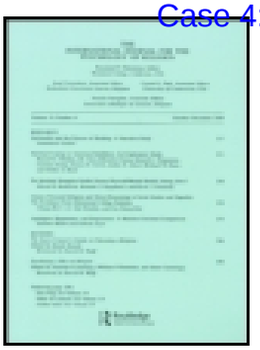
EXHIBIT C



The International Journal for the Psychology of Religion

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/hjpr20

Psychedelic Science of Spirituality and Religion: An Attachment-Informed Agenda Proposal

Aaron D. Cherniak, Joel Gruneau Brulin, Mario Mikulincer, Sebastian Östlind, Robin Carhart-Harris & Pehr Granqvist

To cite this article: Aaron D. Cherniak, Joel Gruneau Brulin, Mario Mikulincer, Sebastian Östlind, Robin Carhart-Harris & Pehr Granqvist (2022): Psychedelic Science of Spirituality and Religion: An Attachment-Informed Agenda Proposal, The International Journal for the Psychology of Religion, DOI: 10.1080/10508619.2022.2148061

To link to this article: https://doi.org/10.1080/10508619.2022.2148061

Published online: 05 Dec 2022.

THE INTERNATIONAL JOURNAL FOR THE PSYCHOLOGY OF RELIGION
https://doi.org/10.1080/10508619.2022.2148061

Psychedelic Science of Spirituality and Religion: An Attachment-Informed Agenda Proposal

Aaron D. Cherniak[a*], Joel Gruneau Brulin[a*], Mario Mikulincer[b], Sebastian Östlind[a], Robin Carhart-Harris[c,d], and Pehr Granqvist[a]

[a]Department of Psychology, Stockholm University, Stockholm, Sweden; [b]Baruch Ivcher School of Psychology, Reichman University (Interdisciplinary Center Herzliya), Herzliya, Israel; [c]Imperial College London, Psychedelic Research Group, London, UK; [d]Psychedelics Division, Neuroscape, Department of Neurology, University of California, San Francisco, CA, USA

ABSTRACT

In this paper, we set an agenda for a psychedelic science of spirituality and religion based on attachment theory. Attachment theory proposes that people develop internal working models (IWMs) of interactions with others from their relational experiences with caregivers. Such IWMs then function as high-level priors or predictive models, enabling people, for better and for worse, to predict and organize their interpersonal and religious/spiritual relationships. One mechanism by which efficacious psychedelic interventions may work is by relaxing the grip of rigid, defensive priors (e.g. insecure IWMs with regard to others and God), further amplified by corrective relational experiences with the therapist, God, or others. We outline three key proposals to steer future research. First, individual differences in attachment security predict the phenomenology and integration of psychedelic experiences. Second, efficacious psychedelic therapy facilitates increased attachment security as a clinically relevant outcome. Third, attachment-related dynamics (e.g. a sense of connection to others/God/the universe, alleviation of attachment-related worries and defenses) are process-level mechanisms involved in the clinical utility of psychedelic treatment. Finally, we discuss the role of religion and spirituality in psychedelic experiences from an attachment perspective.

Classical psychedelics, such as psilocybin, lysergic acid diethylamide (LSD), ayahuasca/N, N-dimethyltryptamine (DMT), and mescaline, have long been used in religious and healing rituals (Bruhn et al., 2002), and there is a growing interest in their therapeutic potential for treating mental problems (e.g., Johnson et al., 2019). Research has provided supportive evidence for the positive clinical outcomes of psychedelic-intake during therapy and emphasized the therapeutic benefits of the transformative (spiritual or mystical) experiences often engendered by psychedelic trips (e.g., Griffiths et al., 2006). However, we still lack a broad, agreed-upon psychological framework for explaining the underlying therapeutic processes and mechanisms of change. In the present article, we propose that attachment theory (Bowlby, 1982) may function as a psychological framework for a psychedelic science of spirituality and religion.

We offer three specific proposals based on attachment theory. First, attachment security and insecurities act as *predictors* of psychedelic experiences and their exploration and integration. Second, increased attachment security is a viable clinical *outcome* of psychedelic therapy. Third, attachment-related dynamics (e.g., a heightened felt connection with others and God, alleviation of

CONTACT Aaron D. Cherniak aaroncherniak@gmail.com Department of Psychology, Stockholm University, SE-106 91 Stockholm, Sweden; Joel Gruneau Brulin joel.gruneau.brulin@psychology.su.se Stockholm University.

*These authors are Contributed equally to this work.

attachment-related worries and defenses) are *process-level mechanisms* that explain some of the clinical utility of psychedelic treatment.

We develop our arguments in four main sections. First, we review attachment theory and its perspective on religion and spirituality. Second, we provide a brief overview of psychedelic science, emphasizing the phenomenological effects of psychedelic-assisted therapy. In the third section, we synthesize the two bodies of literature. Finally, we discuss the implications of an attachment-informed agenda for a psychedelic science of spirituality and religion, note outstanding issues, and chart future directions for research and clinical practice.

To maintain this paper's readability, we do not fully articulate the neurobiological mechanisms or models that may tie attachment-related processes to psychedelic experiences or clinical outcomes. In a separate paper, we advance a synthesis between attachment theory and models of psychedelics' neurobiological effects (Carhart-Harris et al., in press).

Attachment theory and spirituality/religion

Attachment theory

Attachment theory (Bowlby, 1982) posits that an evolved psychobiological mechanism (*attachment behavioral system*) motivates humans to seek proximity to stronger, wiser, and caring others (*attachment figures*) in times of need. These figures can provide a *safe haven* when distressed (comfort, support, reassurance) and a *secure base* from which one can explore the world and pursue personal goals with the confidence that support will be available when needed. When attachment figures fully accomplish these functions, they instill *felt security* – a sense that the world is a safe place and that others are helpful and protective when called upon, which has positive implications for well-being and mental health (Bowlby, 1988; see Mikulincer & Shaver, 2016, for an extensive review of research findings on these positive implications).

According to Bowlby (1973), interactions with attachment figures are internalized as mental representations of self and others (*internal working m*odels, IWMs), which aid the person in organizing their behavior in subsequent interactions with these figures and predict the outcome of these exchanges. Interactions with attachment figures who are responsive and supportive promote felt security. More specifically, they contribute to positive IWMs of oneself (as worthy of care) and others (as available to care) and facilitate adaptive self-regulation (Mikulincer & Shaver, 2016). By contrast, interactions with insensitive (e.g., rejecting, role-reversing, or abusive) attachment figures foster attachment-related insecurities, which are characterized by negative IWMs of oneself (as unworthy of care) and/or of others (as unavailable to care, frightening, etc.), and the development of self-regulation strategies that are maladaptive in the long term.

Over time, IWMs are crystallized into *attachment orientations* – relatively stable patterns of relational cognitions, emotions, and behaviors (Fraley & Shaver, 2000). According to Brennan et al. (1998), these orientations can be conceptualized and measured along two dimensions: attachment anxiety (worries about one's lovability) and attachment-related avoidance (distrust of others' goodwill and inhibition of relational closeness). Whereas high avoidance or anxiety reflect attachment insecurities, people who score low on these two dimensions tend to hold a solid sense of attachment security. Beyond these two dimensions, attachment researchers have conceptualized and measured what they call *attachment disorganization* – a breakdown in attachment-related patterns of attention, behavior, and speech (i.e., contradictory and confused behavior/speech, as opposed to coherent and organized behavior/speech) that may occur during stressful and potentially traumatic situations (Main & Solomon, 1990).

Decades of research support the anxiety-buffering and growth-promoting functions of attachment security and the positive consequences of making felt security contextually salient (what Mikulincer & Shaver, 2016, called *security priming*). Whereas secure attachment facilitates effective coping with undesirable physiological and psychological states, attachment insecurities might hamper emotion

regulation. Research indicates that anxious attachment reinforces distress up-regulation, negative self-views, and catastrophic beliefs, whereas avoidant attachment leads people to suppress emotions and inhibit direct contact with inner experiences (Mikulincer et al., 2003). Over time, insecure attachment can become a vulnerability factor for emotional and interpersonal problems, with disorganized attachment a particular risk factor for psychopathology. These patterns apply to childhood (e.g., internalizing and externalizing symptoms), adolescence (e.g., problems in regulating autonomy and relatedness), and adulthood (e.g., affective disorders, personality pathology, and traumatic symptoms; Stovall-McClough & Dozier, 2016) alike. By contrast, secure attachment functions as a protective factor or source of resilience that helps sustain well-being and mental health (Mikulincer & Shaver, 2016). Accordingly, attachment security at the outset of psychotherapy and increases in felt security during therapy (e.g., as reinforced by the therapist) predict favorable clinical outcomes (Levy et al., 2018).

Although early experiences can exert a powerful influence on attachment orientations, which are at least moderately stable, these dispositions are somewhat malleable via new relational experiences (Fraley et al., 2011). IWMs are tolerably accurate reflections of what has actually happened to a person in one or more important relationships, and they are always subject to revision in response to subsequent relational experiences (Bowlby, 1973). More specifically, while new, expectancy-confirming relational experiences can reinforce prior attachment representations, expectancy-disconfirming relational experiences can instead lead to changes in expected contingencies between distressing situations and partners' responses (see Bosmans et al., 2020). For example, insecure IWMs can be revised through corrective attachment-related experiences, such as in psychotherapy (Levy et al., 2018), and possibly through profound experiences variously denoted as religious, spiritual, or mystical (Granqvist, 2020).

