatic stress disorder.

Yet, despite promising adult data, several gaps remain. The neurodevelopmental complexity of adolescence introduces unique ethical and biological challenges. The adolescent brain is characterized by heightened plasticity and incomplete maturation of regulatory systems, making it both a potential target for therapeutic innovation and a locus of vulnerability. Whether psychedelics can safely engage these developmental mechanisms without adverse consequences is unknown.

This paper therefore examines whether the growing body of adult psychedelic research provides a sufficient scientific and ethical foundation for cautious hypothesis testing in adolescents with severe, treatment-resistant psychiatric conditions. The intent is not to advocate for clinical implementation but to articulate a structured rationale for inquiry. Specifically, this discussion aims to (1) evaluate the translational relevance of adult findings to adolescent neurodevelopment, (2) identify ethical and methodological considerations unique to youth, and (3) propose parameters for early-phase investigation that prioritize safety and empirical integrity.

Framing psychedelic research within a developmental and ethical context allows psychiatry to ask a critical question: can the transformative mechanisms observed in adults be studied responsibly in youth to reduce the burden of refractory mental illness? Only through disciplined scientific inquiry, transparent regulation, and multidisciplinary oversight can this question be answered.

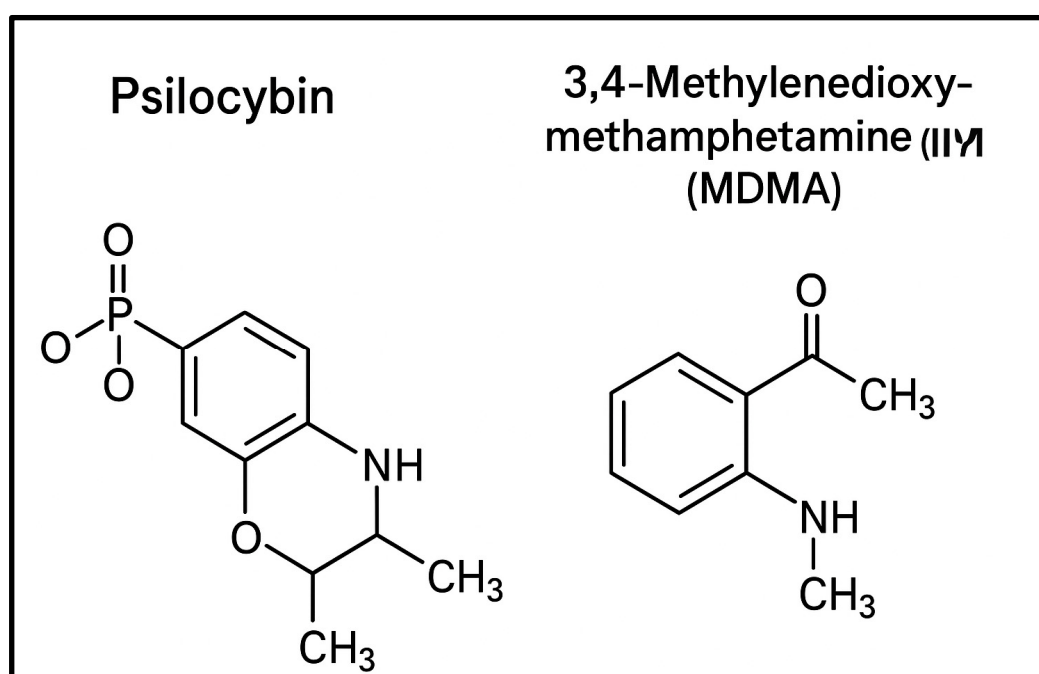


Figure 1. Comparing the Chemical Structures of Psilocybin and 3,4-methylenedioxymethamphetamine (MDMA).

2. Methods

A comprehensive literature search was conducted using PubMed, Scopus, and Google Scholar to identify peer-reviewed studies published up to June 2025. The search focused on clinical trials, systematic reviews, and meta-analyses examining the efficacy, safety, and mechanisms of psychedelic-assisted therapies such as psilocybin and MDMA in populations with depression and post-traumatic stress disorder (PTSD). Keywords included combinations of “psychedelics,” “psilocybin,” “MDMA,” “adolescent depression,” “treatment-resistant depression,” “ASD,” “ADHD,” and “neurodevelopment.” Only studies published in English and available through open access were included to ensure methodological transparency and reproducibility.

