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RESEARCH

Epistemic Discipline in Psychedelic-Assisted Therapy: Memory, Therapy Dynamics, Attachment Patterns, and Sexual Abuse

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Abstract Psychedelic-assisted therapy (PAT) is increasingly used for trauma-related disorders, raising ethical questions beyond client safety. We argue that PAT clients have epistemic needs and clinicians have corresponding obligations that call for epistemic humility and discipline, which are essential for regulating foreseeable epistemic risks and for PAT's ethical structure. Drawing on threads of epistemic vulnerability theory, memory research, and emerging empirical evidence on the cognitive and relational effects of psychedelics, we argue that phenomenological characteristics, including noetic quality, are unreliable indicators of historical veridicality and are associated with epistemic risks. Focusing on individual differences associated with attachment patterns and work with sexual abuse survivors, we show how disrupted epistemic trust, authority sensitivity, and structural disempowerment may magnify those epistemic risks. We then develop epistemic discipline as a fiduciary stance that requires restraint in both directions: neither endorsing experiential material as historically veridical when this cannot be established, nor introducing unwarranted doubt that undermines epistemic agency. Because such epistemic vulnerability and its associated risks are foreseeable, if not entirely predictable, we frame epistemic discipline as

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a fiduciary obligation of the clinician that spans preparation, dosing, and integration, as well as obligations of training programs, credentialing bodies, and professional communities with responsibility to identify and remedy relevant omissions in training and supervision. Finally, we systematize features of epistemic vulnerability and governance mechanisms across PAT phases.

Keywords Psychedelic-assisted therapy · Epistemic vulnerability · Epistemic discipline · Autobiographical memory · Attachment · Sexual abuse

Introduction

Psychedelic-assisted therapies (PAT) show therapeutic promise for mood and trauma-related disorders by demonstrating clinically meaningful symptom reductions among participants with major depression and post-traumatic stress disorder (PTSD; [1–3]. As access expands, PATs is increasingly considered for individuals with histories of childhood sexual abuse and complex trauma [4, 5]. This expansion highlights ethical questions that extend beyond safety and professional misconduct to the conditions of therapeutic meaning-making, in which consciousness, appraisal, interpretation, and dependence on the clinician are altered by the intervention.

Existing bioethical discussions of PAT emphasize boundary violations, risk management, and misconduct—concerns heightened by the structural vulnerability of PAT and documented cases of sexual exploitation [6–9]. Less systematically theorized is how psychedelic states reshape the epistemic conditions within which clients evaluate experience, interpret significance, and form and revise beliefs within asymmetric therapeutic relationships (recent exceptions addressing potential recovered or false memories are [10–13].

This article addresses epistemic vulnerability in PAT clients[1] by identifying the altered epistemic conditions that give rise to it, as well as clinicians' corresponding epistemic obligations of epistemic humility and epistemic discipline. Following Johnson [14] (see also [15], we define *epistemic vulnerability* as the condition in which someone needs other people to help them meet their epistemic needs, and the corollary *epistemic obligation* as what those needs, when they are basic and legitimate, generate in the other who is well-positioned to meet them [14], p.684). In PAT, the clinician's fiduciary role gives those obligations particular practical force, due to the client's altered-state dependence, the clinician's professional authority, and related institutional responsibilities and accountability.

First, we argue that PAT foreseeably, though not wholly predictably, alters epistemic conditions in ways that intensify and reorganize epistemic vulnerability in clients, particularly around memory-related phenomena. By *altered epistemic conditions*, we mean changes in clients' cognitive and, potentially, metacognitive capacities, as well as changes in the relational conditions through which experiences are encountered, evaluated, and integrated. Those altered conditions include neurobiological and phenomenological changes; altered cognitive functions and, perhaps, metacognitive capacities for source monitoring and reflective evaluation; and client-therapist relational dynamics that shape clients' experiences and responses to them. Potential client responses to those experiences, under those conditions, may include *attributions* of source or cause; *appraisals* of experiences as salient, threatening, meaningful, or urgent; *interpretations* within broader personal, relational, clinical, and cultural narratives; and the formation, revision, or suspension of *beliefs*. These processes are not linear, and they are cross-cut by metacognitive evaluation, including the capacity to assess what phenomenological features such as vividness, emotional intensity, familiarity, or noetic quality warrant.

[1] Although this analysis focuses on PAT, the epistemic issues it raises are not confined to clinical contexts. Naturalistic, ceremonial, and peer-guided psychedelic use, as well as non-psychedelic altered-state care, may also involve altered experience and cognition, heightened suggestibility, and (informal) authority structures that shape attributions, appraisals, interpretations, and beliefs [164, 177].

Ideally, when held within appropriately structured therapeutic support from preparation through integration [16], those conditions can support therapeutic change—perhaps through acceptance, reappraisal, revision of maladaptive beliefs, extinction learning, reconsolidation-related processes, and other forms of learning and memory modification [17–21]. But they might also contribute to harm, for example, by increasing susceptibility to source-monitoring failures, premature interpretive closure, undue influence, and unwarranted credulity or doubt. The risk of harm may be especially pronounced during acute psychedelic effects involving heightened suggestibility [22, 23] and a noetic quality of experience, the compelling sense of having gained genuine, authoritative knowledge or insight [24], often experienced as more real or more true than ordinary perception [25]. Yet they may also arise—or even compound—in the post-acute phase and integration sessions, as clinicians support clients' efforts to make sense of their experiences and integrate them into their identities and life narratives.

Those altered epistemic conditions may interact with two additional sources of epistemic vulnerability. One source is beliefs, assumptions, and expectations about memory, trauma, healing, and the effects of psychedelics, which may precede engagement in PAT or be fostered or reinforced during its preparation phase. Another source of potential epistemic vulnerability is relationally patterned differences in epistemic trust, mistrust, and reliance on authority [26, 27]—moderating factors which can be shaped by attachment history and, in some cases, histories of sexual abuse, as well as marginalization or discrimination [28]. Those differences in trust, mistrust, or authority dependence, although neither deterministic nor reducible to attachment history, may affect the relative weight clients give to their own experience and to clinicians' cues when interpreting material of uncertain source or meaning under conditions of arousal and in altered states. They may also independently shape clients' deference to, or distrust of, clinical authority.

We submit that this entire set of conditions can differ greatly in degree, and perhaps in kind, from ordinary psychotherapy. The point is not that psychedelic states inevitably eliminate clients' capacity for self-correction, nor that PAT typically produces false memories or harmful beliefs. Rather, pharmacologically altered phenomenology, changes in cognition and potentially metacognitive functioning, heightened responsiveness to contextual and interpersonal cues, and authority asymmetries may co-occur within a brief temporal window of acute effects. This can make effective real-time evaluation and reflection more difficult or less reliable precisely when clients are deciding where an experience came from, what it means, and what they should believe or do in response. Upon cessation of acute pharmacological effects and during the integration phase of PAT, several altered epistemic conditions may remain and continue to be sources of risk—especially those associated with prior assumptions, beliefs, and expectations, on the one hand, and relationally patterned differences in epistemic trust, mistrust, and reliance on authority, on the other.

Second, we argue that such conditions and resulting epistemic vulnerability in the client require clinicians to practice PAT with both epistemic humility and epistemic discipline. We use *epistemic humility* to denote a relational and context-sensitive professional stance that governs clinical framing, questions, interpretive responses, and recommendations. It requires clinicians to calibrate those practices to the available epistemic warrant, to communicate the limits of the relevant evidence, methods, and clinical expertise, and to engage with clients' interpretations and beliefs in ways that neither uncritically ratify nor prematurely dismiss them. The stance of epistemic humility includes, but is more than, the commitment to intellectual humility, i.e., appropriate recognition and ownership of one's intellectual limitations [29], and the commitment to supporting clients' epistemic agency within an asymmetric clinical relationship [30, 31].

We define *epistemic discipline*, in the context of PAT, as the fiduciary practice and governance of epistemic humility in the clinical relationship. Specifically, this entails proportionate restraint in shaping clients' attributions, appraisals, interpretations, and beliefs—especially under the altered epistemic conditions of PAT, where epistemic warrant remains uncertain [32] and professional authority can affect how experiences are categorized, appraised, interpreted, and incorporated into beliefs about one's history and identity. As addressed below, this includes acknowledging the limits of what clients and clinicians (and the researchers on whom they may depend for valid

knowledge) can know about the origins and historical accuracy of material that clients may experience or interpret as memories recalled or "recovered" in altered states. One critical function of epistemic discipline, then, is to protect clients and clinicians alike against both premature credulity and reflexive doubt.