Attachment theory and spirituality/religion

Attachment theory has been extended to people's perceived relationships with "stronger and wiser" spiritual beings, such as God, or other non-corporeal entities, such as the universe or nature (Granqvist, 2020). Central to this extension is the sense many people have of being in a personal relationship with spiritual beings, who are usually but by no means always understood as benevolent. This is especially the case in the major theistic faith traditions that depict God as a source of love, comfort, and support, reflected in both explicit, doctrinal beliefs and implicit, affect-laden religious experience (Paloutzian & Park, 2013), though attachment theory is also generally relevant to non-monotheistic or non-Western religious/spiritual traditions (Sahdra & Shaver, 2013) and their contemplative practices (e.g., compassion and mindfulness meditations; Shaver et al., 2017). The religion-as-attachment model explains how believers' attachment relationship with the divine (or similar entities) underlies much of their religious beliefs, behaviors, and experiences, as well as of religion's link to health (Granqvist, 2020).

Believers tend to perceive God as a safe haven in times of need, they make explicit requests for protection and support through prayer and rituals, and they appeal to God as a secure base for resilience and mastery (Davis et al., 2019). Thus, believers often psychologically experience God as an attachment figure (Cherniak et al., 2021), and research supports the anxiety-buffering and growth-promoting functions of attachment to God (e.g., Granqvist et al., 2012). Neuroscientific studies have similarly shown that believers experience God as a relational, dialogical partner when engaging in personal prayer (Schjoedt et al., 2009) and that sensed closeness to God may activate reward-related brain networks (Ferguson et al., 2018).

Like in interpersonal relationships, believers differ in their sense of attachment security with regard to God, which appears to moderate the link between religion/spirituality and mental health (Granqvist, 2020). Secure attachment to God reflects trust in God's support and a coherent God representation, whereas insecure attachment to God reflects doubts about God's love and one's right to it (anxiety) or reluctance to rely upon God (avoidance). Attachment disorganization may

take the form of a fearful representation of a terrifying, capricious deity (cf. Otto, 1925 notion of "tremendum"). Sharp et al. (2019) proposed two representational levels of God-related IWMs: 1) doctrinal-cognitive, explicit representations based on formal religious beliefs, and 2) experiential-affective, implicit representations based on spiritual experiences. Representations' valence and (in-)congruence interact to affect religiosity and well-being (Pirutinsky et al., 2020).

Two developmental pathways have been proposed to describe how attachment to God is rooted in attachment-related interpersonal experiences (Granqvist & Kirkpatrick, 2016). First, the correspondence pathway depicts how IWMs from human-human relationships generalize to IWMs of God. Secure IWMs foster benevolent and coherent God representations, whereas insecure IWMs foster malevolent and incoherent God representations. Second, the compensation pathway depicts how God may be used as a surrogate figure to compensate for attachment insecurity stemming from unsatisfactory human-human attachment relationships.

The correspondence and compensation pathways are tied to different religious/spiritual change profiles. Religious changes among people with greater attachment security are generally gradual and associated with security-related themes (e.g., optimism; Kimball et al., 2013) and theological exploration (Greenwald et al., 2021). Conversely, insecure attachment precipitates more sudden, intense, and emotionally turbulent religious/spiritual changes (Granqvist & Kirkpatrick, 2004). Notably, attachment disorganization has been linked with a propensity to enter dissociative mental states (Hesse & Van IJzendoorn, 1999), including greater absorption - "the disposition for having episodes of 'total' attention that fully engage one's representational ... resources" (Tellegen & Atkinson, 1974, p. 268). Moreover, studies have found that the association between disorganization and absorption extends to altered spiritual states, with absorption mediating that relationship. This has been found using both mystical experiences (Granqvist et al., 2012; cf. Thomson & Jaque, 2014) and New Age spirituality as outcome variables (Granqvist et al., 2009; cf. Thomson & Jaque, 2014). New Age spirituality was studied using the total score on the unidimensional New Age Orientation Scale ($\alpha = .95$; Granqvist & Hagekull, 2001), designed to capture a wide range of beliefs and activities that are central to the New Age movement (e.g., esotericism/occultism, astrology, parapsychology, alternative medicine, certain outgrowths of humanist psychology).

An outstanding question concerns whether and how religious/spiritual experiences may constitute corrective attachment-related experiences. One intriguing possibility is that some such experiences (e.g., feeling accepted and loved by and fully connected to God – or the universe, nature – after profound "self-surrender") might aid in revising negative IWMs and "earning" attachment security (Granqvist, 2020). However, the evidence is currently inconclusive in part because extant (mostly naturalistic, cross-sectional) research has yielded inconsistent findings, and in part because well-controlled (experimental and longitudinal) studies are absent (Granqvist, 2020). A key difficulty has been to induce and manage the "set and setting" of spiritual experiences (Granqvist et al., 2005), as well as predicting when a person would have a spiritual experience, which poses numerous logistical and ethical challenges (Wright, 2018).

Psychedelic science and psychedelic-assisted therapy

Review of central findings

Studies in the recent wave of psychedelic research have focused both on clinical trials of psychedelic-assisted psychotherapy and naturalistic psychedelic use. Though people use psychedelics in various settings, we primarily focus on psychedelic-assisted therapy here due to the crucial role of a controlled environment and experienced therapist (Carhart-Harris et al., 2018). Clinical studies indicate that the therapeutic use of psychedelics can effectively reduce symptoms associated with a long list of conditions, including anxiety, substance dependence, major depressive disorder, and suicidality (for a meta-analysis, see Luoma et al., 2020), though various disparities in the populations studied, mainly along

ethnoracial and cultural lines, mean that the generalizability of these findings is yet unknown (Fogg et al., 2021; Thrul & Garcia-Romeu, 2021).

Individuals' experiences with psychedelics partly depend on contextual, extra-pharmacological factors labeled "set and setting" (Zinberg, 1984). Set refers to the personality, intentions, expectations, and preparation of the person having the experience. Setting represents the physical, social, and cultural context in which the experience takes place (Hartogsohn, 2016).

Although psychedelics may lead to adverse effects (e.g., acute distress, enduring psychological issues; NIDA, 2019), there is a growing understanding of how to reduce harm (Johnson et al., 2008). Generally, adverse effects are associated with feelings of vulnerability during the experience and with the absence of perceived protection and support (Aday et al., 2021). However, when consumed in a safe environment, psychedelics may result in transdiagnostic psychological benefits, such as improvements in positive attitudes toward self and others, distress tolerance, flexibility, openness, and mindfulness (e.g., Kočárová et al., 2021). Underlying these therapeutic effects may be psychedelics' capacity to increase neural plasticity, which some claim reflects the disruption of rigid reliance on habitual maladaptive thought and behavioral patterns (Carhart-Harris et al., 2019). Psychedelics bind to serotonin 2A receptors, which are spread across the cortex, but primarily concentrated in transmodal associative regions (Beliveau et al., 2017). Through disrupting communication within established neural networks, psychedelics increase neural entropy and allow signaling along novel or otherwise inhibited pathways. In other words, psychedelics may facilitate new learning opportunities, such as relating to oneself and others in a different way.

The vast majority of protocols for psychedelic-assisted therapy include three phases: preparation, dosing, and integration (Johnson et al., 2008). In preparation sessions, therapists formulate a case conceptualization, provide psychoeducation about psychedelics and treatment, and establish a therapeutic alliance. During the dosing phase, participants ingest the compound with the continual support of at least one therapist, who, with minimal intervention, encourages clients to explore aspects of the psychedelic experience with openness. In the integration phase, therapists assist clients in reviewing their psychedelic experience, incorporating it into their personal narrative, and leveraging their insight to catalyze meaningful change.

Role of phenomenological experiences in psychedelic-assisted therapy

Qualitative studies have highlighted the implications of a person's subjective experience during and after the intake of psychedelics (Noorani et al., 2018). People often describe this experience as one of the most meaningful and transformative ones in their lives (Griffiths et al., 2018). The experience is often imbued with feelings of intense love and connectedness – directed at close others, humanity, and the world at large (Carhart-Harris et al., 2018; Watts et al., 2017) – and a greater ability to engage with an expanded repertoire of emotions, including previously repressed distressing emotions, such as grief (Belser et al., 2017). People also report gaining new perspectives and deeper insight (e.g., into their habitual thoughts and coping methods), experience emotional breakthroughs (Roseman et al., 2019), or other sudden gains in clinically relevant phenomena (e.g., a shift in self-perception that reduces self-criticism and increases self-compassion, Lafrance et al., 2017; see Breeksema et al., 2020, for a review).

Though most people describe positive experiences, challenging experiences (cf. "bad trips") are not uncommon, including paranoid ideation and fears of ego dissolution, of losing sanity or of dying (Gashi et al., 2021). Some studies have indicated that challenging experiences are related to less positive clinical outcomes of psychedelics (Roseman et al., 2019). However, if challenging experiences are processed and integrated into a coherent narrative, they may also be an important part of the therapeutic process (Barrett et al., 2016; Gashi et al., 2021).

Religious, spiritual, or mystical experiences (RSMEs) are also often experienced during the intake of psychedelics, even in controlled clinical trials (Griffiths et al., 2018). For example, the average percentage of mystical experiences across studies from the Johns Hopkins laboratory is 70–80% (Johnson et al., 2019). These experiences include a sense of transcendence, contact with the sacred,

ultimacy, ego dissolution (loss of self-world boundaries), and unity with an order that is far larger than oneself (e.g., God, higher power, the universe, ultimate reality; Yaden et al., 2017). RSMEs also tend to evoke positive feelings, such as love, safety, and security (Hood et al., 2018). RSMEs, including those induced by psychedelics, may reflect universalistic "core" spiritual experiences (cf. perennialism) or more particularistic experiences, co-constructed via culturally accessible (e.g., religious) interpretations (Brouwer & Carhart-Harris, 2021). The way people process and integrate their psychedelic experiences depends on the interpretive lens provided by their preexisting metaphysical or religious beliefs (Granqvist, 2020), though this processing may also be affected by psychedelics (e.g., moving people from materialist to non-materialist beliefs; Timmermann et al., 2021). Whether or not interpreted religiously, RSMEs, especially those Stace (1960) called *extrovertive* states, are associated with relational themes associated with attachment, such as a sense of connection and unity (Granqvist, 2020; Griffiths et al., 2018; Watts et al., 2017; Yaden et al., 2017).