2.1. Mechanisms: Molecule, "Trip," or Both?

Psychedelics such as psilocybin and 3,4-methylenedioxymethamphetamine (MDMA) primarily act as agonists at the serotonin 2A (5-HT_{2A}) receptor, a cortical receptor that regulates perception, mood, and cognition through excitatory glutamatergic signaling. Activation of the 5-HT_{2A} receptor increases cortical connectivity and alters consciousness, while antagonism, as seen with agents like mirtazapine, reduces serotonergic excitability, contributing to mood stabilization and anxiolysis. Functional neuroimaging studies have shown that psychedelics transiently increase cortical entropy and modulate large-scale neural networks, notably the default mode network (DMN), which governs self-referential thinking and rumination often implicated in depressive states[3].

Within the broader neurocognitive architecture, three interconnected systems regulate mental function: the DMN, associated with introspection and baseline mental activity; the salience network (SN), which detects and filters internal and external stimuli; and the central executive network (CEN), which coordinates attention and working memory. These systems share overlapping neural substrates but operate in dynamic balance. In depressive disorders, hyperactivity within the DMN is often accompanied by impaired coordination between the SN and CEN, fostering maladaptive patterns of self-focus and affect regulation. Psychedelics appear to transiently disrupt this imbalance, promoting a state of increased neural flexibility that allows for reorganization of maladaptive cognitive and emotional circuits. In essence, the DMN may represent the neurobiological substrate of the "self," and its modulation whether through pharmacologic action or profound experiential states, may catalyze emotional recalibration and psychological growth.

At the molecular level, psychedelics enhance neuroplasticity by promoting synaptogenesis and dendritic complexity in preclinical models, particularly within limbic and prefrontal regions critical for emotional learning and cognitive flexibility [5]. These neuroadaptive processes are thought to underpin the sustained mood improvement and shifts in perspective observed in adults following psychedelic-assisted psychotherapy. However, the developing adolescent brain poses unique challenges. Ongoing maturation of prefrontal-limbic circuits and evolving identity formation may heighten vulnerability to both positive and adverse effects. This raises critical empirical questions about whether psychedelics could restore disrupted developmental plasticity in adolescents with severe psychiatric illness or conversely, interfere with normative neurodevelopmental processes.

While both psilocybin and mirtazapine engage serotonergic pathways, their pharmacodynamics diverge markedly. Psilocybin exerts its effects through 5-HT_{2A} receptor agonism, leading to transient cortical hyperconnectivity and altered self-referential processing. Mirtazapine, conversely, is a noradrenergic and specific serotonergic antidepressant (NaSSA) that antagonizes 5-HT_{2A}, 5-HT_{2C}, and 5-HT₃ receptors, reducing serotonergic overstimulation while indirectly enhancing 5-HT_{1A}-mediated transmission. This contrast illustrates two fundamentally distinct therapeutic logics: psilocybin facilitates acute cognitive and emotional expansion through receptor activation, whereas mirtazapine promotes stability and anxiolysis through inhibition and modulation. Understanding how these opposing mechanisms shape network dynamics and long-term neuroplasticity may provide a framework for refining both psychedelic and traditional pharmacotherapies. See Table 1 for details.

Table 1. Comparison of 5-HT_{2A} and 5-HT_{1A} Receptors.

Feature	5-HT _{2A} Receptor	5-HT _{1A} Receptor	Clinical Implications
Receptor Type/Coupling	GPCR (Gq/11-coupled) → ↑ IP ₃ , Ca ²⁺ , PKC activation	GPCR (Gi/o-coupled) → ↓ cAMP, neuronal inhibition	5-HT _{2A} activation increases excitatory signaling; 5-HT _{1A} activation exerts inhibitory, anxiolytic effects.
Brain Locations	Prefrontal, somatosensory, and visual cortices; claustrum	Raphe nuclei, hippocampus, amygdala, prefrontal cortex	Cortical 5-HT _{2A} influences perception and cognition; 5-HT _{1A} regulates mood and anxiety circuits.