In the context of PAT, recognizing the client's epistemic vulnerability also brings into view one's own epistemic obligation and foreseeable fiduciary risks—those concerning entrusted power and role-based obligations—that can arise in altered-state care. Cultivating epistemic humility and practicing epistemic discipline are ways of responding to that epistemic obligation with competent and ethical practice. We address these issues in detail below, as well as governance mechanisms that support such practice. Because these terms are closely related and are used here in specific senses, we define epistemic vulnerability, epistemic obligation, altered epistemic conditions, epistemic humility, and epistemic discipline above, and epistemic agency and epistemic harm below, in our discussions of attachment patterns and of work with sexual abuse survivors, respectively.

Sources of Epistemic Vulnerability: Knowledge, Ignorance, and Beliefs

Epistemic vulnerability may be present throughout PAT, not only in dosing sessions. The assumptions, expectations, knowledge gaps, and background beliefs that clients and therapists bring to treatment can be sources of vulnerability. These may concern how autobiographical memory works; how stress, trauma, and attachment injury may affect encoding, retrieval, appraisal, and narrative integration; how psychedelics may alter memory, imagination, familiarity, suggestibility, noetic experience, and conviction; and how therapeutic relationships and interpretive dynamics may shape recall, meaning-making, and belief formation. Such beliefs may be accurate, inaccurate, partially true, or insufficiently evidenced, and they may be explicitly held or implicitly exert influence.

Because these prior epistemic conditions can affect how experiences are interpreted, PAT clinicians have a responsibility to maintain empirically grounded working knowledge of memory, trauma, suggestibility, and psychedelic effects within their scope of competence—topics addressed in the sections that follow. This responsibility does not require clinicians to become memory scientists, but it does require sufficient familiarity with the relevant evidence and controversies to avoid inadvertently fostering or reinforcing unwarranted certainty, whether toward credulity or skepticism. Clinically, this also requires eliciting and exploring clients' assumptions and expectations about memory and psychedelic experience, especially where those may shape interpretation and conviction under conditions of heightened imaginative vividness, emotional intensity, and noetic quality.

For example, even if most people do not simply hold a "memory as videotape" model [33], those who do may be especially vulnerable to treating vivid or emotionally powerful experiences as self-authenticating. A client may not know that delayed recall of traumatic experience has been documented [34–38], and a clinician may view amnesia and delayed recall as impossible in principle.

These obligations are not borne by individual clinicians alone. Training programs, credentialing bodies, and professional communities share responsibility for identifying and remedying omissions in training, supervision, and informed consent regarding memory, trauma, suggestibility, and the interpretation of altered-state material [8, 39, 40]. This is especially important because clinicians (and researchers) must make judgments under conditions of limited evidence, polarized debate, and strong cultural trends, including the "trauma narrative," the "psychedelic renaissance," and the "memory wars." In this setting, epistemic humility is part of competent and ethically responsible care.

Sources of Epistemic Vulnerability: Incomplete, Reconstructive Memory and Altered States

The epistemic vulnerability cited above is largely rooted in features of cognition and metacognition that operate in ordinary life but become especially consequential under the conditions of PAT. Ordinarily, those features are benign, but under the altered phenomenology of psychedelic states, they may be openings through which expectation, inference, belief, and suggestion can enter, and they may become sources of false or distorted recollections. Psychedelics may also heighten suggestibility within a therapeutic relationship with framing, cues, and power asymmetry that can also shape what is experienced, interpreted,

and believed. None of these processes is inherently pathological, and the intensity and malleability of altered states may support therapeutic change. But their convergence within the acute window of psychedelic experience, and their continuing impacts in the aftermath—all potentially shaped by the pre-existing assumptions, beliefs, and expectations of both client and clinician—together make epistemic discipline a requirement of responsible care. The following sections take up each of these processes in turn.

Memory Systems and Stages: Incomplete, Reconstructive, and Probabilistic

Memory science distinguishes several memory systems and three basic stages of memory processing. With respect to memory systems, there are the declarative (or explicit) systems of episodic and semantic memory, and the nondeclarative (or implicit) systems of procedural (or habit) memory, priming, and conditioning [41]. Autobiographical memory is the self-referential memory system comprising episodic recollection of personally experienced events and semantic knowledge about oneself, organized across the lifespan [42, 43]. Through retrieval and reconstruction, memory representations can be interpreted and integrated into broader identity and narrative structures that support self-continuity, social relationships, and the direction of future behaviour [43, 44].

Memory processing is commonly divided into three stages: encoding, storage, and retrieval. At each stage, memory is incomplete and subject to construction or reconstruction that may be accurate, inaccurate, or both [45]. Encoding is the process by which perceived information is transformed into a mental representation that can be stored in memory—the initial formation of a trace. At encoding, external and internal stimuli are filtered through attention [46] and significance attributions, including emotional significance and goal relevance [47, 48], which, potentially along with arousal [49], influence whether they are encoded or prioritized for storage. Encoding is constructive because that filtering can be shaped by schemas and expectations [50, 51].

Next, only some of what was encoded is stabilized through consolidation into durable storage [52]. States of emotion and stress can influence storage processes and outcomes in complex ways, increasing or decreasing the probability that some information will be stored and the strength with which it is stored (i.e., memory storage strength, [52, 53]. Storage is not static. Generally, "memory fades," with representations weakened or lost over time, abstracted and schematized [50, 54], or modified when reactivated [55]. Finally, retrieval is incomplete and reconstructive [56]. Of the representations that remain in storage and are potentially accessible for recall [57], only some are activated and retrieved in any given recollection—and, as addressed below, instances of recall are opportunities for inaccurate details (from various sources) to be incorporated.

Cutting across these memory systems and stages, accounts of memory representation distinguish detailed verbatim/sensory traces from meaning-based gist traces (e.g., fuzzy-trace theory; [58] and, at a higher level, from schemas (e.g., [50]. Schemas can shape encoding by favoring integration of schema-congruent information and heightening attention to unexpected or strongly incongruent material [51], and by guiding gist extraction [54]. Schemas, together with gist traces, can also support memory reconstruction at retrieval, including via inferential filling of gaps [59, 60].

A memory's accessibility to retrieval—its retrieval strength—can be understood as the probability that it will be recalled at a given time, under a given configuration of retrieval conditions [57, 61]. Accessibility or retrieval strength lies along a continuum rather than being all-or-nothing, and it changes dynamically as retrieval conditions change. A representation that was strongly encoded and remains in storage may be difficult to recall under unfavorable conditions but easy to recall when conditions change. Thus, "inaccessible" means "low-probability access under particular conditions"—not inaccessible in any absolute sense.

It is therefore mistaken to understand memory accessibility in binary terms—or even to treat it as an intrinsic property of a memory—since accessibility is a relational, graded property, jointly determined by a representation's storage strength and the retrieval conditions it encounters. This cuts in both directions: just as a long period of low accessibility does not indicate that something was not stored, a shift to high accessibility, including an experience of memory "recovery," does not mean that what emerges has been recalled completely or accurately. Also, addressed further below, high

accessibility—how easily something is recalled, or how easily something imagined is "recalled"—does not determine whether it is veridical [62–64]. All such inferences and beliefs are unwarranted and create distinct epistemic risks in therapeutic settings.

The probability of memory retrieval depends largely on current retrieval cues [65] and contexts, including external contexts [66, 67] or internal physiological or emotional contexts [68–70]. But there is evidence that other mechanisms can also raise or lower retrieval probability, including retrieval-guiding schemas [43, 71], and in depression, PTSD, and trauma-exposed populations more generally, retrieval can be biased toward overgeneral rather than specific memories [72–74]. Because an individual's probability of recalling a particular memory is dynamically determined by multiple and potentially interacting mechanisms, conceptualizing a person's ability to recall in binary terms—as if they are simply either able or unable to recall—is also incorrect and entails risks.

Similarly, binary oppositions between "repression" or "dissociation" on the one hand and "false memory" on the other are too limited for conceptualizing experiences of amnesia and delayed recall [75]. The same is true for the binary opposition of "special mechanisms" (repression or dissociation) versus "not thinking about it" as explanations for periods of (perceived) amnesia [76], both can be read as treating accessibility as either present or absent when it is actually nonbinary, probabilistic, and a function of multiple, potentially interacting mechanisms that can change dynamically over time. (What those mechanisms may be and how they may interact are questions for empirical investigation.)