Studies have linked RSMEs and associated feelings (e.g., connectedness) to favorable clinical outcomes in psychedelic-assisted therapy (Andersen et al., 2021; Forstmann et al., 2020; Nayak & Johnson, 2021). Moreover, the degree of RSMEs, *not* the general intensity of the drug response, has shown to be one of the strongest predictors of positive changes in attitudes, emotions, and social behavior (see e.g., Griffiths et al., 2018). Importantly, RSMEs also outperform other subjective experiences, such as visual or auditory alterations, as a predictor of clinical outcomes (e.g., depressive symptoms; Roseman et al., 2018).

Psychedelic-induced RSMEs appear to affect changes in clinical symptoms via therapeutic gains in psychological traits that are otherwise relatively stable. For instance, RSMEs are linked to adaptive changes in the five-factor-model traits, such as post-therapy increases in openness to experience, agreeableness, and extraversion, and decreases in neuroticism (MacLean et al., 2011; Weiss et al., 2021). RSMEs also potentiate deeper insight and emotional breakthroughs, which seem to underlie positive outcomes of psychedelic-assisted therapy (Noorani et al., 2018).

Yet, some scholars argue that psychedelic-induced RSMEs are epiphenomenal byproducts of the neurobiological mechanisms that may explain psychedelics' therapeutic effects (Olson, 2021). They note that other compounds acting on the serotonin 2A system, such as 3,4-methylenedioxymethamphetamine (MDMA; albeit indirectly), show therapeutic potential without producing RSMEs (Mitchell et al., 2021). Similarly, ketamine yields positive effects also when given to unconscious patients (Kudoh et al., 2002). While other processes are also relevant, and phenomenological states clearly are associated with brain processes (Carhart-Harris et al., in press), we tentatively follow the mounting evidence for a phenomenological position; RSMEs appear to facilitate the clinical utility of psychedelic-assisted therapy (Yaden & Griffiths, 2021).

Attachment, psychedelics, and the psychology of spirituality/religion

> "The use to which a model in the brain is put is to transmit, store and manipulate information that helps in making predictions" (italics added; Bowlby, 1982, p. 80).

Bowlby (1973) described how interactions in close, formative relationships crystallize into IWMs of the self and others, which influence patterns of socio-emotional functioning and beliefs about self-related experiences and others' behaviors. As such, IWMs may be viewed as experientially informed priors (formed particularly in early life, during sensitive developmental phases) for information processing, which affect predictions and interpretations of interpersonally relevant stimuli (mostly high-level or abstract processing). As such, IWMs may be viewed as experientially informed priors (a term borrowed from the predictive coding framework, see e.g., Clark, 2015) – formed particularly in early life, during sensitive developmental phases – for processing emotional and relational information, which affect and influence interpretations and predictions of interpersonally relevant stimuli. Like other priors, the influence and malleability of IWMs depend on contextual factors. The increased neural plasticity associated with psychedelics – i.e., relaxed priors (Carhart-Harris et al., 2019) – may

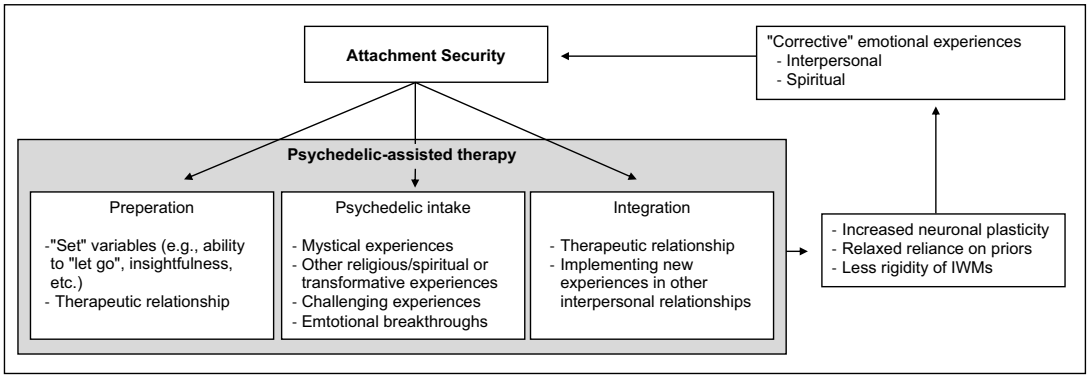


Figure 1. Visual presentation of how attachment security may affect and change due to psychedelic-assisted therapy.

allow for the reweighting of IWMs and could potentially facilitate "corrective" attachment experiences. At the same time preexisting IWMs may also influence the experience of psychedelics, both through "set," emotional reactions, and through the relationship with the therapist.

In the following sections, we outline the three key proposals about the relation between attachment and psychedelics: attachment as a predictor, as an outcome, and as a framework to understand the process in psychedelic-assisted therapy. We then discuss the role of religion and spirituality for psychedelic experience and integration. For a visual summary of our proposals, see Figure 1 at the end of this section.

Attachment security as a predictor of psychedelic-related experiences and integration

To describe religion-as-attachment in a way that aligns with models of psychedelic drug action, we posit that IWMs of attachment – with humans and God – are high-level priors with powerful effects on affective, social, and behavioral functioning (Granqvist, 2020). The intake of psychedelics and the initial subjective experience of entering the unknown, constitute a challenging, often distress-inducing situation (Roseman et al., 2019), which automatically activates the attachment system and associated IWMs and defenses. With psychological support, the unfolding of the psychedelic experience may bring defensive strategies into conscious awareness, and ultimately reduce their influence. Naturally, because individual variations in attachment security (with humans and God) are intimately linked with the quality of IWMs, the psychedelic experience can be expected to unfold differently depending on attachment security.

Thus, we hypothesize that attachment security is associated with both the quality of psychedelic-induced subjective experiences and the exploration and integration of these experiences. The quality of these experiences relies on individuals' ability to "surrender" to the drugs' effects and "let go" (Aday et al., 2021), and felt security can sustain such an ability. As reviewed above, people high in dispositional attachment security tend to hold inner senses of self-worth and self-fortitude that allow them to remain calm, confident, and experientially open when facing uncertainty and ambiguity (Mikulincer & Shaver, 2016). Moreover, they rely on effective emotion regulation strategies allowing them to mitigate distress and remain mindful, aware of, and fully engaged with, novel and exciting experiences even if they evoke temporary confusion (Mikulincer et al., 2003). As a result, attachment security may facilitate a calm surrender to the psychedelic-induced experience.

By contrast, as reviewed in a previous section, attachment insecurities hinder effective distress management, which, in turn, precludes experiential openness, mindful awareness, and full engagement with novel and challenging experiences (Mikulincer & Shaver, 2016). Attachment avoidance is related to cognitive and experiential closure, discomfort with novelty and ambiguity, and low tolerance of uncertainty (e.g., Mikulincer, 1997), which, in turn, may prevent "surrendering" to psychedelic-

induced experiences. The intake of psychedelics may also lead avoidant individuals to rely, at least initially, on their typical defensive strategies, such as suppressing or escaping uncomfortable sensations, feelings, or thoughts (Mikulincer & Shaver, 2016), further exacerbating their resistance to "surrendering" to the drugs' effects. However, these avoidant defenses tend to fail in situations of extreme stress that involve a high cognitive or emotional load, leaving people high on avoidance vulnerable to an overwhelming torrent of negative feelings and thoughts (Mikulincer et al., 2004), potentially alongside a "psychedelic-like" altered state of consciousness (Brouwer & Carhart-Harris, 2021).

This could also be the case for psychedelic-induced experiences: Psychedelics' dysregulatory action on top-down processes might interfere with avoidant defenses, such that suppressed material may resurge into awareness and create an aversive experiential state. This view of the action of psychedelics explains why such emphasis is placed on the importance of twinning the drugs with psychological support (Carhart-Harris et al., 2018). Without psychological support, people high in attachment avoidance may struggle to surrender to the drugs' effects, the quality of their psychedelic-induced experience may be painful and disorganizing, and they may ultimately experience iatrogenic effects from the treatment (as can happen with any mental health intervention; Barlow, 2010). On the other hand, with psychological support, such individuals may also stand to benefit the most from the compounds, for example, via breakthroughs to previously avoided emotions following the initially challenging experience.

Attachment anxiety is linked to urgent needs for connection with a powerful source of protection and support, upregulation of distress, and a generalized, uncontrollable flow of negative sensations, feelings, and cognitions (Mikulincer & Shaver, 2016). In the context of psychedelic use, the intense desire to be loved and cared for linked to attachment anxiety may be associated with a heightened readiness to experience the drugs' effects – to let go or surrender (Aday et al., 2021), and experience union with an "external rescuer," thereby increasing the propensity for RSMEs (Granqvist, 2020). However, problems with emotion regulation associated with attachment anxiety may negatively bias the quality of the psychedelic-induced experience, perhaps coloring it with mental pain and suffering.

