CLOSING EDITORIAL

Championing "Exchange and Cooperation" Efforts in Frontier Science: Epilogue to the Special Issue

James Houran
editor@scientificexploration.org
https://orcid.org/0000-0003-1725-582X

Malcolm B. Schofield
m.schofield@derby.ac.uk
https://orcid.org/0000-0001-9676-0896

HIGHLIGHTS

Organizations with common goals should collaborate on research and education initiatives on a wider scale to more efficiently address anomalies that likely involve complex or nuanced processes.

KEYWORDS

Collaboration, cross-disciplinary, interorganizational relations theory, strategic alliances, team science.

INTRODUCTION

This Special Issue on THE DARKER SIDE OF SPIRITUALITY represents the first-ever partnership between the *Journal of the Society for Psychical Research* (*JSPR*) and *the Journal of Scientific Exploration* (*JSE*). As such, it is worth discussing the original impetus and intended outcomes for this joint effort. Readers should first note that these two periodicals are not carbon copies. The Society for Psychical Research was founded in 1882 to "examine without prejudice or prepossession, and in a scientific spirit; those faculties of man, real or supposed, which appear to be inexplicable on any generally recognized hypothesis." The Society for Scientific Exploration and its *Journal* originated to "critically discuss topics that are for various reasons ignored or studied inadequately within mainstream science and promote an improved understanding of social and intellectual factors that limit the scope of scientific inquiry." Thus, *JSE* topics cover a wide spectrum, ranging from apparent anomalies in well-established disciplines to rogue phenomena that seem to belong to no established discipline, as well as philosophical issues about the connection between disciplines. The idea here was to leverage the collective resources from the *JSPR*'s

specific interest in people-oriented phenomena and the *JSE*'s emphasis on broader nature-oriented phenomena to explore catalysts, contexts, and contents of spirituality-related experiences, beliefs, or activities that distress or unnerve individuals relative to the more familiar forms of religio-spiritual practice.

Participatory team science projects like ours therefore often adopt the framework of *exchange and cooperation* (E&C) (Ferschl et al., 2021), or alternatively known as *cooperation and liaison* (Wager et al., 2021) or *academic exchange* (Kong & Wang, 2020). Cross-disciplinary groups are especially equipped in this context to understand and tackle problems riddled with complexity or nuance (Tebes et al., 2014), and perhaps no problem is thornier than the fundamental nature of human consciousness and its myriad of altered-anomalous manifestations (Chalmers, 1995; Goff, 2017; Kleiner, 2020). E&C projects between journals seem virtually non-existent from what we can discern, but such initiatives are popular in other scholarly platforms or campaigns that range from basic knowledge transfer activities across university centers (Franco & Pinho, 2019) to larger joint ventures by institutions and journal editors to set ethical guidelines in research and publishing (Wager et al., 2021).

There also can be cross-pollination of ideas or methods between individual researchers or disciplines, as with SciLogs.com, an English language, cross-network blogging site. And likewise, there are instances of networking between professional associations, as exemplified by the 2022 SSE Symposium "Advanced Energy Concepts Challenging the Second Law of Thermodynamics" (part of the 4th Annual Advanced Propulsion and Energy Workshop hosted by MIT's UnLAB) or past SSE-PA joint conferences that aimed to bridge the latest thinking in parapsychology with that in other areas of frontier science. The joint work that produced this Special Issue represents yet another step that can serve as a working model for new E&C projects.

Exploring Templates for Success

Table 1. Potential E&C Structures for Advancing Frontier Science Topics*

Interorganizational Form	Nexus Degree	Traditional Definition	Example of Modified Approach
Joint Venture	Tight	When two or more firms pool a portion of their resources to create a separate jointly owned organization.	• Cross-disciplinary team science (e.g., Parnia et al., 2022) • Multi-lab studies (e.g., Maier et al., 2020) • Adversarial collaborations (e.g., Kekecs et al., 2023)
Networks	Tight	A hub and wheel configuration with a local firm at the hub organizing the interdependencies of a complex array of firms.	The Scientific and Medical Network (https://scientificandmedical.net/)
Consortia	Tight	Specialized joint ventures encompassing many different arrangements. Often involve grouping of firms oriented towards problem-solving and technology development.	The Sturrock (1998) Workshop on the UFO Problem
Alliances	Loose	An arrangement between two or more firms that establishes an exchange relationship but has no joint ownership involved.	Society for Psychical Research collaboration with Apple TV+'s four-part docuseries on the Enfield Poltergeist case ("https://www.imdb.com/title/tt21377088/)
Trade Associations	Loose	Organizations (typically nonprofit) thar are formed by firms in the same industry to collect and disseminate trade information, offer legal and technical advice, furnish industry-related training, and provide a platform for collective lobbying.	"Breakthrough 2022: New Ideas in Research and Theory" joint conference of the Society for Scientific Exploration-Parapsychological Association (https://shorturl.at/awZ14)
Interlocking Directorates	Loose	When a director or executive of one firm sits on the board of a second firm or when two firms have directors who also serve on the board of a second firm. These serve as a mechanism for interfirm information sharing and cooperation.	Editors-in-Chief for the *JSE* & *Zeitschrift für Anomalistik* have both dually served on the Parapsychological Association's Board of Directors