Finally, as touched on above, memory is malleable. All instances of recall are opportunities to re-encode and store new combinations of coactivated mental representations [55, 77]. There are opportunities to strengthen the future accessibility of representations retrieved during recollection [78], reduce future accessibility of representations that are not retrieved [79], or incorporate new but inaccurate details or semantic propositions [62, 64, 80–82]. In short, every instance of recall—real, imagined, or a mixture of the two—contains epistemic risk.

Phenomenology, Confidence, and Belief Do Not Establish Source or Accuracy

Qualitative observations of vivid and intense autobiographical memories were made by early LSD researchers [83] and appear in more recent studies of multiple psychedelic substances (e.g., [84, 85]. The only study we are aware of that used placebo control, cued recall, and quantitative ratings found that psilocybin was associated with more vivid and intense positive autobiographical memories, as well as greater activation in visual and other cortical regions [86]. Anecdotal reports are common in naturalistic and online accounts but have not been systematically characterized.

Yet phenomenology and confidence cannot, by themselves, establish either the source of an experience or the accuracy of a memory. In various contexts, including therapy, people may encounter memories or memory fragments—such as internal images, bodily sensations, or emotions—any of which may be experienced with heightened intensity, clarity, or certainty [87]. Empirical research indicates that phenomenological qualities and confidence function as inferential cues: inputs to source attributions, appraisals, interpretations, and beliefs, rather than direct readouts of an experience's source or accuracy.

According to the source monitoring framework [88, 89], nothing intrinsic to mental contents establishes whether they are recalled events or imagined ones (e.g., resulting from belief, expectation, inference, or suggestion). Judgments of source are made heuristically, based on qualitative characteristics including sensory detail, contextual information, emotional intensity, and the cognitive operations involved (e.g., strategic search versus unbidden emergence). Furthermore, those judgments may utilize different criteria or thresholds in different contexts, and as a function of one's current goals.

Source misattribution is more likely when internally generated content is qualitatively similar to genuine memories—vivid, detailed, affectively charged—and when the criteria and thresholds utilized for source judgments are liberal or inappropriate to the context. As addressed below, both of those conditions may characterize psychedelic experiences, although the evidence is stronger for phenomenological qualities than for source judgment criteria and thresholds.

Whereas the source monitoring framework focuses on source attributions, metacognitive accounts focus more on how people decide whether, and how precisely, to disclose them. That is, following a monitoring judgment, people engage in report control. Specifically, they strategically decide whether to volunteer or withhold disclosure of a memory or part of a memory, not just based on their confidence in its accuracy but also on their perceptions of the relative incentives for accuracy versus informativeness in a particular context [90]. What is reported, including to a therapist, is therefore a regulated output, based on both confidence in accuracy and prediction of consequences—not a direct readout of what was experienced or recalled. Stronger (perceived) incentives for accuracy raise the threshold for reporting something as a memory, while felt pressure for disclosure, completeness, or narrative coherence may lower the threshold and increase the likelihood of reporting. Koriat and Goldsmith [90] frame such strategic memory reporting as a quantity–accuracy trade-off. When people use a strict criterion for reporting, they may improve the accuracy of what they report at the cost of reporting less information, including accurate information (and vice versa). Finally, research on the metacognitive account has shown that, for episodic memory recall, people tend to strategically adjust the "grain size" of their reports, prioritizing accuracy at the expense of detail [91–93].

It is plausible that, even in the absence of pharmacological effects on monitoring or reporting, a client's perceptions of a therapist's beliefs, expectations, or responses may influence whether the client classifies material as memory, the confidence they have in its accuracy, whether they disclose it, and if so, how specifically. It is also plausible that, where therapeutic interactions reinforce or contradict monitoring judgments and reporting decisions, introduce post-event information, encourage repeated imaginative elaboration, or promote schema-consistent reconstruction, they may contribute to source misattributions and false or distorted memories. Also, given memory's constructive nature, schemas and details from other events might contribute to the distortion of reconstruction [50, 51, 62, 64].

Finally, belief that an event occurred is dissociable from the experience of recollecting it, as indicated by the existence of nonbelieved memories [94, 95]. Belief in an event that really happened and is still vividly recalled can be withdrawn in response to social feedback. Conversely, belief in an event that never happened and is poorly recalled can be shaped by various factors, including plausibility and social reinforcement. Such a belief can result even from simply imagining it repeatedly, which can increase confidence that an event that never happened did, in fact, occur, an effect known as imagination inflation [96].

These considerations also cut in both directions. Vividness, emotional force, and confidence do not establish that something is a memory or an accurate one—but neither do they establish that it is false or inaccurate. Genuine memories are frequently vivid and confidently believed, but weak phenomenology and lack of confidence in veridicality and accuracy are not evidence of falsity. The point is simply that none of those factors, on their own, is determinative. The epistemic humility following from that knowledge guards against both credulous endorsement and reflexive dismissal.

Potential Impacts of Psychedelics on Cognition and Metacognition in PAT

Currently, limited empirical work allows only speculation about how psychedelics might alter source attributions, interpretations, and beliefs about experiences that may or may not be accurate memories. It is plausible that cognitive and metacognitive alterations caused by psychedelics may contribute to vivid, intense, and noetic experiences. In addition, it is plausible that such experiences may result—also due to cognitive and metacognitive alterations—in false or inaccurate memories, or in true and accurate recollections, including following a period of (perceived) amnesia. In cases of apparent prior amnesia for real memories, there may have been prior episodic recollections that were never integrated into autobiographical memory, thus seeming "recovered" when they were finally interpreted and integrated as such [36]. Comprehensive treatment of these alterations and their potential effects exceeds our scope. What follows is bounded speculation, organized around the cognitive and metacognitive distinctions drawn in studies that bear most directly on the question.

At the level of cognition, the most systematic evidence comes from Doss and colleagues' (2024c) review and reanalysis of 10 episodic memory datasets

(28 drug conditions). Memory confidence was modeled to separate three processes: recollection, typically associated with the subjective experience of reliving an experience and contextual "where" and "when" information, which is dependent on hippocampal function; familiarity, a feeling of knowing that a stimulus has been experienced before, in the absence of recollection or corroboration; and metamemory, specifically retrospective metamemory, "how well one knows a retrieved memory (e.g., monitoring a memory for its veracity)" [97]. Across those data and analyses, classic psychedelics at encoding impaired recollection while tending to enhance familiarity. That profile is consistent with the broader finding that psychedelics acutely impair the formation of hippocampal-dependent episodic memories [97].

This recollection-down, familiarity-up dissociation is consequential because two independent mechanisms implicated in detailed-but-false recollection operate by inflating familiarity or fluency relative to veridical recollection [62, 64]. The first pertains to conceptual fluency (e.g., semantic activation raising the familiarity of a non-occurring event, prompting imagined features to be misattributed to perception), the second to perceptual recombination (i.e., details from real events erroneously bound to one that did not occur). Therefore, a state that lowers recollection while raising familiarity plausibly biases encoding toward the conditions under which false recollections arise. The direct evidence is partially consistent: psilocybin and 2C-B at encoding distorted episodic familiarity, selectively increasing familiarity-based false alarms [98], and MDMA increased false recognition of related lures in an immediate associative word-list recognition task, although not consistently in applied misinformation tasks [99]. Doss and colleagues [100] later argued that isolated MDMA retrieval effects previously interpreted as reduced recollection are better understood as increased false-memory responses rather than reduced true-memory retrieval.

However, two boundaries discipline these inferences and speculations. First, these are predominantly drug effects at encoding, as assessed with recognition tests for words, images, word-image combinations, or brief scenarios. Most concern memories formed under the drug—not the retrieval of events encoded long before any drug exposure, as in reports of "recovered" autobiographical memory. Encoding and retrieval are distinct processes, and evidence that psychedelics bias encoding toward familiarity does not establish any corresponding effect on retrieval. That may be especially true for remote, multisensory, and interpersonal events, given evidence that susceptibility to false memory does not straightforwardly generalize across experimental paradigms, much less to free recall of such events [101, 102]. Second, as addressed above, the potential alterations at issue—familiarity, fluency, and noetic quality—are non-diagnostic with respect to source and accuracy. The same heightened familiarity that can support a false recollection can also accompany a veridical one, and a single experience may contain both veridical and distorted elements. Indeed, in studies of emotional false recollection, emotional content was associated with reduced fluency-based false recollections, consistent with enhanced retrieval monitoring rather than greater distortion [64]. Also, psychedelics' acute enhancement of cortical-dependent semantic learning has been proposed as a possible route to adaptive integration of trauma memories and disruption of maladaptive beliefs, not only as a route to distortion [18]. In short, the encoding profile identifies a plausible mechanism for false recollection, but it does not by itself establish that psychedelic experiences attributed to memory are, in general, more likely to be false than true.