Typical Agonists	Psilocin, LSD, DOI, mescaline	Serotonin, 8-OH-DPAT, buspirone (partial)	5-HT _{2A} agonism produces perceptual and cognitive changes; 5-HT _{1A} agonism reduces anxiety and enhances mood.
Typical Antagonists	Mirtazapine, clozapine, risperidone, ketanserin	WAY-100635, pindolol (partial)	5-HT _{2A} blockade reduces hallucinations and contributes to antidepressant and antipsychotic effects; 5-HT _{1A} antagonism is mainly experimental.
Partial Agonists	Aripiprazole (functional), brexpiprazole	Buspirone, vilazodone, vortioxetine	Partial agonism stabilizes serotonergic tone and can enhance antidepressant efficacy.
Functional Role	Modulates perception, sensory integration, and neuroplasticity	Mediates serotonergic feedback, mood, and anxiety regulation	5-HT _{2A} activation promotes cortical excitation and plasticity; 5-HT _{1A} activation dampens stress responses and improves emotional regulation.

2.2. What We Actually Know in Adult Trials

Clinical trials in adults increasingly support the potential of psychedelic-assisted therapy. Griffiths et al. (2016) conducted a randomized double-blind study showing that psilocybin produced significant and lasting reductions in anxiety and depression among patients with life-threatening cancer. Building on this, Carhart-Harris et al. (2021) compared psilocybin to escitalopram in a phase two trial of individuals with major depressive disorder [3]. Psilocybin therapy resulted in greater symptom improvement and a more pronounced reduction in depressive symptoms than standard antidepressant treatment. Similarly, the Multidisciplinary Association for Psychedelic Studies has shown through phase three trials that MDMA-assisted psychotherapy can be effective for adults with post-traumatic stress disorder [6]. These findings indicate that psychedelic-assisted therapy may offer a promising approach for complex and treatment-resistant mental health conditions. In the last five years, there have been more empirical studies, and Table 2 provides a brief summary.

All interventions were delivered in controlled settings with trained therapists, emphasizing the importance of guidance and the therapeutic environment. Research on psychedelics for end-of-life depression also suggests that mystical experiences can foster meaning, purpose, and acceptance, which may be relevant to treating depression. Despite these promising results, studies involving adolescents are extremely limited due to ethical considerations, legal restrictions, and developmental factors unique to younger populations.

Table 2. Empirical evidence of psychedelic-assisted therapy in treatment-resistant mental health conditions.

Citation (first author, journal)	Design/Phase	Sample (N, population)	Intervention (dose/sessions)	Primary outcome (timepoint)	Key result
Rosenblat et al., 2024 [7]	Randomized clinical trial (phase 2 style)	N ≈ (reported) adults with treatment resistant depression; multisite	Repeated doses of psilocybin with psychotherapy (protocolized)	Depression severity (weeks 6–12)	Repeated-dose psilocybin demonstrated clinically meaningful reductions in depressive symptoms versus control; supports feasibility of repeated dosing in TRD.
Back et al., 2024 [8]	Randomized clinical trial	N = 30 clinicians with depression, burnout, PTSD symptoms	Single or limited session with psilocybin therapy with psychotherapeutic support	Depression symptom change (day 28)	Significant reduction in depressive symptoms by day 28 after psilocybin

					administration in this small RCT
Mitchell et al., [9]	Multisite, randomized, double blind, confirmatory phase 3	N large multisite sample; adults with moderate to severe PTSD	MDMA assisted therapy (manualized psychotherapy + MDMA) vs. placebo + therapy (multiple sessions)	PTSD symptom severity and functional impairment (primary endpoint timepoint per protocol)	MDMA assisted therapy significantly reduced PTSD symptoms and functional impairment with an acceptable safety profile in the trial population
Raison et al., 2023[10]	Randomized, multiblinded clinical trial	Adults with major depressive disorder, randomized	Single-dose psilocybin vs. active placebo comparator (niacin) with blinding procedures	Depression severity over six weeks	Demonstrated onset of antidepressant effect and durability over six weeks; used centralized blinded raters to evaluate timing and safety
Goodwin et al., 2022 [11]	Phase 2, double blind randomized trial	Adults with treatment resistant depression	Single dose proprietary psilocybin formulation with psychotherapy vs. control	Depression severity (primary endpoint weeks 3–6)	Single dose psilocybin produced clinically meaningful improvement in depressive symptoms compared with control in TRD cohort
Carhart-Harris et al., 2021 [12]	Double blind randomized controlled trial	N = 59 adults with major depression	Two doses of psilocybin (with psychological support) vs. daily escitalopram (active SSRI) for six weeks	Change in depression rating scales at week 6	Psilocybin showed clinically important improvements but the trial did not demonstrate a statistically significant difference from escitalopram on the primary endpoint; issues of expectancy and blinding were noted
Davis et al., 2021 [4]	Randomized clinical trial	Adults with major depressive disorder	Psilocybin assisted therapy (two dosing sessions) vs. delayed treatment/waitlist	Depression outcomes up to 4–6 weeks and longer follow up	Psilocybin with psychotherapy produced rapid, large and sustained antidepressant effects compared with control conditions in this trial