Notably, the set and setting of psychedelic use may be particularly influential for people high in dispositional attachment anxiety. Provided a supportive environment, these individuals may be able to engage openly with and perhaps also benefit from the psychedelic experience (Carhart-Harris et al., 2018). It is also intriguing to speculate that attachment anxiety may elicit appraisals of the psychedelic experience as having been "saved" or "redeemed," which may lead to rapid, extreme, and potentially precarious transformations following psychedelic experiences, underscoring the importance of grounding integration.

As noted above, attachment disorganization is associated with a proclivity for dissociative and absorbing mental states (Hesse & Van IJzendoorn, 1999), which has been found to contribute to altered states of consciousness and RSMEs, including those induced by psychedelics (Granqvist, 2020; Haijen et al., 2018). On this basis, attachment disorganization may facilitate more intense acute effects of psychedelics, including RSMEs, which might be mediated by heightened absorption. As noted by Stauffer et al. (2021, p. 529), "similar to attachment anxiety, the capacity for dissociation might actually prime an individual for the healing potential of non-ordinary states of consciousness" (cf. Hilgard, 1986 notion of reaggregating, as opposed to disintegrating, dissociative states).

However, the link between disorganized attachment and severe forms of dissociation may put a person at risk of overly intense, challenging psychedelic-induced RSMEs (e.g., Otto, 1925 "tremendum" and other fearful states) that may be difficult to integrate. Indeed, disorganization has been observed to interfere with therapeutic alliance and is associated with poorer therapeutic outcomes (Levy et al., 2018), in addition to a generally heightened risk for psychopathology (Bakermans-Kranenburg & van IJzendoorn, 2009).

Attachment security may also facilitate the exploration/integration of psychedelic-induced experiences. Psychotherapy research has generally linked attachment security to better therapeutic processes and outcomes (Mikulincer et al., 2013). In cyclical fashion, secure attachment contributes to the

formation of a stable therapeutic alliance and sustains therapeutic disclosure, open exploration, deep reflection, and coherent integration of personal memories, feelings, and beliefs, which can, in turn, further boost attachment security over the course of treatment (see Talia et al., 2017 for operationalization of these processes). Likewise, attachment security may aid clients in obtaining benefits from psychedelic-assisted therapy.

In contrast, attachment anxiety and avoidance tend to generally interfere with psychotherapeutic work (disclosure, exploration, reflection, and integration of subjective experiences) and prevent therapeutic change (Mikulincer et al., 2013). On this basis, attachment insecurities can be viewed as part of a maladaptive"set" when the person enters psychedelic-facilitated therapy. Again, however, a sound"setting" – a supportive therapeutic environment and competent therapist – may provide the compensatory security necessary to facilitate more favorable psychedelic experiences and their integration into a person's narrative and IWMs of the self and others. Indeed, people with insecure attachment orientations should stand to benefit the most from psychedelic-assisted therapy, although the ride may be bumpy and yield negative outcomes for some patients.

In the only psychedelic study to date directly informed by attachment theory, Stauffer et al. (2021) conducted a pilot pre-post study of 18 long-term AIDS survivors receiving a one-dose psilocybin-assisted group therapy for demoralization. In line with our proposals, dispositional attachment orientations measured at baseline strongly predicted patients' subjective experiences: Whereas attachment anxiety predicted more mystical experiences, attachment avoidance predicted more challenging (distress-eliciting) experiences. This study did, however, not report on associations between attachment orientations and integration work in the aftermath of the psychedelic experiences (more details from Stauffer et al., 2021, are presented below).

Attachment security as a clinical outcome

As attachment IWMs may *constitute priors that* influence the experiences and impact of psychedelic-assisted-therapy, *so too* psychedelics *may have* the potential *to* loosen the grip of preexisting *attachment* IWMs. Addressing clients' attachment security *is* a worthwhile clinical aim of psychedelic-assisted therapy. Attachment security has been recognized as a key "nonspecific factor" in psychotherapy across treatment modalities, and increasing ("earned") attachment security has also emerged as a meaningful therapeutic outcome in and of itself (Levy et al., 2018). Although IWMs are relatively core high-level priors, The intake of psychedelics and their ensuing neural effects may relax the weight of IWMs and create the possibility for novel experiences that, with nurturing psychological support, could lead to favorable revisions of them. Such "improvements" in attachment representations may underlie the acute RSMEs and pivotal life transformations people often attribute to psychedelic experiences (Brouwer & Carhart-Harris, 2021).

Reports of psychedelic-induced subjective experiences appear to support this idea. These experiences, while often acutely challenging, have been found to trigger subsequent emotional and cognitive changes indicative of improved felt security, including improved self-perception, increased felt interconnectedness and experiential and emotional openness (see Breeksema et al., 2020; for a review). Moreover, Holze et al. (2021) found that, at close to peak plasma concentrations of LSD (200 mcg), participants displayed higher empathy and greater release of oxytocin (a hormone that presumably facilitates attachment/bonding) – an effect that subsided (for oxytocin) as subjective drug effects subsided at 8 hours post administration. By enhancing felt security, psychedelic-assisted therapy may set in motion relearning processes that not only alleviate symptoms but continue to impact clinical outcomes beyond the end of treatment (Mikulincer et al., 2013). Thus, psychedelic-assisted therapy may be able to facilitate durable, clinically favorable changes via catalyzing relearning processes linked to attachment and IWMs.

In their pioneering study, Stauffer et al. (2021) found preliminary evidence that psychedelic-assisted therapy promotes attachment security, at least on the anxiety dimension. Clients' self-reports of attachment anxiety significantly decreased following psilocybin-assisted group therapy (*d*

= .45 from baseline to 3-months follow-up). Attachment avoidance seemed to decrease as well (*d*s=.28 and .19, at 3 weeks and 3 months post-treatment, respectively), but these changes was not statistically significant. While statistical power was low ($n = 18$) and the study lacked a control group, the results suggest that psychedelic-assisted therapy may enhance attachment security (again, at least by reducing attachment anxiety). It is intriguing to speculate that, though attachment avoidance may be the more challenging clinical presentation, attachment avoidance could also be improved via psychedelic-assisted therapy, perhaps requiring an alternative therapeutic model (Zeifman & Wagner, 2020).

Attachment-related dynamics as process-level mechanisms

A third way in which attachment theory can contribute to psychedelic science is by informing about the psychological and interpersonal processes involved in psychedelic experiences and process-level (or proximal) mechanisms of clinical outcomes. At its core, attachment theory describes perceptual, affective, cognitive, and behavioral reactions to distressing experiences aimed at restoring felt security as well as individual differences in these reactions based on high-level IWMs/priors (Mikulincer & Shaver, 2016).

By stimulating serotonin 2A receptors, psychedelics engage the same neural circuitry that is presumably involved in the formation of IWMs earlier in development (e.g., associative learning of threat-related and safety cues; Murnane, 2019), much like how stress can increase neuroplasticity (Brivio et al., 2020) and accelerate learning rate (Harvey, 2003). This may enable the relearning or "updating" of attachment-related IWMs. In this way, psychedelics create opportunities to revise presently maladaptive (insecure) IWMs and extinguish learned expectations of lack of comfort, abandonment or hostility in stressful situations (Bosmans et al., 2019). In a more developmental lens, Lepow et al. (2021) argue that psychedelics may initiate an acute state resembling "critical" periods for social and emotional information, during which neural plasticity increases and individuals are extremely sensitive to environmental input for revising models of attachment models.

Sudden gains in felt security may occur during an acute experience that promotes openness and flexibility toward external and internal stimuli. The result may be a radical improvement in expectations of comfort and security, or what Main et al. (1985) called a "corrective attachment experience," by producing a profound sense of being connected with and embraced by a powerful benevolent figure (e.g., God, a higher power or spirit). That is, psychedelic-induced experiences of unity and transcendence may facilitate spiritual corrective attachment experiences, likely contingent on the quality of the accompanying support.

A frequently reported effect of psychedelics is greater access to distressing emotions, thoughts, and memories (Healy, 2021). While internal stimuli may retain their painful quality, with adjacent psychological support, psychedelics can be used to address and overcome experiential avoidance and to enable a closer contact with inner experiences and deeper processing of all types of feeling states. Over time, these improvements in mindfulness-related phenomena may improve distress tolerance and behavioral activation for valued ends (Watts et al., 2017).

Finally, psychedelic-assisted therapy is conducted with a trained, experienced therapist capable of providing a "holding environment" (Tai et al., 2021). In this therapeutic setting, the therapist, "guide" or "trip sitter" cares for a vulnerable person's well-being in a largely observant, non-interventional way (Badiner & Grey, 2015). Psychedelics' activation of the attachment system catalyzing a potential healthy updating of IWMs may facilitate corrective emotional experiences with the therapist.

Psychotherapy research consistently shows the quality of client-therapist relationship (i.e., therapeutic alliance) to be one the strongest predictors of clinical outcomes regardless of treatment modality (Horvath et al., 2011), and this has recently also been shown with psychedelics (Murphy et al., 2022; for the distinction between secure attachment to a therapist and therapeutic alliance or rapport, see Obegi & Berant, 2010). Therefore, we can expect that the quality of the client-therapist relationship, in general, and the extent to which a therapist is perceived as a reliable safe haven and secure base, in particular, are key aspects of a positive set/setting, conducive to positive therapeutic

outcome. However, while clients in psychedelic-assisted therapy may experience their therapist as a source of comfort and support, they typically attribute the curing effects to intrapsychic processes and unity-type mystical experiences (Watts et al., 2017).

One should also be mindful of the potential risk of problematic patient-therapist attachment formations both during a therapeutic process and, perhaps most importantly, afterward where the ending of particularly intense therapeutic relationships may be psychologically triggering, if not managed carefully. Relatedly, the risk (as well as the utility or value) of enhanced transference formations via psychedelics should also be considered.