* Adapted from Barringer and Harrison (2000, p. 383, Table 2)

E&C approaches sound simple in principle but often are difficult in practice. In particular, Castañer and Oliveira (2020, p. 975, Table 2) explained the key differences between three critical tasks that must be intentionally defined and implemented for productive outcomes: (1) *Coordination* refers to the joint determination of inter-organizational goals, (2) *Cooperation* refers to the implementation of those goals, and (3) *Collaboration* refers to helping other partners with the implementation of common goals or the counter-party's private goals. Thus, E&C projects can involve or require three different nexus points or types of mutual engagement.

Fortunately, the literature on Interorganizational Relations Theory (IOR) provides important guidance for E&C planning. IOR focuses on how organizations work together, based on the premise that collaboration among community organizations leads to a more comprehensive coordinated approach to a complex issue than can be achieved by a lone organization (Barringer & Harrison, 2000). This is important, as some research underscores that while people might recognize the important elements that distinguish collaboration from other forms of interaction, this does not guarantee the presence of collective skills, structures, or processes necessary to enable team-based collaborative practice (Newell & Bain, 2020).

"Form follows function" is a helpful heuristic to select the best structure for particular E&C projects. Table 1 shows that six forms of interorganizational relationships are most commonly practiced and discussed in the management literature, i.e., joint ventures, networks, consortia, alliances, trade associations, and interlocking directorates (Barringer & Harrison, 2000). It can also be seen that frontier science has arguably trialed each of these relationships at different times. We would even go further to suggest that these efforts have delivered several good outcomes for the stakeholders and their respective fields. This should not be surprising, as Franco and Pinho (2019) noted that cooperation between teams or organizations is stimulated specifically by the prospects of knowledge transfer, choice of partners, and financial considerations. Interestingly, it also seems that cultural differences between researchers and research centers are regarded as a bonus to cooperation.

E&C Risks and Rewards

Barringer and Harrison (2000, p. 386) noted seven pitfalls to interorganizational relationships that are worth summarizing here. These include (1) Potential loss of proprietary information, (2) Management complexities, (3) Financial risks and opportunist behavior, (4) Partner over-dependence, (5) Partial loss of decision-making autonomy, (6) Organizational culture clash, and (7) Loss of organizational flexibility. Further to this last point, we would emphasize the risk of substantially slower decision-making or implementation of ideas. These issues should not prohibit E&C projects, but respective partners must consider and address them in mutually agreeable ways. Proactive negotiation is always preferable to a reactive intercession. In doing so, the various forms of working partnerships offer many potential advantages.

Specifically, businesses typically pursue interorganizational relationships for ten main reasons: (1) Access particular resources, (2) Gain economies of scale, (3) Risk and cost-sharing, (4) Access new markets or audiences, (5) Promote learning, (6) Foster flexibility, (7) Increase the speed to market or delivery of outcomes, (8) Enhance product or service development, (9) Conduct collective lobbying, and (10) Neutralize or block competitors. The benefits of motivators (1) to (7) are rather obvious, but readers might like further explanations of topics (8) to (10). First, E&C approaches would seem to expedite the development or launch of educational and training resources to meet the needs of researchers, students, lay public, and the media with an interest in frontier science. Second, collective lobbying can pertain to the coordinated efforts of groups to normalize and broaden the study of anomalistics within academia via different forms of sociopolitical positioning or influence.