At the level of metacognition, the evidence is even more equivocal. In the same reanalysis by Doss and colleagues (2024c), psychedelics at encoding had no detectable effect on metamemory even as recollection fell and familiarity was spared or tended to rise. Therefore, any claim that psychedelics straightforwardly impair metacognitive monitoring is not well supported by the available data. The metacognitive concern may be better specified in three parts. First, the recollection-familiarity dissociation may contribute to a noetic sense of knowing—in James's [24] original sense, an experience carrying the felt authority of insight or revelation—that outruns the contextual detail normally available to support it. Second, psychedelic states may amplify a metacognitive feeling of epistemic gain [103], accompanied by its own noetic quality, which is not diagnostic with respect to source or accuracy. Third, the metamemory operationalized in these paradigms—the ability to discriminate one's own correct from incorrect recognition decisions for simple stimuli—should not

be equated with the source monitoring and reporting judgments that people apply to remote and complex autobiographical memories. As noted in the preceding section, those judgments depend on criteria and thresholds that can shift with context, incentives, and relational influences. Therefore, the available data do not establish whether real-world metacognitive evaluation of episodic and autobiographical memory is preserved or impaired in psychedelic contexts, let alone how its preservation or impairment may vary as a function of other factors. Instead, they have begun to constrain the question without resolving it.

Taken together, the cognitive evidence identifies a credible encoding-side route by which psychedelics could contribute to false recollection, via heightened familiarity and fluency, while the metacognitive evidence cautions against assuming a general impairment of monitoring, and certainly not a context-independent one. To date, both types of evidence reinforce, in mechanistic terms, the preceding section's central point: the phenomenology of psychedelic experiences—vividness, intensity, familiarity, and noetic conviction—is not diagnostic and cannot, on its own, indicate the veridicality or falsity of a given experience. Moreover, any cognitive and metacognitive alterations due to psychedelics do not occur in isolation. In PAT, and perhaps most consequentially for MDMA, they unfold within therapeutic relationships whose dynamics may themselves be altered by psychoactive effects. It is to that relational route that we now turn.

Potential Impacts of Psychedelics on Therapy Dynamics and Suggestibility

The potential cognitive and metacognitive alterations discussed above do not operate in a vacuum. In PAT, they develop within a relationship that psychedelics themselves may reshape, thereby adding a second, interpersonal route to epistemic vulnerability that is partly independent of the intrapersonal one. Where the cognitive route concerns how experiences are formed, recalled, and monitored, the relational route concerns how a client's responsiveness to another person—the clinician—may be altered, and how that altered responsiveness might shape disclosure and (co-created) attributions, appraisals, interpretations, and beliefs about ambiguous material. Even routine therapeutic responses, affirmations, silences, or invitations to elaborate can function as implicit signals of authority about what should be treated as significant or "real" [22, 104].

The most studied relational alteration is heightened suggestibility, that is, a person's responsiveness to communicated suggestions. In this context, suggestion may lead a person to experience a perception, thought, or interpretation that feels involuntary and is taken as real [23]. LSD has been found to increase responsiveness to suggestion on a standard scale [22], and in an exploratory analysis of one trial, suggestibility, but not expectancy, predicted response to psilocybin [105], a dissociation suggesting that suggestibility may not be reducible to prior expectation. Oliver and colleagues (2024) suggest that psychedelics may enhance suggestibility through several related processes, including increased openness to new meanings and increased associative thinking. However, two cautions apply. First, "suggestibility" is not a single construct,for example, direct verbal suggestibility and interrogative suggestibility are distinct constructs [106], so findings from one paradigm cannot be assumed to transfer to another—and even less to the clinical situation of a client responding to a therapist [23]. Second, much of this evidence comes from healthy volunteers, standardized suggestibility scales, and naturalistic and ceremonial settings, rather than direct studies of therapist-client influence in PAT, let alone PAT with trauma populations. Generalization to PAT, then, is plausible but not established.

MDMA warrants separate consideration because its characteristic acute effects are especially interpersonal and socioaffective, which may alter relational dynamics in therapy. Acutely, MDMA can increase feelings of closeness, trust-related cooperative responses, and connection, enhance emotional empathy, and reduce sensitivity to social threat and rejection [107–111]. Within a therapeutic frame, these effects are generally understood as supporting trust, rapport, and alliance. In psilocybin-assisted therapy, alliance quality has been associated with acute-session effects and clinical outcomes [112, 113], while preliminary evidence in MDMA-assisted psychotherapy links alliance quality with PTSD outcomes [114]. But the same relationally salient effects plausibly heighten a client's receptivity to the clinician's framing, emphasis, and explicit or implicit endorsement. This may provide a route for suggestive influence that need not depend on measurable impairment

of recollection, familiarity, and metamemory, and may operate even when those capacities are relatively unaffected. Alliance is thus dually functional: the connection and trust that support safety and disclosure are the same connection and trust that may also increase the epistemic weight of clinician cues. This does not make MDMA's interpersonal effects harmful, but it does make them epistemically consequential, requiring that they be treated not only as therapeutic assets but also as objects of ethical and fiduciary attention.

As with the cognitive route, the relational route is bidirectional. On the one hand, heightened responsiveness may incline a client toward premature endorsement of a suggested interpretation. On the other hand, heightened suggestibility and relaxation or strengthening of belief [115] may amplify doubt, suspicion, or distrust. Psychedelic states coupled with a distrust-oriented mindset may also contribute to conspiracy beliefs or other unwarranted non-consensus beliefs [23, 116]. Which direction predominates is not determined solely by the drug but is shaped by set, setting, framing, and the client's relational history. Here, the individual differences addressed below—attachment-patterned epistemic trust, mistrust and vigilance—may become influential, as may histories of sexual abuse, marginalization, or betrayal. The same may be true of proneness to anxiety or dissociation, which has been associated with greater vulnerability to suggestion-related distortion [23]. The relational route thus interacts with what each client brings.

A final complication is that suggestion is not only a phenomenon within PAT. It is also a confound running through parts of the evidence base for PAT: expectancy, demand characteristics, and suggestion are difficult to separate from pharmacological effects, so some claims about "what psychedelics do" may partly reflect what has been suggested, expected, or institutionally framed [117, 118]. This is a further reason for humility regarding the very mechanisms surveyed here, and it runs counter to confident causal narratives, whether therapeutic or risk-focused. Taken together with the potential cognitive and metacognitive alterations discussed above, the relational alterations of PAT mean that a clinician's framing, questions, and responses may carry both greater and less predictable epistemic weight than in ordinary psychotherapy, even as the client's capacity to hold that influence at a reflective distance may be reduced. That potential convergence—altered cognition, altered relational responsiveness, and asymmetric authority within a compressed acute window—is what gives the clinician's epistemic conduct its heightened ethical significance and is what the practice of epistemic discipline is meant to govern.

Framed in the terms above, relational alterations bear on the same processes through which any client makes sense of ambiguous internal material. They may influence the attribution of an image, sensation, or emotion to memory or to imagination or present-state experience; the appraisal of its salience or significance; how its interpretation is shaped by personal, relational, clinical, or cultural narratives; and whether belief in its autobiographical status is formed, revised, or withdrawn. Because this framework includes belief revision and withdrawal alongside formation, the point is not that relational influence necessarily pushes toward false belief. Rather, the point is that relational dynamics associated with PAT may raise the epistemic weight of the clinician's framing, questions, and responses across all four processes—and may do so in either direction—precisely where imaginal or memory phenomena are most ambiguous and least self-authenticating.

Potential Impacts of Attachment Patterns

Epistemic vulnerability in PAT is shaped by how individuals regulate trust in their own experience versus reliance on others when interpreting ambiguous material. This regulatory capacity is influenced by developmental history and social position. While the focus here is on attachment history and patterns, experiences of marginalization, discrimination, and structural disempowerment (e.g., along dimensions of race, class, gender, sexuality, disability, and immigration status) can also independently shape patterns of deference to or distrust of authority, particularly in institutional and clinical settings [28]. These dynamics intersect with, but are not reducible to, attachment patterns.