2.3. Why Adolescents Might Benefit and Why Caution Is Required

Adolescent depression often involves high relapse rates, treatment resistance, and daily functioning impairments. Standard interventions such as cognitive-behavioral therapy and selective serotonin reuptake inhibitors are sometimes insufficient. Adolescence is marked by heightened neuroplasticity, ongoing maturation of executive control networks, and increased emotional reactivity, offering both opportunities and challenges for intervention.

Psychedelics may help “reset” neural circuits linked to depressive symptoms, including rumination and negative cognitive biases, by acting on 5-HT_{2A} receptors and enhancing neural plasticity[3]. Adolescents may benefit from increased emotional openness, enhanced

autobiographical insight, and new perspectives on themselves and their experiences. Greater neural flexibility may also enhance engagement with behavioral and cognitive therapies, supporting longer-lasting effects.

Caution is essential. Potential risks include impacts on the developing brain, substance misuse, and legal constraints, as most psychedelics remain Schedule One substances. Adult studies suggest these agents can alleviate lethargy, anhedonia, and meaninglessness, fostering inspiration and purpose. Carefully controlled research could harness these effects to support emotional, moral, and psychological growth, helping depressed adolescents reengage with life in a meaningful way. Table 3 provides recent attempts to study using non-RCT models in youths.

2.4. Potential Role of Psychedelic-Assisted Therapy for Neurodevelopmental Disorders

Mood and anxiety disorders, as well as agitation and irritability associated with autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD), are often treated in children and adolescents with selective serotonin reuptake inhibitors (SSRIs) and second-generation antipsychotics. However, these interventions are not without limitations. SSRIs have been linked to a higher risk of behavioral activation in youth, manifesting as new suicidal thoughts, restlessness, irritability, sleep disturbances, and emotional dysregulation, especially in individuals with neurodevelopmental vulnerabilities[13]. Moreover, these medications do not address core features of neurodivergence, such as social cognition deficits, leaving significant unmet clinical needs.

Psychedelic-assisted therapies may offer a novel approach by targeting different neurobiological processes. Compounds such as psilocybin can acutely alter functional connectivity within brain networks and promote synaptic plasticity, in contrast to SSRIs which chronically modulate serotonin levels [3,5]. These mechanisms have been associated with improved mood regulation, cognitive flexibility, and social connectedness, domains often impaired in neurodevelopmental disorders. Preliminary qualitative evidence suggests that psychedelics may enhance emotional awareness, reduce rigid thought patterns, and improve social cognition in individuals with ASD [14]. Unlike SSRIs, psychedelics can be administered infrequently and with flexible dosing, potentially offering practical advantages.

Nevertheless, caution is essential. Adolescents are undergoing critical neurodevelopmental processes, including synaptic pruning, myelination, and maturation of prefrontal-limbic circuits that support emotional regulation[15]. Introducing potent serotonergic agents during this period may carry risks for cognitive and emotional development. Furthermore, altered states induced by psychedelics complicate adherence to ethical standards in pediatric research, including risk minimization and informed consent. Teenagers may lack the maturity to fully comprehend or manage these experiences, highlighting the need for rigorous psychological support before, during, and after sessions, as well as multidisciplinary supervision. Ethical oversight and regulatory review must carefully balance developmental risks against potential therapeutic benefits, emphasizing safety, equity, and methodological rigor.

3. Discussion

Although the historical context of serotonergic psychedelics, particularly compounds such as psilocybin, lysergic acid diethylamide (LSD), and 3,4-methylenedioxymethamphetamine (MDMA), as recreational and experimental therapeutic agents is well established, the recent resurgence of interest in their clinical applications reflects both longstanding unmet needs in mental health and evolving neurobiological insights. Despite nearly four decades of reliance on major classes of antidepressants, such as selective serotonin reuptake inhibitors (SSRIs), progress in novel therapeutics for many mood and anxiety disorders remains limited. In this light, the reconsideration of psychedelics in adult populations emerges against a backdrop of stagnation in conventional pharmacotherapy and heightened demand for innovation.