Role of religion/spirituality in psychedelic experience and integration

The effect of psychedelic-induced RSMEs may depend on the influence of individuals' preexisting religious/spiritual beliefs and practices. For example, especially in monotheistic faiths, which emphasize a personal relationship with a benevolent deity, feelings of transcendence and unity may be interpreted as (or attributed to) direct experiences of encountering God. In other settings, the same underlying (neural) state could be attributed to unity with nature (cf. "nature mysticism"), and in yet others to "going insane," "losing one's mind," or "becoming delusional." However, we are not aware of any research systematically addressing whether such different worldview-informed interpretations are differentially linked to the subjective effects of or clinical outcomes from psychedelic use.

The religion-mental health link is relevant to RSMEs and their continued impact. Research consistently highlights that religion is associated with better mental health presentations, albeit in complex ways and depending on context. Attachment security to God, a perceived personal bond with God, and a sense of unity with God have been highlighted as pivotal mediators of this association (Koenig et al., 2012), and the community component of religious practice may also play an important role (Hayward & Krause, 2014). Since religions address areas of ultimate concern, religiosity can be intertwined with symptoms, coping resources, and life events, and a majority of psychotherapy clients want to raise religious issues in therapy (Koenig, 2018). On this basis, several evidence-based spiritually integrated treatment models have been developed (Rosmarin, 2018). Unfortunately, there is little material available on spirituality-guided integration of psychedelic-induced RSMEs (cf. Badiner & Grey, 2015).

A potential focus for research is spiritual struggles – tensions, strains, and conflicts concerning what people hold sacred (Exline, 2013). Whereas these struggles are associated with emotional distress, exploring and processing them seems to contribute to heightened well-being (Pargament & Exline, 2022). Therefore, an arousal of spiritual struggles during psychedelic-induced RSMEs can be explicitly explored and elaborated during the integration phase, and this deep processing may produce impactful positive transformations.

Future directions and concluding remarks

We have outlined how attachment theory and research can serve as an integrating heuristic framework for a psychedelic science of spirituality and religion. This integrative framework aids psychedelic science in identifying key predictors, outcomes, and process-level mechanisms pertinent to psychedelic-induced RSMEs and their integration. It may also be useful for understanding how psychedelics potentiate spiritual/religious corrective attachment experiences that may enhance attachment security with regard to God and humans.

Psychedelic science can benefit greatly from this cross-fertilization. An attachment theory perspective may spur methodological advancements in psychedelic science by offering a robust research paradigm, a coherent structure for generating hypotheses, and rigorously developed measures. In addition, the field of psychedelic science is still establishing the set-and-setting factors associated with favorable psychedelic experiences (Aday et al., 2021). Though the empirical evidence is still

preliminary, attachment theory is a promising framework for identifying salient candidate factors, which may, in turn, bolster the effectiveness of psychedelic-assisted therapy.

Similarly, the psychology of religion and spirituality can benefit from an attachment-informed psychedelic science. In particular, psychedelic research may present a new avenue of research on religious and spiritual change. We described the compensation pathway, whereby individuals turn to God and religion in the absence of satisfactory human attachment figures, which tends to lead to sudden, intense religious changes and conversions that may ultimately be characterized by emotional turbulence, spiritual struggles, and interpersonal conflicts. In contrast, by construing a safe, comfortable, and supportive setting, psychedelics may yield religious and spiritual changes that, albeit sudden, result in a more secure path forward (Golden et al., 2022; Strickland et al., 2021). Relatedly, psychedelic research presents an intriguing opportunity to explore the possibility that individuals with insecure attachment can, via psychedelic-assisted therapy, ultimately attain "earned secure" attachment (i.e., by reweighting attachment-related priors; Main et al., 2003). Such research can help investigate whether earned security unfolds via corrective relational experiences with God, therapists, or others. The attachment-religion perspective can also be a useful framework for understanding existing psychedelic traditions, related directly to the psychedelic (e.g., plant healer) or indigenous frameworks around them (e.g., grandmother ayahuasca; Harris & Gurel, 2012).

An attachment-informed psychedelic science may, in addition, contribute to protocols for guiding psychedelic use and facilitating integration by highlighting process-level mechanisms for favorable clinical outcomes. Attachment considerations may also guide users who seek to express themselves spiritually during a psychedelic session (e.g., religious meditation) and integrate their experience with religious meaning. Psychedelics and associated attachment-relevant spiritual experiences may be particularly relevant to parts of life laden with a quest for religious significance (e.g., end-of-life care; see Margolin & Hartman, 2021).

Furthermore, psychedelic science could draw on recent developments in psychotherapy research focusing on "sudden gains" in clinical outcomes. Psychedelic experiences may catalyze dramatic changes in attachment security, among other consequential transdiagnostic outcomes. In addition, studying clients' attachment to the therapist would shed light on the interpersonal dynamics of psychedelic-assisted therapy and highlight the therapist's role as part of an effective setting for bringing about positive clinical outcomes.

Based on Bowlby's (1982) depiction of experientially based IWMs as aiding in making predictions about the world, we have suggested that IWMs may be conceptualized as cognitive and emotional priors. Admittedly, the attachment literature has not fully clarified the nature, organization, and stability of IWMs (Duschinsky, 2020) or their neurobiological correlates (Long et al., 2020). Whereas IWMs escape direct observation, considering them as priors in a predictive coding framework opens up new vistas to address some of the lingering questions about their stability and organization. One possibility to assess whether IWMs are revised during or following psychedelic sessions, which would support our framing of IWMs as priors, is to observe attachment behaviors before, during, and after a psychedelic experience (e.g., emotional avoidance, engaging the therapist; Talia et al., 2017). Zeifman et al. (2022) have demonstrated preliminary evidence that psychedelics foster acute relaxation and post-acute revision of confidence in beliefs (about themselves and others) which are relevant to mental health and facilitate positive therapeutic outcomes.

The centrality of increased connectedness surrounding psychedelic experiences provides a compelling match with a core component of attachment theory, namely people's proclivity to develop strong interpersonal bonds (attachments). Arguably, increased connectedness in conjunction with psychedelic-assisted therapy can be experienced in relation to a wider and less well-specified set of targets (e.g., the universe, all of humanity, nature, see Watts et al., 2022) than those typically considered within attachment theory. It should be noted, however, that a sense of connectedness is a prerequisite to what may, and in other cases may not, develop into full-fledged attachment relationships. Anthropomorphic features (e.g., benevolence, competence) appear to facilitate the ease with which humans develop attachments but at present the boundary conditions of attachments are not

well understood, especially not among adults, who are quite able to entertain and relate to symbolic, abstract entities (for a discussion, see Granqvist, 2020).

Though feelings of connectedness associated with psychedelics (Carhart-Harris et al., 2018) are most readily seen as attachment-linked, other evidence-based mechanisms of change in psychedelic-assisted therapy are also relevant to the attachment-religion connection. For example, psychedelic-induced feelings of ego dissolution, oceanic boundlessness (Roseman et al., 2018), and awe (Hendricks, 2018) can alter models of self and others and contribute to feelings of connectedness to God and humans. In addition, cognitive-affective processes related to attachment security, such as psychological flexibility (Watts et al., 2017; see Granqvist, 2020 for a review), can be potentiated during psychedelic-assisted therapy and contribute to a revision of IWMs of self and others.

Lastly, we have spotlighted RSMEs as they are among the strongest, most replicated predictors of favorable clinical outcomes in psychedelic-assisted therapy (Yaden & Griffiths, 2021). However, we acknowledge that other experiential states, such as emotional breakthrough and psychological insight, might also be influential therapeutic factors even in the absence of RSMEs (Letheby, 2021). Largely because of their ability to produce RSMEs, we have focused on classical psychedelics in this paper. It may well be, however, that a compound like MDMA, which is not known to typically produce RSMEs, may be even more effective in triggering favorable changes in attachment functioning, via its ability to facilitate love and bonding (Mitchell et al., 2021). To avoid further complexity, we have refrained from discussing the effects of MDMA in the present paper. However, MDMA-facilitated therapy should also be a high research priority for a psychedelic science informed by attachment theory.

In sum, we have offered an attachment theory framework for a psychedelic science of spirituality and religion. Based on our arguments, we propose that attachment security predicts psychedelic experiences and their subsequent outcomes. With effective psychological integration, psychedelic-assisted therapy may be a particularly powerful method for facilitating increased attachment security (relevant across several diagnoses). Indeed, attachment theory may help identify and explain process-level mechanisms relevant to psychological change seen with psychedelics. Its power to explain specific phenomena such as RSMEs and personal relations to God may be considerable. We suggest that reference to attachment theory may help enhance and advance psychedelic science and potentially maximize clinical outcomes associated with psychedelic-assisted therapy.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Cherniak's work was supported by a 2021 SRF Source Award from the Source Research Foundation

ORCID

Aaron D. Cherniak http://orcid.org/0000-0002-9114-4290

References

Aday, J. S., Davis, A. K., Mitzkovitz, C. M., Bloesch, E. K., & Davoli, C. C. (2021). Predicting reactions to psychedelic drugs: A systematic review of states and traits related to acute drug effects. *ACS Pharmacology & Translational Science*, *4*(2), 424–435. https://doi.org/10.1021/acsptsci.1c00014

Andersen, K. A., Carhart-harris, R., Nutt, D. J., & Erritzoe, D. (2021). Therapeutic effects of classic serotonergic psychedelics: A systematic review of modern-era clinical studies. *Acta psychiatrica Scandinavica*, *143*(2), 101–118. https://doi.org/10.1111/acps.13249

Badiner, A., & Grey, A. (Eds.). (2015). *Zig zag zen: Buddhism and psychedelics*. Synergetic Press.