Lastly, the issue of "competitors" involves addressing counterproductive behaviors related to in-group and out-group dynamics (e.g., Drinkwater et al., 2019; Hill et al., 2019.). Within the study of spirituality, parapsychology, and consciousness studies more broadly, camps can vary in their academic orientations or methodologies. To be sure, many scientists and philosophers are firmly vested in their narrative territories or preferred theories. Outside of frontier science circles, there are likewise factions with entirely different ideologies about the reality of anomalies like psi- or survival-related experiences or cognitions. Some of these groups constitute blatant "debunkers" who merely spew the meta-physics of scientism or pathological skepticism, whereas others favor Karl Popper's (1959) principle of falsification and appropriately suspend or alter judgments in accordance with empirical data.

We contend that E&C efforts are needed on both fronts to advance frontier science. All groups should thus collectively confront the anti-science campaigns of debunkers, but we think it more critical for methodologically and ideologically diverse scientists to advance scientific knowledge with coordinated, solution-focused analyses (McKergow, 2011) that leverage adversarial collaborations or multiteam system approaches (MTS) (Shuffler et

al., 2015) to fairly address controversial issues while controlling for obvious ideological biases or methodological artifacts. Although research collaborations typically trend away from research novelty (Shin et al., 2022), MTSs can be used to accomplish multifaceted tasks in challenging environments, as they comprise interdependent teams that work towards their own proximal goals within and across teams to also accomplish a shared superordinate goal. These can take the form of actual studies or work groups that simply identify, discuss, and scope out relevant issues for future directions in research and analysis (e.g., Houran et al., 2023; for a tangential discussion on cooperative efforts, see Eisenmann et al., 2023).

E&C Applications to Future Research on Darker Spirituality

Although all the ideas discussed above can apply to any topic in anomalistics, the articles in this Special Issue specifically underscore the need for cross–disciplinary and participatory team science approaches when studying and contextualizing the wide range of phenomena that encompasses *spirituality*, i.e., what institutionalized religions often denote as a search for, and communion with, the sacred or the ultimate controlling force or divine power (Oman, 2013) or what could be described in more secular terms as an existence or experience beyond the normal or physical level (Kitson et al., 2020). "Self-transcendence" in both these views essentially involves an ego-dissolution, whereby the "self" is subsumed into an all-encompassing reality (Corneille & Luke, 2021; Dein, 2020; Drinkwater et al., 2022; Gorelik, 2016; Kapuscinski & Masters, 2010; Marshall, 2022; Mayseless & Russo-Netzer, 2017; Yaden et al., 2017).

Much research certainly suggests that the onset or phenomenology of religio-spiritual experiences and practices is regulated, in part, by mechanisms in conventional social science and perhaps the biomedical or physical sciences. But many authorities caution that the role of anomalous cognitions or putative psi cannot be ruled out (Laythe et al., 2021; MacDonald & Friedman, 2012; Rosenbaum, 2012; Tart, 2002). Comprehensive scientific models should likewise help to refine clinical approaches to experiencers in these contexts. Accordingly, cross-disciplinary research *per se* might be insufficient for advancing knowledge in this area without also applying a systems (i.e., biopsychosocial or enactive) theory of spirituality and associated experiences (e.g., Fisher, 2011; Laythe et al., 2021; Maraldi & Krippner, 2013; Pace, 2017; Plante et al., 2023; Seligman & Kirmayer, 2008; Van Leeuwen & van Elk, 2019). This view seeks to explain and develop hypotheses around emergent behavior, that is, when a complex

system has characteristics that its components do not display on their own.

For instance, various components or layers of spirituality-related phenomena (and perhaps all exceptional human experiences more broadly) have been studied in isolation, though they can also interact with each other in important ways. Here, we suggest a 3 × 3 "Systems Phenomenology Matrix" involving *biological × attitudinal × normative* influences that work individually or collectively to shape the *core experiences × attributions × after-effects* that broadly define the structure and experience of religio-spiritual phenomena. Of course, the three components on each axis of the matrix might have common influences, such as *temporal lobe lability* (Persinger, 1983), *attentional bias* (Lange & Houran, 2001), *agency-threat detection* (Van Leeuwen & van Elk, 2019), or *individual differences* (Irvine & Luke, 2022) across a range of perceptual-personality variables like *transliminality* (Evans et al., 2019), *dissociative tendencies* (Ross & Joshi, 1992), or *tolerance of ambiguity* (Houran & Willams, 1998).