At the molecular level, the 5-HT_{2A} receptor (5-hydroxytryptamine 2A subtype) has emerged as a central target of classic psychedelics. Recent molecular dynamics simulations have clarified that

ligand binding to the orthosteric site of the 5-HT_{2A} receptor and subsequent G_q-protein coupling and conformational transitions are critical to receptor activation[16]. Moreover, neuroimaging and receptor-mapping studies indicate that 5-HT_{2A} engagement is part of a broader cascade: many psychedelics also activate 5-HT_{2B} receptors or other serotonergic subtypes, raising potential[17]. This mechanistic foundation lends plausibility to hypotheses that psychedelics effect rapid changes in network dynamics, particularly within prefrontal cortex circuitry and default mode network connectivity, and may promote plasticity and self-referential cognitive shifts [18].

Accordingly, carefully designed, age-sensitive clinical trials could help determine whether psychedelic-assisted therapy offers meaningful incremental benefits over existing modalities. However, several important caveats warrant emphasis. Despite the often-described double-blind randomized controlled trial (DB-RCT) frame, many adult psychedelic trials face significant challenges to blinding, given the overt psychoactive effects, heterogeneity of psychotherapeutic support, and small sample sizes. For example, one RCT comparing psilocybin to escitalopram found superiority at six weeks, yet issues of expectancy and unblinding were acknowledged [12]. The adult samples are overwhelmingly middle-aged, White, and physically healthy, limiting generalizability to more diverse populations and other clinical phenotypes such as adolescents and neurodevelopmental disorders. Although safety profiles in adults appear favorable, acute physiological changes, including increases in systolic blood pressure by approximately 13–24 mmHg, have been documented [19]. Given that adolescent neurobiology differs markedly from that of adults, extrapolation warrants caution.

Turning specifically to youth and neurodevelopmental contexts, the literature is markedly sparse. Recent empirical investigations underscore the urgency of including adolescents in psychedelic-assisted therapy research. Although adults have demonstrated significant benefit from interventions involving compounds such as psilocybin, MDMA, and ketamine, adolescents remain markedly underrepresented: a recent scoping review found only three trial registrations and one trial plan involving participants under 18 years of age, none of which have yet reported results [20]. Another commentary emphasized that although a benefit-to-risk calculus may support adolescent trials in selected 16- to 17-year-olds, robust frameworks for safety, assent, monitoring, and trauma-informed care are lacking [13]. There remain profound unanswered questions regarding psychedelic effects on adolescent brain maturation, including prefrontal-limbic integration, dopaminergic modulation, and synaptic pruning dynamics that differ from adults[21].

A prospective cohort study comparing adolescents (mean age = 20.4) and adults after self-initiated psychedelic use found comparable improvements in well-being but a higher prevalence of residual perceptual disturbances in younger participants: 73.5% of adolescents reported hallucinogen-persisting perceptual phenomena versus 34.2% of adults, though only one adolescent considered these distressing [22]. Likewise data from >16,000 adolescents indicated that lifetime psychedelic use, when adjusted for other drug use, was associated with lower self-reported psychotic symptoms, yet increased manic symptom risk in individuals with high genetic vulnerability to schizophrenia or bipolar disorder[23]. Such findings affirm that while risk in therapeutic contexts may be acceptable, informed consent processes must account for developmental maturity, familial and social dimensions, cognitive vulnerability, and the possibility of novel adverse outcomes.

Considering these twin dimensions of promise and uncertainty, it is reasonable to posit that psychedelics may have potential applications in youth with enduring clinical phenotypes, such as treatment-resistant mental disorders or neurodevelopmental disorders with co-occurring problems. Their capacity for rapid action, reduced burden of daily pharmacotherapy, and potential enhancement of therapeutic alliance and emotional openness is theoretically compelling and increasingly discussed in adult literature. Yet, without adolescent-specific evidence, this remains speculative.

To move the field forward and bridge the translational gap, several pathways emerge.

1. Preclinical studies targeting adolescence-equivalent developmental stages in animal models to examine long-term neurodevelopmental and behavioral outcomes of classic psychedelics.