Bakermans-Kranenburg, M., & van IJzendoorn, M. H. (2009). The first 10,000 adult attachment interviews: Distributions of adult attachment representations in clinical and non-clinical groups. *Attachment & Human Development*, *11*(3), 223–263. https://doi.org/10.1080/14616730902814762

Barlow, D. H. (2010). Negative effects from psychological treatments: A perspective. *The American Psychologist*, *65*(1), 13–20. https://doi.org/10.1037/a0015643

Barrett, F. S., Bradstreet, M. P., Leoutsakos, J. M. S., Johnson, M. W., & Griffiths, R. R. (2016). The challenging experience questionnaire: Characterization of challenging experiences with psilocybin mushrooms. *Journal of Psychopharmacology*, *30*(12), 1279–1295. https://doi.org/10.1177/0269881116678781

Beliveau, V., Ganz, M., Feng, L., Ozenne, B., Højgaard, L., Fisher, P. M., Svarer, C., Greve, D. N., & Knudsen, G. M. (2017). A high-resolution in vivo Atlas of the human brain's serotonin system. *The Journal of Neuroscience*, *37*(1), 120–128. https://doi.org/10.1523/JNEUROSCI.2830-16.2016

Belser, A. B., Agin-Liebes, G., Swift, T. C., Terrana, S., Devenot, N., Friedman, H. L., Guss, J., Bossis, A., & Ross, S. (2017). Patient experiences of psilocybin-assisted psychotherapy: An interpretative phenomenological analysis. *Journal of Humanistic Psychology*, *57*(4), 354–388. https://doi.org/10.1177/0022167817706884

Bosmans, G., Bakermans-Kranenburg, M. J., Vervliet, B., Verhees, M. W., & van IJzendoorn, M. H. (2020). A learning theory of attachment: Unraveling the black box of attachment development. *Neuroscience & Biobehavioral Reviews*, *113*, 287–298. https://doi.org/10.1016/j.neubiorev.2020.03.014

Bosmans, G., Waters, T. E. A., Finet, C., de Winter, S., Hermans, D., & Olino, T. M. (2019). Trust development as an expectancy-learning process: Testing contingency effects. *PLoS ONE*, *14*(12), e0225934. https://doi.org/10.1371/journal.pone.0225934

Bowlby, J. (1973). *Attachment and loss: Vol. 2 separation anxiety and anger*. Basic Books.

Bowlby, J. (1982). *Attachment and loss: Vol. 1 attachment* (2nd ed.). Basic Books.

Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. Routledge.

Breeksema, J. J., Niemeijer, A. R., Krediet, E., Vermetten, E., & Schoevers, R. A. (2020). Psychedelic treatments for psychiatric disorders: A systematic review and thematic synthesis of patient experiences in qualitative studies. *CNS Drugs*, *34*(9), 925–946. https://doi.org/10.1007/s40263-020-00748-y

Brennan, K. A., Clark, C. A., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). Guilford Publications.

Brivio, P., Sbrini, G., Riva, M. A., & Calabrese, F. (2020). Acute stress induces cognitive improvement in the novel object recognition task by transiently modulating BDNF in the prefrontal cortex of male rats. *Cellular and molecular neurobiology*, *40*(6), 1037–1047. https://doi.org/10.1007/s10571-020-00793-7

Brouwer, A., & Carhart-Harris, R. L. (2021). Pivotal mental states. *Journal of Psychopharmacology*, *35*(4), 319–352. https://doi.org/10.1177/0269881120959637

Bruhn, J. G., De Smet, P. A. G. M., El-Seedi, H. R., & Beck, O. (2002). Stigma of mental illness in Mescaline use for 5700 years. *The Lancet*, *359*(9320), 1866. https://doi.org/10.1016/S0140-6736(02)08701-9

Carhart-Harris, R. L., Cherniak, A. D., Gruneau-Brulin, J., Mikulincer, M., Östlind, S., & Granqvist, P. (in press). In M. van Elk & D. B. Yaden (Eds.), *Oxford handbook of psychedelic, religious, spiritual, and mystical experiences*. Oxford University Press.

Carhart-Harris, R. L., Erritzoe, D., Haijen, E. C. H. M., Kaelen, M., & Watts, R. (2018). Psychedelics and connectedness. *Psychopharmacology*, *235*(2), 547–550. https://doi.org/10.1007/s00213-017-4701-y

Carhart-Harris, R. L., Friston, K. J., & Barker, E. L. (2019). REBUS and the anarchic brain: Toward a unified model of the brain action of psychedelics. *Pharmacological Reviews*, *71*(3), 316–344. https://doi.org/10.1124/pr.118.017160

Carhart-Harris, R. L., Roseman, L., Haijen, E., Erritzoe, D., Watts, R., Branchi, I., & Kaelen, M. (2018). Psychedelics and the essential importance of context. *Journal of Psychopharmacology*, *32*(7), 725–731. https://doi.org/10.1177/0269881118754710

Cherniak, A. D., Mikulincer, M., Shaver, P. R., & Granqvist, P. (2021). Attachment theory and religion. *Current Opinion in Psychology*, *40*, 126–130. https://doi.org/10.1016/j.copsyc.2020.08.020

Clark, A. (2015). *Surfing uncertainty: Prediction, action, and the embodied mind*. Oxford University Press.

Davis, E. B., Kimball, C. N., Aten, J. D., Andrews, B., Van Tongeren, D. R., Hook, J. N., Davis, D. E., Granqvist, P., & Park, C. L. (2019). Religious meaning making and attachment in a disaster context: A longitudinal qualitative study of flood survivors. *The Journal of Positive Psychology*, *14*(5), 659–671. https://doi.org/10.1080/17439760.2018.1519592

Duschinsky, R. (2020). *Cornerstones of attachment research*. Oxford University Press.

Exline, J. J. (2013). Religious and spiritual struggles. In K. I. Pargament (Ed.-in-Chief), J. J. Exline, & J. W. Jones (Assoc. Eds.), *APA handbook of psychology, religion, and spirituality* (Vol. 1, pp. 459–475). American Psychological Association.

Ferguson, M. A., Nielsen, J. A., King, J. B., Dai, L., Giangrasso, D. M., Holman, R., Korenberg, J. R., & Anderson, J. S. (2018). Reward, salience, and attentional networks are activated by religious experience in devout Mormons. *Social neuroscience*, *13*(1), 104–116. https://doi.org/10.1080/17470919.2016.1257437

Fogg, C., Michaels, T. I., de la Salle, S., Jahn, Z. W., & Williams, M. T. (2021). Ethnoracial health disparities and the ethnopsychopharmacology of psychedelic-assisted psychotherapies. *Experimental and Clinical Psychopharmacology*, *29*(5), 539–554. https://doi.org/10.1037/pha0000490

Forstmann, M., Yudkin, D. A., Prosser, A. M., Heller, S. M., & Crockett, M. J. (2020). Transformative experience and social connectedness mediate the mood-enhancing effects of psychedelic use in naturalistic settings. *Proceedings of the National Academy of Sciences*, *117*(5), 2338–2346. https://doi.org/10.1073/pnas.1918477117

Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, *4*(2), 132–154. https://doi.org/10.1037/1089-2680.4.2.132

Fraley, R. C., Vicary, A. M., Brumbaugh, C. C., & Roisman, G. I. (2011). Patterns of stability in adult attachment: An empirical test of two models of continuity and change. *Journal of Personality and Social Psychology*, *101*(5), 974–992. https://doi.org/10.1037/a0024150

Gashi, L., Sandberg, S., & Pedersen, W. (2021). Making "bad trips" good: How users of psychedelics narratively transform challenging trips into valuable experiences. *International Journal of Drug Policy*, *87*, 102997. https://doi.org/10.1016/j.drugpo.2020.102997

Golden, T. L., Magsamen, S., Sandu, C. C., Lin, S., Roebuck, G. M., Shi, K. M., & Barrett, F. S. (2022). Effects of setting on psychedelic experiences, therapies, and outcomes: A rapid scoping review of the literature. *Current Topics in Behavioral Neuroscience*. Epub ahead of print. PMID: 35138585. Springer.

Granqvist, P. (2020). *Attachment in religion and spirituality: A wider view*. Guilford Press.

Granqvist, P., Fransson, M., & Hagekull, B. (2009). Disorganized attachment, absorption, and new age spirituality: A mediational model. *Attachment & Human Development*, *11*(4), 385–403. https://doi.org/10.1080/14616730903016995

Granqvist, P., Fredrikson, M., Unge, P., Hagenfeldt, A., Valind, S., Larhammar, D., & Larsson, M. (2005). Sensed presence and mystical experiences are predicted by suggestibility, not by the application of transcranial weak complex magnetic fields. *Neuroscience letters*, *379*(1), 1–6. https://doi.org/10.1016/j.neulet.2004.10.057

Granqvist, P., & Hagekull, B. (2001). Seeking security in the new age: On attachment and emotional compensation. *Journal for the Scientific Study of Religion*, *40*(3), 527–545. https://doi.org/10.1111/0021-8294.00075

Granqvist, P., Hagekull, B., & Ivarsson, T. (2012). Disorganized attachment promotes mystical experiences via a propensity for alterations in consciousness (absorption). *The International Journal for the Psychology of Religion*, *22*(3), 180–197. https://doi.org/10.1080/10508619.2012.670012

Granqvist, P., & Kirkpatrick, L. A. (2004). Religious conversion and perceived childhood attachment: A meta-analysis. *International Journal of Psychology of Religion*, *14*(4), 223–250. https://doi.org/10.1207/s15327582ijpr1404_1

Granqvist, P., & Kirkpatrick, L. A. (2016). Attachment and religious representations and behavior. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 856–878). Guilford Press.