Attachment theory offers one heuristic, not a deterministic or comprehensive mechanism, for understanding how epistemic trust and its corollaries, vigilance and credulity, are established and modulated in close relationships. Epistemic trust, the ability to treat communicated information as relevant and reliable

while maintaining sufficient epistemic vigilance to avoid credulity and undue influence [26, 27, 119, 120], is shaped both by early caregiving and by ongoing experiences within broader social hierarchies. Secure attachment is associated with caregiving environments where others' signals are generally reliable, fostering confidence in one's own perceptions and openness to interpersonal input [121–123]. This balance supports epistemic agency: the capacity to engage with communicated meanings without relinquishing independent appraisal.

Insecure attachment reflects adaptations to relational environments characterized by inconsistency, intrusion, rejection, or threat [124]—patterns that may be compounded by structural inequities in caregiving contexts [125]. These adaptations shape epistemic regulation: the process by which individuals decide what to believe when internal signals and external cues conflict [126]. Hyperactivating strategies (underlying attachment-related anxiety) entail heightened sensitivity to relational cues and greater reliance on external validation during periods of distress [127, 128]. In conditions of ambiguity and arousal, individuals using these strategies may be more prone to epistemic credulity, as they tend to seek interpretive confirmation from authority figures when appraising the meaning of their experiences [120, 129, 130]. Deactivating strategies, in contrast, by limiting relational scaffolding, may lead to epistemic vigilance and distrust [131].

Disorganized attachment, often linked to early interpersonal trauma, involves processes that may be amplified when metacognitive and evaluative capacities are reduced or altered [132, 133]. It entails oscillation between approach and avoidance and has been associated with dissociative processes and impaired integration of affect and cognition under high arousal [132, 134, 135]. Psychedelic states, which can acutely impair working memory [136, 137] and, at least for LSD, executive functions and cognitive flexibility [137], and which can destabilize ordinary self-models [138, 139], could amplify these difficulties by increasing emotional intensity while reducing resources for evaluative monitoring [140, 141].

The relationship between trauma and memory warrants care in both directions. On the one hand, trauma is associated with autobiographical memories that are often disorganized, poorly elaborated, and inadequately integrated into their temporal and autobiographical context, and with appraisal processes that shape how a traumatic event and its sequelae are remembered [142]. On the other hand, and consistent with the discussion above, the empirical evidence on how psychedelics affect autobiographical memory retrieval is currently limited, and it warrants neither the conclusion that psychedelic experiences attributed to memory are merely biased toward false or distorted recollection, nor the conclusion that veridical delayed recall, including experiences of "recovered" memory, is impossible.

Individuals with Histories of Sexual Abuse: Making Epistemic Dynamics Visible

Clinical work with individuals who have experienced sexual abuse, including those for whom such histories are suspected but not yet disclosed or confirmed, clarifies epistemic vulnerability in PAT. It does so less because they are uniquely vulnerable than because the convergence of altered states, amplified authority, and disrupted epistemic trust becomes especially visible. Sexual abuse often entails violations of bodily autonomy, trust, and epistemic authority within dependency relationships, shaping how individuals weigh their own felt experience against the accounts and interpretations offered by others [132, 143].

Betrayal trauma [144] and attachment-informed accounts converge on the observation that sexual abuse often occurs within caregiving or authority relationships, where the same figure may simultaneously serve as a source of protection and harm [132, 135]. Under such conditions, epistemic trust can be severely compromised—not because survivors are inherently less reliable knowers, but because claims, testimony, and interpretation have historically been unreliable guides to reality and safety. For some survivors, this history may result in heightened sensitivity to authority cues during periods of distress (e.g., reduced epistemic vigilance, or increased doubt and suspicion, under relational stress). This may be particularly the case when ambiguity is high, and both external and internal signals are difficult to evaluate, or, under high-dose psychedelic conditions, when there may be perceptual distortions rather than mere misinterpretation. For others, it may manifest as habitual suspicion or a rigid refusal to attend to cues from authority.

Dissociation can play a central role in such conditions. One model of posttraumatic dissociation distinguishes transient dissociative states from structural dissociation, in which self-states and memory fragments remain compartmentalized to manage overwhelming threat [145, 146]. Such an organization can persist into adulthood, and typically dissociated content may be reactivated under conditions of intense affective and sensory stimulation. Consistent with the recollection-familiarity and source-monitoring account above, psychedelic states may evoke such material in vivid, emotionally compelling forms while reducing contextual anchoring, contributing to uncertainty about whether what emerges is symbolic, affective, or historical [147, 148]. For survivors whose histories include disbelief or invalidation, therapeutic responses may be received unpredictably. Particularly under altered states, when appraisal and metacognitive evaluation may be less reliable and relational cues are amplified or distorted, affirmations intended to acknowledge emotional reality may be interpreted as historical endorsement despite the clinician's intent,equally, sincere validation may be interpreted as—and met with—suspicion, disbelief, or implicit doubt. Power asymmetry intensifies these risks.

PAT involves the induction of an altered state within a professional relationship, creating conditions of structural dependence on the clinician's presence, judgment, and care, even when dependence is not a therapeutic aim. In individuals with histories of sexual abuse, such asymmetry may resonate with earlier dynamics of compliance, appeasement, or coerced consent. For some, it may provoke heightened vigilance, suspicion, or defensive resistance to the clinician's influence, including perceptual distortions that reverse the intended meaning of the communication. These responses may alternate within a single session, with phases of deep trust triggering reactive withdrawal as the vulnerability of dependence itself becomes threatening.

Even in the absence of overt violations, epistemic harm is amplified when authority is exercised without adequate restraint. By epistemic harm we mean the premature evocation, facilitation, or stabilization of attributions, appraisals, interpretations, beliefs, or resulting autobiographical narratives under conditions where epistemic warrant is impaired or indeterminate—here, in the form of premature interpretive closure or, conversely, the destabilization of previously stable meanings.

Therapeutic touch protocols and environmental cues carry epistemic significance in this context. Sensory stimuli such as physical proximity, touch, lighting, sound, and scent can activate somatic and affective responses that may be associated with past trauma or present bodily sensations or emotional states, without the contextual information needed to identify their source [149], indeed, emotionally arousing material tends to be retained for its central, emotional features at the expense of the peripheral and contextual detail that would ordinarily support source attribution [150, 151]. Under ordinary conditions, individuals may recognize such responses as indicators of present somatic and emotional reality rather than representations of past experience. Under psychedelic conditions, however, the metacognitive and source-monitoring capacities on which this distinction depends may be less reliable [88, 97]. Such material may, moreover, be accompanied by strong physiological reactivity—increased heart rate, skin conductance, and facial electromyographic responses—yet phenomenological intensity, physiological reactivity, and subjective conviction, on their own, do not determine what an experience warrants, as has been documented even for reports of highly improbable events [152].

Somatic and affective material activated by interpersonal and environmental cues may therefore enter the meaning-making process as vivid, emotionally compelling experiential content whose epistemic status—whether it reflects a present interaction, a past event, or a symbolic association—is difficult to evaluate. The clinician's response to the client's resulting distress or arousal then becomes a further interpretive input, subject to the same risks of misperception and premature interpretive closure described above. This does not argue against ethical and considered use of grounding touch where appropriate [153, 154], but sensory interventions during altered states are not epistemically neutral: they can generate the very material whose meaning is then at stake and bias the meaning-making process.