2. Phase I/II safety and feasibility trials in older adolescents with closely defined enrollment criteria, rigorous assent and consent procedures, independent monitoring of adverse events, structured psychotherapy protocols, and long-term follow-up.
3. Large-scale, multisite RCTs that include neurodevelopmental phenotypes, diverse demographic sampling, and standardized psychotherapeutic adjuncts.
4. Mechanistic investigations, including functional neuroimaging, network connectivity, and biomarkers such as brain-derived neurotrophic factor (BDNF), cortical thickness, white-matter integrity, and 5-HT_{2A} receptor imaging, to elucidate mediators and developmental moderators of response.
5. Ethical, regulatory, and access considerations, including frameworks that guard against commercial exploitation, overmedicalization of adolescent populations, and undue hype while ensuring equitable access. The adult research landscape already signals potential conflicts of interest and issues of transparency in for-profit sponsorship.
6. Integration into clinical services: If adolescent-appropriate safety and efficacy are established, the next challenge will be therapist training, standardization of psychotherapy models, cost-effectiveness analyses, and system-level implementation that includes informed assent, family involvement, and safeguarding.

Table 3. Summary of integrating the key findings from adult psychedelic research and emerging adolescent evidence.

Domain	Current Evidence and Insights	Limitations/Risks	Research and Translational Priorities
Mechanistic Basis	Classic psychedelics (psilocybin, LSD, MDMA) act primarily through 5-HT _{2A} receptor agonism, promoting cortical excitation, altered network dynamics, and potential neuroplasticity [24,25]	Mechanistic data largely derived from adult and animal models; age-specific receptor density and synaptic pruning effects remain poorly characterized.	Conduct developmentally calibrated preclinical studies examining 5-HT _{2A} signaling, cortical maturation, and dopaminergic modulation during adolescence.
Clinical Efficacy	Multiple adult RCTs demonstrate rapid antidepressant and anxiolytic effects of psilocybin and MDMA[4,12].	Limited generalizability: adult samples are predominantly middle-aged, White, and medically healthy; no completed adolescent RCTs to date[20].	Initiate Phase I/II safety and feasibility trials in older adolescents with treatment-resistant depression or PTSD using rigorous consent and safety monitoring.
Safety and Tolerability	Adult studies report transient physiological effects (e.g., ↑ systolic BP = 13–24 mmHg) and low incidence of severe adverse events [26].	Adolescents show higher rates of hallucinogen-persisting perceptual phenomena [22], possible manic risk in genetically vulnerable youth [23].	Implement age-specific risk stratification, independent safety boards, and long-term neurodevelopmental follow-up.
Ethical and Developmental Context	Growing ethical discourse supports inclusion of capable adolescents in research with enhanced consent frameworks[27].	Uncertainty regarding capacity, assent, and informed decision-making; lack of trauma-informed and family-integrated models.	Develop standardized assent templates, family engagement protocols, and trauma-sensitive psychotherapy adjuncts for minors.
Regulatory and Implementation Issues	Psychedelics are undergoing regulatory reevaluation (e.g., FDA breakthrough status for psilocybin and MDMA) in adults.	Youth inclusion remains legally restricted, with undefined pathways for therapeutic	Advocate for regulatory guidance on adolescent research, conflict-of-interest

		exemption or compassionate use.	oversight, and equity in access once safety is established.
Future Research Directions	Emerging neuroscience suggests psychedelics may reopen critical periods of social learning and plasticity[28]	Mechanistic plausibility does not equal therapeutic safety; dose–developmental interaction data absent.	Integrate multimodal neuroimaging, biomarker studies (e.g., BDNF, cortical thickness), and network-level analyses in early trials.

4. Conclusions

Psychedelic-assisted therapy represents a promising yet highly experimental approach for addressing mood disorders, depression, and related symptoms in neurodevelopmental populations. Evidence from adult studies suggests that compounds such as psilocybin and MDMA may have meaningful therapeutic effects, but these findings cannot be directly generalized to adolescents or individuals with neurodevelopmental conditions. Given the unique vulnerability of the developing brain, alongside ethical and legal considerations, research must proceed with caution. Future efforts should prioritize rigorous, evidence-based methodologies, multidisciplinary collaboration, and careful monitoring of long-term outcomes. While the potential of psychedelic-assisted interventions in child and adolescent mental health is compelling, responsible translation into clinical practice will require systematic inquiry, strict safety protocols, and thoughtful consideration of developmental and ethical factors.

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