Granqvist, P., Mikulincer, M., Gewirtz, V., & Shaver, P. R. (2012). Experimental findings on God as an attachment figure: Normative processes and moderating effects of internal working models. *Journal of Personality and Social Psychology*, *103*(5), 804–818. https://doi.org/10.1037/a0029344

Greenwald, Y., Mikulincer, M., Granqvist, P., & Shaver, P. R. (2021). Apostasy and conversion: Attachment orientations and individual differences in the process of religious change. *Psychology of Religion and Spirituality*, *13*(4), 425–436. https://doi.org/10.1037/rel0000239

Griffiths, R. R., Johnson, M. W., Richards, W. A., Richards, B. D., Jesse, R., MacLean, K. A., Barrett, F.S., Cosimano, M. P., & Klinedinst, K. A. (2018). Psilocybin-occasioned mystical-type experience in combination with meditation and other spiritual practices produces enduring positive changes in psychological functioning and in trait measures of prosocial attitudes and behaviors. *Journal of Psychopharmacology*, *32*(1), 49–69. https://doi.org/10.1177/0269881117731279

Griffiths, R. R., Richards, W. A., McCann, U., & Jesse, R. (2006). Psilocybin can occasion mystical-type experiences having substantial and sustained personal meaning and spiritual significance. *Psychopharmacology*, *187*(3), 268–283. https://doi.org/10.1007/s00213-006-0457-5

Haijen, E. C. H. M., Kaelen, M., Roseman, L., Timmermann, C., Kettner, H., Russ, S., Nutt, D., Daws, R. E., Hampshire, A. D. G., Lorenz, R., & Carhart-Harris, R. L. (2018). Predicting responses to psychedelics: A prospective study. *Frontiers in Pharmacology*, *9*, 897. https://doi.org/10.3389/fphar.2018.00897

Harris, R., & Gurel, L. (2012). A study of ayahuasca use in North America. *Journal of Psychoactive Drugs*, *44*(3), 209–215. https://doi.org/10.1080/02791072.2012.703100

Hartogsohn, I. (2016). Set and setting, psychedelics and the placebo response: An extra-pharmacological perspective on psychopharmacology. *Journal of Psychopharmacology*, *30*(12), 1259–1267. https://doi.org/10.1177/0269881116677852

Harvey, J. A. (2003). Role of the serotonin 5-HT2A receptor in learning. *Learning & Memory*, *10*(5), 355–362. https://doi.org/10.1101/lm.60803

Hayward, R. D., & Krause, N. (2014). Religion, mental health and well-being: Social aspects. In V. Saroglou (Ed.), *Religion, personality, and social behavior* (pp. 255–280). Psychology Press.

Healy, C. J. (2021). The acute effects of classic psychedelics on memory in humans. *Journal of Psychopharmacology*, *238* (3), 639–653. https://doi.org/10.1007/s00213-020-05756-w
Hendricks, P. S. (2018). Awe: A putative mechanism underlying the effects of classic psychedelic-assisted psychotherapy. *International Review of Psychiatry*, *30*(4), 331–342. https://doi.org/10.1080/09540261.2018.1474185
Hesse, E., & Van IJzendoorn, M. H. (1999). Propensities towards absorption are related to lapses in the monitoring of reasoning or discourse during the adult attachment interview: A preliminary investigation. *Attachment & human development*, *1*(1), 67–91. https://doi.org/10.1080/14616739900134031
Hilgard, E. R. (1986). *Divided consciousness: Multiple controls in human thought and* action (2nd ed.). Wiley.
Holze, F., Avedisian, I., Varghese, N., Eckert, A., & Liechti, M. E. (2021). Role of the 5-HT2A receptor in acute effects of LSD on empathy and circulating oxytocin. *Frontiers in Pharmacology*, *12*, 711255. https://doi.org/10.3389/fphar.2021.711255
Hood, R. W., Jr., Hill, P. C., & Spilka, B. (2018). *The psychology of religion: An empirical approach* (5th ed.). Guilford Press.
Horvath, A. O., Del Re, A. C., Flückiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Evidence-based responsiveness* (pp. 25–69). Oxford University Press.
Johnson, M. W., Hendricks, P. S., Barrett, F. S., & Griffiths, R. R. (2019). Classic psychedelics: An integrative review of epidemiology, therapeutics, mystical experience, and brain network function. *Pharmacology & Therapeutics*, *197*, 83–102. https://doi.org/10.1016/j.pharmthera.2018.11.010
Johnson, M. W., Richards, W. A., & Griffiths, R. R. (2008). Human hallucinogen research: Guidelines for safety. *Journal of Psychopharmacology*, *22*(6), 603–620. https://doi.org/10.1177/0269881108093587
Kimball, C., Cook, K., Boyatzis, C., & Leonard, K. (2013). Meaning making in emerging adults' faith narratives. *Journal of Psychology and Christianity*, *32*(3), 221–233.
Kočárová, R., Horáček, J., & Carhart-Harris, R. (2021). Does psychedelic therapy have a transdiagnostic action and prophylactic potential? *Frontiers in Psychiatry*, *12*, 661233. https://doi.org/10.3389/fpsyt.2021.661233
Koenig, H. G. (2018). *Religion and mental health: Research and clinical applications*. Academic Press.
Koenig, H. G., King, D. E., & Carson, V. B. (2012). *Handbook of religion and health* (2nd ed.). Oxford University Press.
Kudoh, A., Takahira, Y., Katagai, H., & Takazawa, T. (2002). Small-dose ketamine improves the postoperative state of depressed patients. *Anesthesia and Analgesia*, *95*(1), 114–118. https://doi.org/10.1097/00000539-200207000-00020
Lafrance, A., Loizaga-Velder, A., Fletcher, J., Renelli, M., Files, N., & Tupper, K. W. (2017). Nourishing the spirit: Exploratory research on ayahuasca experiences along the continuum of recovery from eating disorders. *Journal of Psychoactive Drugs*, *49*(5), 427–435. https://doi.org/10.1080/02791072.2017.1361559
Lepow, L., Morishita, H., & Yehuda, R. (2021). Critical period plasticity as a framework for psychedelic-assisted psychotherapy. *Frontiers in neuroscience*, *15*, 710004. https://doi.org/10.3389/fnins.2021.710004
Letheby, C. (2021). *Philosophy of psychedelics*. Oxford University Press.
Levy, K. N., Kivity, Y., Johnson, B. N., & Gooch, C. V. (2018). Adult attachment as a predictor and moderator of psychotherapy outcome: A meta-analysis. *Journal of Clinical Psychology*, *74*(11), 1996–2013. https://doi.org/10.1002/jclp.22685
Long, M., Verbeke, W., Ein-Dor, T., & Vrtička, P. (2020). A functional neuro-anatomical model of human attachment (NAMA): Insights from first-and second-person social neuroscience. *Cortex*, *126*, 281–321. https://doi.org/10.1016/j.cortex.2020.01.010
Luoma, J. B., Chwyl, C., Bathje, G. J., Davis, A. K., & Lancelotta, R. (2020). A meta-analysis of placebo-controlled trials of psychedelic-assisted therapy. *Journal of Psychoactive Drugs*, *52*(4), 289–299. https://doi.org/10.1080/02791072.2020.1769878
MacLean, K. A., Johnson, M. W., & Griffiths, R. R. (2011). Mystical experiences occasioned by the hallucinogen psilocybin lead to increases in the personality domain of openness. *Journal of Psychopharmacology*, *25*(11), 1453–1461. https://doi.org/10.1177/0269881111420188
Main, M., Goldwyn, R., & Hesse, E. (2003). *Adult attachment scoring and classification system* [Unpublished manuscript]. University of California at Berkeley.
Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*(1), 66–104. https://doi.org/10.2307/3333827
Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth strange situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 121–160). University of Chicago Press.
Margolin, M., & Hartman, S. (2021, April 23). Jews, Christians, and Muslims are reclaiming ancient psychedelic practices, and that could help with legalization. *Rolling Stone*. https://www.rollingstone.com/culture/culture-features/psychedelics-religion-entheogens-1160408/
Mikulincer, M. (1997). Adult attachment style and information processing: Individual differences in curiosity and cognitive closure. *Journal of Personality and Social Psychology*, *72*(5), 1217–1230. https://doi.org/10.1037/0022-3514.72.5.1217

Mikulincer, M., Dolev, T., & Shaver, P. R. (2004). Attachment-related strategies during thought suppression: Ironic rebounds and vulnerable self-representations. *Journal of Personality and Social Psychology*, *87*(6), 940–956. https://doi.org/10.1037/0022-3514.87.6.940

Mikulincer, M., & Shaver, P. R. (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). Guilford Press.