As noted above, epistemic vulnerability among sexual abuse survivors may be further shaped by social positioning. For example, survivors from groups with histories of subjection to racism and institutional betrayal may enter therapy with

Table 1 Core features of epistemic vulnerability in PAT

Component	Description
Pre-existing knowledge, beliefs and expectations	About how autobiographical memory works; stress, trauma and memory; how psychedelics may alter memory processes; the possibilities of "recovered" and "false" memories and the role of remembering in healing; how set, setting and client–therapist dynamics can influence imagination and recall, as well as attributions, appraisals, interpretations, and beliefs
Altered phenomenology	Imaginative intensity, vividness of mental imagery and memory, physiological and emotional intensity, noetic quality, feeling of epistemic gain, heightened absorption in experience, responsivity to contexts, cues, and pre-existing beliefs and schemas. Phenomenology does not establish source or historical accuracy
Altered cognitive and possible metacognitive capacities	Acute working memory impairment (reported for psilocybin and LSD) and altered episodic-memory formation characterized by impaired recollection relative to familiarity, with possible familiarity-based distortions; possible but not established effects on source monitoring and metacognitive evaluation of imagined material and episodic memory
Altered appraisal	As a result of the combination of components above, an increased likelihood of appraising accurate memories, imagined or inaccurate content, and mixtures of the two as significant and veridical memories—owing to heightened absorption, imaginative involvement, feelings of epistemic gain, and responsiveness to contextual cues—possibly accompanied by reduced capacity to assess the source and reliability of mental representations
Memory malleability	Heightened potential for imaginative and reconstructive processes during retrieval, (re)encoding, and (re)consolidation of autobiographical material
Authority asymmetry	Structural power differential in the therapeutic relationship, amplified by clinician control over substance access, setting, and interpretive framing. Professional cues carry heightened epistemic weight, and in altered states may be misinterpreted or even reversed in meaning (which may be particular vulnerabilities of clients with insecure attachment patterns and sexual abuse histories)
Altered conditions for reflective evaluation	Reduced capacity for reflective evaluation of emerging attributions, appraisals, interpretations, and beliefs during periods of heightened affective intensity and feelings of epistemic gain and urgency—sometimes leaving initial meanings inadequately examined, and sometimes causing uncertainty to persist for days, weeks, or months beyond the acute state
Variable epistemic regulation	Individual differences in the relative degrees of epistemic trust, vigilance, and credulity under stress. Attachment histories, as well as experiences of sexual abuse, marginalization, stigmatization, and structural disempowerment, can shape reliance on relational cues versus independent evaluation during ambiguity

heightened vigilance or mistrust [155]. Gender, sexuality, and class also shape therapeutic and testimonial contexts through social power, which can influence how epistemic authority is negotiated in clinical settings and determine whose accounts are readily believed—or not [156].

Why This Differs from Ordinary Psychotherapy's Epistemic Conditions and Risks

Ordinary psychotherapy involves power asymmetry with significant epistemic aspects. Therapists possess professional knowledge, guide the evaluation of

clients' experiences and cognitions, and inevitably help shape clients' self-understanding through their responses and interventions. Yet several features distinguish PAT's epistemic conditions, as systematized in Table 1.

A central difference concerns the temporal conditions of evaluation. In ordinary psychotherapy, clients typically retain, across sessions and between them, the resources and ongoing opportunities to evaluate, revisit, and revise emerging attributions, appraisals, interpretations, and beliefs, and the therapeutic relationship affords repeated occasions for revision. In PAT, by contrast, phenomenologically compelling material often arises within a compressed window of acute effects, during which real-time evaluation and reflection may be more difficult or less reliable, even as subjective senses of veridicality and epistemic gain remain strong conditions that may persist into the early integration phase.

These features do not guarantee epistemic harm, but they establish conditions under which professionals' influence over clients' attributions, appraisals, interpretations, and beliefs carries heightened ethical significance. When such conditions are structurally foreseeable, fiduciary-level restraint is warranted even in the absence of complete causal specification.

Epistemic Discipline as a Fiduciary Responsibility

These conditions generate a distinctive professional responsibility in PAT. When altered states may reduce evaluative capacities, intensify reliance on relational cues, and reshape the conditions in which meaning is formed and stabilized, professional authority becomes even more epistemically consequential—and we argue that this calls for the corresponding fiduciary stance that we call epistemic discipline: proportionate restraint in shaping clients' attributions, appraisals, interpretations, and beliefs under the altered epistemic conditions of PAT. By "epistemic vulnerability and its attendant risks," we refer not to adverse outcomes but to foreseeable alterations in epistemic conditions, together with common knowledge deficits—about how memory works, how psychedelics may affect memory, metacognitive evaluation, and meaning-making—that generate ethically relevant uncertainty. It is the interaction of those knowledge deficits with the altered state and its relational conditions that can synergistically heighten vulnerability and risk. The case we make here aligns with therapeutic principles and guidelines for working with (potential) memories of child abuse [157–159] and with recent bioethical efforts to address the distinctive ethical challenges of psychedelic interventions without invoking exceptionalism [8]. In that spirit, we emphasize foreseeable fiduciary risks rather than novel moral categories.

Our claim is not that PAT typically produces epistemic harm, but that it foreseeably alters the conditions under which attribution, appraisal, interpretation, and the formation and revision of belief occur, even if those conditions and their effects cannot be predicted. For example, it may not be possible to predict whether pre-existing beliefs—which may be explicit or implicit and may contribute to the emergence of true or false memories and beliefs about them—are relaxed, strengthened, or a mixture of the two [115]. Therefore, we submit that such foreseeable conditions activate fiduciary duties to manage epistemic risk in every psychedelic-assisted therapy session (including preparation and integration sessions), even in the absence of demonstrated harm or increased risk of harm.

Epistemic discipline follows from established principles of fiduciary responsibility [160] and non-maleficence [161] as applied in contexts where authority is foreseeably amplified. Fiduciary relationships impose duties not only regarding physical and psychological safety but also regarding the responsible exercise of epistemic authority, particularly where asymmetries in knowledge, vulnerability, and dependence exist [160]. In addition to its typically studied potential impacts, PAT can influence the stabilization of personal meanings, narratives, and identities that extend beyond the therapeutic setting and primary therapeutic goals.

This framework shifts the ethical focus from client characteristics to foreseeable risk conditions within therapeutic practice. It does not justify excluding individuals with insecure attachment patterns or traumatic histories, including sexual abuse, or those whose experiences of marginalization or structural disempowerment shape how they relate to professional authority. Attachment pattern and social position are heuristics, among others, for anticipating variable reliance upon and responses to potential epistemically consequential clinician behaviors and cues, not criteria for exclusion. When clinicians

can reasonably anticipate that a client's capacity for independent meaning-making and evaluation may be reduced by cognitive alteration, arousal, dissociation, or heightened reliance on relational cues, they bear a heightened duty to manage their epistemic influence—including whether and how interpretations are offered; how validation is framed; and how uncertainty is held with the client rather than prematurely resolved.

When professional responses inadvertently heighten certainty about the historical veridicality of experiences formed under the altered epistemic conditions of PAT—whether as credulity or doubt—risks may include disruptions to personal identity, harm to familial or social relationships, (re)traumatization, and potentially significant legal or social consequences. At the same time, epistemic discipline does not require therapeutic neutrality toward every client attribution, appraisal, interpretation, or belief. It permits and indeed requires clinicians to explore plausibility and consequences, particularly where a belief could lead to self-harm, harm to others, or damage to important relationships. The converse risk is equally salient: when clinicians, whether through excessive caution, adherence to overly skeptical priors about memory reliability, or discomfort with ambiguity, communicate doubt about experiences that may be substantially accurate, they risk eroding the client's confidence in their own perceptions, reinforcing dynamics of invalidation and disbelief that may have characterized the original trauma, and foreclosing meanings that warranted support rather than dismissal.

Epistemic discipline, therefore, requires restraint in both directions: neither endorsing experiential material as historically veridical when this cannot be established, nor introducing unwarranted doubt that undermines the client's epistemic agency. Again, this is consistent with competent and ethical handling of memory-related material in psychotherapy with (potential) survivors of child abuse [157–159], and failure to acknowledge this bidirectional risk renders any framework for epistemic discipline incomplete and potentially harmful in its own right.

Practical Implications of Epistemic Discipline

The practices that follow are illustrative rather than exhaustive; we highlight several implications of epistemic discipline for PAT here and present a fuller set, organized by phase and domain, in Table 2.

Contemporary PAT frameworks often emphasize nondirectiveness, the validation of emotional or experiential truth, and fostering openness, acceptance, and trust in emergent material [162, 163]. These approaches support alliance formation and reduce shame [164]. Under altered states, however, validation and promotion of trust in emerging experience may take on additional epistemic significance and heighten risks. Idioms common in the culture and practice of PAT, such as "inner healing intelligence" and even "the medicine never lies," may explicitly or implicitly shape how experiences are understood. The same is true for the notion that psychedelic experiences disclose a deeper or more authentic reality [165, 166]. Such ideas may function metaphorically or motivationally, but can also serve as epistemic shortcuts that encourage clients to treat phenomenologically compelling material as authoritative or self-validating. When invoked by clinicians or embedded in the therapeutic frame, especially in the absence of explicit acknowledgment of uncertainty, they may tacitly confer epistemic endorsement. In practice, then, epistemic discipline not only requires refraining from unwarranted claims (e.g., "the medicine never lies") but also avoiding concepts or metaphors that could result in epistemic harm and, at a minimum, cautioning against potential misinterpretation and epistemic misapplication of prevalent idioms and ideas.