Mikulincer, M., Shaver, P. R., & Berant, E. (2013). An attachment perspective on therapeutic processes and outcomes. *Journal of Personality*, *81*(6), 606–616. https://doi.org/10.1111/j.1467-6494.2012.00806.x

Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, *27*(2), 77–102. https://doi.org/10.1023/A:1024515519160

Mitchell, J. M., Bogenschutz, M., Lilienstein, A., Harrison, C., Kleiman, S., Parker-Guilbert, K., Ot'alora, G., Garas, W., Paleos, C., Gorman, I., Nicholas, C., Mithoefer, M., Carlin, S., Poulter, B., Mithoefer, A., Quevedo, S., Wells, G., Klaire, S. S., van der Kolk, B. … Doblin, R. (2021). MDMA-assisted therapy for severe PTSD: A randomized, double-blind, placebo-controlled phase 3 study. *Nature medicine*, *27*(6), 1025–1033. https://doi.org/10.1038/s41591-021-01336-3

Murnane, K. S. (2019). Serotonin 2A receptors are a stress response system: Implications for post-traumatic stress disorder. *Behavioural Pharmacology*, *30*(2 and 3–Spec Issue), 151–162. https://doi.org/10.1097/FBP.0000000000000459

Murphy, R., Kettner, H., Zeifman, R., Giribaldi, B., Kartner, L., Martell, J., Read, T., Murphy-Beiner, A., Baker-Jones, M., Nutt, D., Erritzoe, D., Watts, R., & Carhart-Harris, R. (2022). Therapeutic alliance and rapport modulate responses to psilocybin assisted therapy for depression. *Frontiers in Pharmacology*, *12*. https://doi.org/10.3389/fphar.2021.788155

Nayak, S., & Johnson, M. W. (2021). Psychedelics and psychotherapy. *Pharmacopsychiatry*, *54*(4), 167–175. https://doi.org/10.1055/a-1312-7297

NIDA. (2019, April 22). *Hallucinogens DrugFacts*. https://www.drugabuse.gov/publications/drugfacts/hallucinogens

Noorani, T., Garcia-Romeu, A., Swift, T. C., Griffiths, R. R., & Johnson, M. W. (2018). Psychedelic therapy for smoking cessation: Qualitative analysis of participant accounts. *Journal of Psychopharmacology*, *32*(7), 756–769. https://doi.org/10.1177/0269881118780612

Obegi, J. H., & Berant, E. (Eds.). (2010). *Attachment theory and research in clinical work with adults*. Guilford press.

Olson, D. E. (2021). The subjective effects of psychedelics may not be necessary for their enduring therapeutic effects. *ACS Pharmacology and Translational Science*, *4*(2), 563–567. https://doi.org/10.1021/acsptsci.0c00192

Otto, R. (1925). *The idea of the holy*. Oxford University Press.

Paloutzian, R. F., & Park, C. L. (Eds.). (2013). *Handbook of the psychology of religion and spirituality* (2nd ed.). Guilford Press.

Pargament, K. I., & Exline, J. J. (2022). *Working with spiritual struggles in psychotherapy: From research to practice*. Guilford Press.

Pirutinsky, S., Cherniak, A. D., & Rosmarin, D. H. (2020). Implicit and explicit attitudes towards God and life satisfaction. *Psychology of Religion and Spirituality*, *12*(4), 387–392. https://doi.org/10.1037/rel0000250

Roseman, L., Haijen, E., Idialu-Ikato, K., Kaelen, M., Watts, R., & Carhart-Harris, R. (2019). Emotional breakthrough and psychedelics: Validation of the emotional breakthrough inventory. *Journal of Psychopharmacology*, *33*(9), 1076–1087. https://doi.org/10.1177/0269881119855974

Roseman, L., Nutt, D. J., & Carhart-Harris, R. L. (2018). Quality of acute psychedelic experience predicts therapeutic efficacy of psilocybin for treatment-resistant depression. *Frontiers in Pharmacology*, *8*, 974. https://doi.org/10.3389/fphar.2017.00974

Rosmarin, D. H. (2018). *Spirituality, religion, and cognitive-behavioral therapy: A guide for clinicians*. Guilford Press.

Sahdra, B. K., & Shaver, P. R. (2013). Comparing attachment theory and Buddhist psychology. *The International Journal for the Psychology of Religion*, *23*(4), 282–293. https://doi.org/10.1080/10508619.2013.795821

Schjoedt, U., Stødkilde Jørgensen, H., Geertz, A. W., & Roepstorff, A. (2009). Highly religious participants recruit areas of social cognition in personal prayer. *Social cognitive and affective neuroscience*, *4*(2), 199–207. https://doi.org/10.1093/scan/nsn050

Sharp, C. A., Davis, E. B., George, K., Cuthbert, A. D., Zahl, B. P., Davis, D. E., Hook, J. N., & and Aten, J. D. (2019). Measures of God representations: Theoretical framework and critical review. *Psychology of Religion and Spirituality*, *13*(3), 340–357. https://doi.org/10.1037/rel0000257

Shaver, P. R., Mikulincer, M., Sahdra, B. K., & Gross, J. T. (2017). Attachment security as a foundation for kindness toward self and others. In K. W. Brown & M. R. Leary (Eds.), *The Oxford handbook of hypo-egoic phenomena* (pp. 223–242). Oxford University Press.

Stace, W. T. (1960). *Mysticism and philosophy*. St. Martin's Press.

Stauffer, C. S., Anderson, B. T., Ortigo, K. M., & Woolley, J. (2021). Psilocybin-assisted group therapy and attachment: Observed reduction in attachment anxiety and influences of attachment insecurity on the psilocybin experience. *ACS Pharmacology and Translational Science*, *4*(2), 526–532. https://doi.org/10.1021/acsptsci.0c00169

Stovall McClough, K. C., & Dozier, M. (2016). Attachment states of mind and psychopathology in adulthood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 715–738). Guilford Press.

Strickland, J. C., Garcia-Romeu, A., & Johnson, M. W. (2021). Set and setting: A randomized study of different musical genres in supporting psychedelic therapy. *ACS Pharmacology & Translational Science*, *4*(2), 472–478. https://doi.org/10.1021/acsptsci.0c00187

Tai, S. J., Nielson, E. M., Lennard-Jones, M., Johanna Ajantaival, R. L., Winzer, R., Richards, W. A., Reinholdt, F., Richards, B. D., Gasser, P., & Malievskaia, E. (2021). Development and evaluation of a therapist training program for psilocybin therapy for treatment-resistant depression in clinical research. *Frontiers in Psychiatry*, *12*, 586682. https://doi.org/10.3389/fpsyt.2021.586682

Talia, A., Miller-Bottome, M., & Daniel, S. I. F. (2017). Assessing attachment in psychotherapy: Validation of the Patient Attachment Coding System (PACS). *Clinical Psychology & Psychotherapy*, *24*(1), 149–161. https://doi.org/10.1002/cpp.1990

Tellegen, A., & Atkinson, G. (1974). Openness to absorbing and self-altering experiences ("absorption"), a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology*, *83*(3), 268–277. https://doi.org/10.1037/h0036681

Thomson, P., & Jaque, S. V. (2014). Unresolved mourning, supernatural beliefs and dissociation: A mediation analysis. *Attachment & Human Development*, *16*(5), 499–514. https://doi.org/10.1080/14616734.2014.926945

Thrul, J., & Garcia-Romeu, A. (2021). Whitewashing psychedelics: Racial equity in the emerging field of psychedelic-assisted mental health research and treatment. *Drugs: Education, Prevention and Policy*, *28*(3), 211–214. https://doi.org/10.1080/09687637.2021.1897331

Timmermann, C., Kettner, H., Letheby, C., Roseman, L., Rosas, F. E., & Carhart-Harris, R. L. (2021). Psychedelics alter metaphysical beliefs. *Scientific Reports*, *11*(1), 1–13. https://doi.org/10.1038/s41598-021-01209-2

Watts, R., Day, C., Krzanowski, J., Nutt, D., & Carhart-Harris, R. (2017). Patients' accounts of increased "connectedness" and "acceptance" after psilocybin for treatment-resistant depression. *Journal of Humanistic Psychology*, *57*(5), 520–564. https://doi.org/10.1177/0022167817709585

Watts, R., Kettner, H., Geerts, D., Gandy, S., Kartner, L., Mertens, L., Timmermann, C., Nour, M. M., Kaelen, M., Nutt, D., Carhart-Harris, R., & Roseman, L. (2022). The watts connectedness scale: A new scale for measuring a sense of connectedness to self, others, and world. *Psychopharmacology*, *239*(11), 1–23. https://doi.org/10.1007/s00213-022-06187-5

Weiss, B., Miller, J. D., Carter, N. T., & Campbell, K. W. (2021). Examining changes in personality following shamanic ceremonial use of ayahuasca. *Scientific reports*, *11*(1), 1–15. https://doi.org/10.1038/s41598-021-84746-0

Wright, B. R. (2018). Field experiments in religion: A dream whose time has come. *Journal for the Scientific Study of Religion*, *57*(2), 193–205. https://doi.org/10.1111/jssr.12509

Yaden, D. B., & Griffiths, R. R. (2021). The subjective effects of psychedelics are necessary for their enduring therapeutic effects. *ACS Pharmacology and Translational Science*, *4*(2), 568–572. https://doi.org/10.1021/acsptsci.0c00194

Yaden, D. B., Haidt, J., Hood, R. W., Vago, D. R., & Newberg, A. B. (2017). The varieties of self-transcendent experience. *Review of General Psychology*, *21*(2), 143–160. https://doi.org/10.1037/gpr0000102

Zeifman, R. J., Spriggs, M. J., Kettner, H., Lyons, T., Rosas, F., Mediano, P. A., Erritzoe, D., & Carhart-Harris, R. (2022). *From Relaxed Beliefs Under Psychedelics (REBUS) to Revised Beliefs After Psychedelics (REBAS): Preliminary development of the RElaxed Beliefs Questionnaire (REB-Q)*. PsyArXiv. https://doi.org/10.31234/osf.io/w8j6t

Zeifman, R. J., & Wagner, A. C. (2020). Exploring the case for research on incorporating psychedelics within interventions for borderline personality disorder. *Journal of Contextual Behavioral Science*, *15*, 1–11. https://doi.org/10.1016/j.jcbs.2019.11.001

Zinberg, N. E. (1984). *Drug, set, and setting: The basis for controlled intoxicant use*. Yale University Press.