Epistemic discipline also requires clinician attentiveness both to explicit statements and to the subtle ways statements and even non-verbal responses may function as epistemic inputs during meaning-making—whether or not the clinician intends such influence. If a client's source monitoring and metacognitive evaluation may be less reliable and their sensitivity to relational cues is heightened, then affirmations, reflections, and even open-ended questions or nods of the head may contribute to premature closure of meaning-making rather than being received as neutral observations of their experience. A clinician committed to supporting the client's autonomy may nonetheless exercise unintended influence over the meanings that stabilize, precisely because altered states can transform neutral therapeutic responses into signals of confirmation or doubt.

Table 2 Epistemic discipline: practices and governance mechanisms across PAT phases and domains

Phase	Domain	Practices and Mechanisms
Preparation	Informed consent	Disclose that: (a) experiences may not correspond to historical events regardless of intensity, vividness, or noetic quality (the compelling sense of having gained genuine insight or truth); (b) recall of both real and imagined material under altered states can be influenced by contextual and relational factors; (c) therapeutic goals center on emotional and narrative integration rather than historical fact-finding
	Beliefs, assumptions and expectations	Explore the client's pre-existing beliefs, assumptions, and expectations about relevant topics (e.g., how autobiographical memory works; how psychedelics may alter memory processes)
	Therapeutic stance	Clarify that validation of emotional significance does not constitute endorsement of historical veridicality. Establish shared language around navigating uncertainty
Dosing	Boundary governance	Monitor consent capacity for touch protocols and anticipate potential impacts of touch on relational dynamics and epistemic conditions. Attend to the sensory environment as a potential trigger for implicit trauma-related material. Maintain clear role boundaries under conditions of heightened dependence
	Attribution and interpretation	Restraint in attribution and interpretation through present-focused language ("what you're experiencing now") rather than past-focused language ("what happened to you"); asking meaning-oriented rather than fact-determining questions; and validating affect without adjudicating history
Integration	Documentation	Distinguish between: (a) client reports of experience; (b) clinician responses, attributions and interpretations; (c) areas of genuine epistemic uncertainty. Avoid language implying historical determination when warrant is absent
	Interpretive openness	Support exploration of multiple meanings (symbolic, emotional, relational, historical) without premature closure; explicitly name epistemic limits when clients seek historical confirmation; and support the client's choice to seek—or not seek—external corroboration in safe and non-harmful ways, without assuming an investigatory role
Institutional	Supervision	Create forums for examining epistemic vulnerabilities, risks, and related power asymmetries. Review cases involving memory-related claims or interpretive disagreements. Provide accountability for practices of epistemic discipline
	Oversight structures	Establish ethics committees or independent review bodies for adverse events or conflicts based on epistemic issues. Provide access to independent patient advocacy. Develop institutional protocols for epistemic vulnerability and risk management
	Training standards	Cultivate professional humility about adjudicating clients' histories. Include epistemic discipline in clinician training. Educate on reconstructive memory, suggestibility under altered states, and the limits of phenomenological inference

Note. Mechanisms are organized by treatment phase and domain. Multiple mechanisms may apply simultaneously within a given phase. Epistemic discipline operates as an ongoing fiduciary orientation rather than a discrete set of techniques

As a general principle, epistemic discipline distinguishes affective validity from epistemic certainty. Affective validity recognizes that an experience is subjectively real, emotionally meaningful, and worthy of consideration and care. Clinicians can validate the symbolic, affective, relational, spiritual, and moral dimensions of experience while refraining from conferring evidentiary or historical veridicality when such warrant cannot be responsibly established [164]. Epistemic discipline does not entail blanket skepticism, disbelief, or emotional distance or disengagement. In practice, it requires a relational presence that includes transparent exercise of epistemic humility and appropriately proportionate influence and restraint under conditions of epistemic uncertainty.

Epistemic discipline does not deny the existence of the phenomena of (perceived) amnesia and delayed recall of traumatic experiences [34,

167–169], including "recovered memory" under conditions involving psychoactive substances. It does not include the view that genuine amnesia followed by delayed recall during psychedelic sessions is unlikely (cf. [10] and does not advise against acknowledging this possibility in the informed consent process (cf. [11]. We note that Kangaslampi et al. themselves caution that dismissal and overt skepticism are inappropriate and may cause harm—a commitment we share. Our main disagreement concerns the consent guidance of Kangaslampi et al. [11], which cautions against explicitly preparing patients for the emergence of forgotten material, whereas we hold that consent can acknowledge that possibility without endorsing its veridicality. When the epistemic status of such material cannot be responsibly determined, ethical practice favors humility, curiosity, and openness over premature closure in either direction, neither endorsing experiential material as historically veridical when this cannot be established nor introducing doubt that forecloses potential meanings that warrant continued exploration, while clearly delineating what professional responses can and cannot establish [158, 159].

In clinical PAT practice, epistemic discipline is required from preparation, including the framing of therapeutic aims, through engagement with experiential material in dosing and integration sessions. During preparation, goals center on emotional, behavioral, and narrative integration rather than historical fact-finding. During dosing sessions, responses emphasize present-moment experience while leaving historical questions open. During integration, multiple interpretive possibilities—symbolic, emotional, relational, historical—remain available without premature closure; it can also be valuable to revisit with clients how they perceived or interpreted what was said or (seemed to be) implied during the acute state, and how their understanding may have shifted since. When clients seek historical confirmation, explicitly naming epistemic uncertainty situates such questions within proper limits. See Table 2 for practices and governance mechanisms across PAT phases and domains.

Finally, epistemic discipline is responsive to the relational context and the client's presentation. For individuals experiencing acute distress, dissociation, or another form of dysregulation, clinician restraint does not imply disengagement. On the contrary, it may be accompanied by increased relational presence, grounding, and containment to support safety and coherence amid uncertainty. What epistemic discipline precludes, in practice, is any response to altered-state vulnerabilities and dependence that relies on an authoritative determination about personal history when the epistemic conditions for such determinations are absent.

Addressing Concerns about Disbelief

One serious concern in discussions of epistemic discipline is the risk of perpetuating historical patterns of disbelief toward survivors of sexual abuse, particularly regarding their memories [170]. This risk warrants careful attention. Skepticism toward abuse disclosures has caused substantial harm, including in institutional contexts [171], and there is evidence that such skepticism is heightened when disclosures involve delayed recall rather than continuous memory of abuse [170].

Addressing scholarly debates about amnesia and delayed recall of traumatic experiences exceeds the scope of this paper. It is important, however, to distinguish between phenomena that are sometimes conflated. Delayed *reporting* of a continuously accessible memory—as when survivors repeatedly recall an autobiographical memory for years before disclosing it, due to fear, shame, or anticipated disbelief—differs from eventually *reframing* as abusive a memory that had been repeatedly recalled but always previously interpreted as something other than abuse (e.g., a weird or uncomfortable experience; [76]. Both of those phenomena, in turn, differ from delayed *recollection*, which may take two forms. The first is recollection of material that was not recalled during a period of genuine amnesia, such that the person truly had not previously recalled the material as episodic or semantic memory for a significant period. The second is recollection of material that has been recalled previously, but following an experience of memory "recovery" those prior recollections are not recalled, and there is an accompanying logical but incorrect *inference* of prior genuine amnesia [36, 172], this may plausibly occur because prior instances of recall were not stored in memory (e.g., they only happened in states of severe alcohol intoxication or dissociation) or

were not followed by integration into autobiographical memory. In cases without evidence of prior recall, it is not possible to differentiate the first type of delayed recollection from the second. But that does not warrant the assumption that no one ever experiences genuine amnesia followed by delayed recall (via unspecified mechanisms and processes that could account for low accessibility resulting in amnesia, followed by a shift to high accessibility resulting in recollection and integration into autobiographical memory).

These categories are not epistemically equivalent. Delayed reporting and reframing concern the disclosure and interpretation of memories that were repeatedly recalled without amnesia. In contrast, both forms of delayed recollection—especially for remote material—are the categories for which the incomplete and reconstructive aspects of memory and potential source-monitoring impairments are most pertinent. For example, imagined events may wrongly be attributed to memory, and memories of actual events may lose detail and become more susceptible to distortion over time.

In ordinary therapeutic contexts, epistemic discipline regarding memory-related phenomena is also required, and a substantial literature since the mid-1990s addresses how clinicians should navigate these issues with appropriate caution [157–159]. The distinctive issue with PAT is not the presence of epistemic risks absent in other settings, but rather that pharmacologically altered epistemic conditions, potentially less reliable source monitoring, and heightened responsiveness to contextual and relational influence can intensify these risks in specific and foreseeable ways. Even so, epistemic discipline in psychedelic contexts does not entail doubting the reality of the phenomena of amnesia (whether genuine or wrongly but blamelessly inferred) and delayed recall. Rather, it manifests requisite humility about the epistemic status of material that first emerges under pharmacologically altered conditions, a humility directed not at the person or their history, but at the conditions under which experiences emerge, are evaluated, and are potentially incorporated into autobiographical memory.

Maintaining this humility throughout PAT can serve another protective function. Uncertainty about the veridicality of trauma-related material that surfaced during psychedelic states can become a source of ongoing distress, with outcomes ranging from positive integration to re-traumatization depending in part on contextual support [9, 87]. For example, when meanings that emerged and stabilized during an altered state and subsequent PAT sessions later encounter contradictory evidence or more plausible alternative interpretations, individuals may experience destabilization, loss of trust in their own perceptions and evaluative capacities, or rupture of the therapeutic relationship. Articulating epistemic humility and maintaining epistemic discipline from the outset may reduce the likelihood of such outcomes or the severity of their impact.

Governance Implications: Consent, Boundaries, and Oversight

If epistemic vulnerability and its attendant risks are understood as foreseeable features of PAT, then ethical responsibility extends beyond individual clinical judgment to the design of institutional and procedural safeguards. Proper training, informed consent practices, boundary governance, documentation norms, supervision, and oversight structures shape how authority is exercised, how experience is evaluated, and how meaning is formed in altered-state care. This governance-oriented approach reflects recent calls in bioethics to address psychedelic risks through anticipatory institutional design—including training standards and professional norms that extend to independent practice—rather than reliance on individual clinician discretion [8].

For example, standard models of informed consent for psychotherapy typically presume that the intervention itself does not alter the cognitive capacities that undergird initial consent and ongoing evaluation of one's experiences, but PAT's altered states can do so, and thus the consent process requires additional attention to epistemic conditions. Specifically, consent processes should acknowledge and caution that experiences—regardless of vividness, intensity, or noetic quality—may not correspond to historical events [11, 88], and that imagination, recall, and mixtures of the two may be highly susceptible to contextual influences. As a further example, documentation norms can require clinicians to distinguish client reports of experience from clinician attributions and interpretations, and to flag areas of genuine epistemic uncertainty, so that records do not inadvertently convert provisional altered-state material into settled

historical fact. Boundary governance, supervision, and institutional oversight further support epistemic discipline across PAT phases. Table 2 provides specific practice and governance mechanisms for each phase and domain.

Limitations and the Boundaries of Current Knowledge

The framework advanced in this article is conceptual and normative, drawing on established research in trauma, memory, attachment, and the phenomenological and cognitive effects of psychedelics. Many of the issues it raises have been empirically understudied. We acknowledge this limitation not only for intellectual integrity but also to avoid any inference that our analysis implies a permanent and invariant stance or an ethical straitjacket. Causal mechanisms linking altered states to specific epistemic risks and outcomes require further investigation and specification. Experimental findings to date on suggestibility, expectancy, and altered appraisal under psychedelics provide important context [22, 23, 173], but they do not establish direct pathways from specific clinician responses to belief formation or memory outcomes—in part because clients under psychedelic conditions may misinterpret, distort, or even reverse the intended meaning of clinician communications, particularly when attachment patterns and trauma histories shape relational expectations and responses in competing directions. Observational and retrospective studies are subject to confounding by expectancy effects, self-selection, therapeutic alliance quality, and broader cultural narratives surrounding psychedelics [105, 117]. Prospective research examining how attributions, appraisals, interpretations, and beliefs that emerge during dosing sessions evolve over time would clarify these dynamics, although manipulating some variables (e.g., therapists' expressions of credulity or skepticism) is not ethically permissible.

While attachment theory offers a useful framework for understanding variation in reliance on relational cues under stress, it does not point to a single mechanism [174]. The extent and chronicity of dissociative processes, including compartmentalization of self-states and impaired integration of affect and cognition, as described in structural dissociation models [145, 146], as well as mentalization capacity, distress tolerance, and prior experiences with authority, may independently or interactively shape epistemic vulnerability [130, 175].

Cultural and structural considerations also limit the generalizability of ethical analysis grounded primarily in Western clinical frameworks, in which most clinical trial participants and researchers identify as White, male, and well-educated [140, 155]. Prevailing therapeutic ideals of autonomy, coherent self-narration, self-reflection, and the interpretation of personal history reflect culturally specific assumptions about selfhood rather than culturally neutral features of psychotherapy [176]. PAT, especially when delivered within clinical and institutional systems, may therefore interact differently with epistemic vulnerability across populations and cultures.

The effects of epistemic discipline itself require empirical study. For example, while refraining from authoritative determinations about clients' personal histories aims to protect autonomy and prevent harm, it may cause distressing ambiguity or frustration for some clients, particularly those seeking clarity or validation about past experiences. Qualitative research on client experiences of epistemic uncertainty and clinician humility and restraint would help determine when and how this stance supports or complicates therapeutic integration.

These limitations do not undermine our core normative claims. Ethical obligations often arise amid uncertainty rather than await complete empirical resolution. When altered states plausibly shift epistemic conditions and authority within asymmetric relationships and established memory research cautions against treating phenomenology as historical evidence, professional restraint becomes ethically warranted even without fully specified causal pathways. Our approach has thus been conditional and governance-oriented, guided by the principle of primum non nocere (first, do no harm): where epistemic risk is structurally foreseeable, professional standards should emphasize transparency, restraint, and documentation that preserves epistemic distinctions rather than collapsing them into premature certainty or reflexive doubt.

Conclusion

As psychedelic-assisted therapy becomes institutionalized, ethical reflection must address not only

safety and misconduct but also how altered states reshape experience, meaning-making, belief formation, and relational dynamics. We have argued that epistemic vulnerability can arise from the convergence of altered phenomenology, cognition, capacity for reflective evaluation, and authority dependence—conditions warranting fiduciary restraint in the exercise of epistemic influence. This restraint does not diminish the emotional reality or personal significance of clients' experiences. It delineates practices of epistemic discipline with which clinicians must operate. Epistemic discipline is thus autonomy-preserving rather than autonomy-limiting, insofar as it prevents authority-laden contexts and processes from prematurely fixing meanings and beliefs that are best left open to ongoing self-determination.

Matters of attachment and epistemic trust function not as deterministic explanations but as heuristics for understanding how reliance on authority may be differentially regulated under stress and uncertainty. This too grounds the principle that where epistemic risk is foreseeable and significant, professional duty increases proportionally, calling for considerable epistemic discipline in PAT.

Psychedelic medicine and PAT stand at a formative moment. The ethical infrastructure established during early clinical adoption will shape practice for decades. By recognizing epistemic vulnerability as a central ethical concern and articulating epistemic discipline as an ethical necessity and professional obligation, this article aims to contribute to a standard of care that protects clients, supports clinicians, and preserves the credibility of therapeutic practice and survivors' accounts. Ethical governance regarding epistemic conditions in PAT should not wait for harm to accumulate. It should be designed in advance, with clarity about how altered states reshape what it means for clients to know and make meaning and for clinicians to care responsibly. Finally, this framework has implications extending beyond psychedelic therapy to broader questions concerning professional authority, altered states, memory, and fiduciary ethics.

Author Contribution G.S. conceived the article, developed the central conceptual framework, drafted the manuscript, and led it. J.W.H. contributed substantially to the theoretical and empirical development of the manuscript — particularly the treatment of memory, cognition, and recovered and false memory — and to its critical revision for important intellectual content. M.S., A.D.C., and E.C. contributed to the design and theoretical development of the manuscript. P.G. contributed to the critical revision of the manuscript for important intellectual content. All authors contributed to the interpretation of relevant literature, participated in writing, reviewed previous versions of the manuscript, and approved the final version.

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Data Availability No datasets were generated or analysed during the current study.

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