A better understanding of the nature, meaning, and impact of darker spirituality should, therefore, derive from coordinated research designs involving research institutes, clinical organizations, and communities of various religio-spiritual practitioners. Below, we touch on these three suggested focus areas for future studies. This not only concerns the development or execution of pre-specified research designs to tackle controversial topics in fair and agreeable ways (Kennedy, 2004), but E&C approaches can also involve planning sessions to identify the most pertinent questions or challenges to address in the first place (Barringer & Harrison, 2000). Here is where decision-making models like Lomborg (2014) can help to effectively rank-stack problems and prioritize the allocation of shared resources.

Focus Area A: Drivers of Darker Religio-Spiritual Beliefs or Practices

Authors have proposed an array of influences for different types of belief. The role of mental health in the context, catalyst, or content of altered-anomalous experiences and spirituality is a prime area (Johnson & Friedman, 2008; Koenig, 2012; O'Reilly, 2004), with adverse life events in childhood or adulthood being especially well-documented correlates of paranormal beliefs and anomalous experiences (Berkowski & MacDonald, 2014; Houran & Laythe, 2022; Irwin, 1992, 1993, 1994; Lawrence et al., 1995; Lönneker & Maercker, 2021; Rabeyron & Loose, 2015). But the way that drivers of beliefs and experiences have been studied, of course, depends on how those beliefs are perceived in the first place. It is no

coincidence that if the perception of a belief is positive, generally, a more positive or benign theory is attached to them. In contrast, the more negative a belief is perceived, the more negative is the working theory applied.

Some psychological models like Attribution Theory (Spilka et al., 1985) or Self Determination Theory (Ryan & Deci, 2000) explain religio-spiritual type beliefs as primarily coming from a good place to impact people's lives in efficacious ways (e.g., Joshi et al., 2008; Lucchetti et al., 2021; Villani et al., 2019). Still, this is not always the case. The "belief in a just world" (Kaplan, 2012), for example, is rather sinister in nature and posits that "people get what they deserve." Perhaps it is unsurprising that adherents of this view often exhibit dark personality traits (Schofield et al., 2022). Many scientists also negatively regard paranormal beliefs, as demonstrated by four popular hypotheses for their endorsement and prevalence, namely: (1) *Social marginality* (i.e., believers tend to be lower socioeconomic class, female, or a particular race: Emmons & Sobal, 1981); (2) *Cognitive deficits* (i.e., believers show poor critical thinking and rely too heavily on intuition: Dean et al., 2022); (3) *Psychodynamic functions* (i.e., believers are potentially mentally ill or have a set of certain (usually negative) personality traits); and (4) the *Worldview model* (i.e., paranormal believers endorse other similar beliefs, such as religious or other esoteric spiritual type beliefs: Zusne & Jones, 1982). Accordingly, researchers' own views about a belief might lead to them formulating a positive or negative theory—as psychologists know well, it is all about perception.

The above theories suggest that the factors that relate to people's belief-formation are cognition and personality, but there is considerable debate about the nature of this relationship (Schofield et al., 2020). Positive types of personality usually correlate with religious beliefs, and negative types with paranormal beliefs, although there are exceptions to these trends, and the overall effect of personality is very small (Schofield et al., 2022). A key trait in this context is schizotypy (Schofield et al., 2020), which is related to magical ideation and represents a latent personality construct or liability to develop schizophrenia (Claridge, 1997; Lenzenweger, 2010). It is also one of the strongest and most consistent predictors of paranormal-type beliefs (Schofield et al., 2020). A schizotypal person might, therefore, be open to more unusual kinds of beliefs. As deviations from societal norms, these tendencies are usually framed in negative terms. But schizotypal personality also positively correlates with creativity, which has led to the notion of the "healthy schizotype" (Mohr & Claridge, 2015), i.e., those with loose mental boundaries who are functional despite, or perhaps even in part because of, their anomalous experiences (cf. Evans et al., 2019; Hunt et al., 2002; McCreery & Claridge, 1995).

Once again, it is all about the perception of the personality traits and associated beliefs that shape the "darkness" of one's perspective. Rather than beliefs or practices inherently being dark, we think that the mindsets of individuals or their dark personality profiles are what sometimes drive their beliefs or practices to be darker in their expressions. This would further color perceptions of their religio-spiritual experiences. Nevertheless, we admit that the links between belief and experience are blurred, and the direction between them is often difficult to understand. However, another explanation is that if these beliefs are perceived as being dark, then this sets the tone, and the hypotheses offered to explain them are also dark in nature.

Focus Area B: Sources of Negative Contents in Religio-Spiritual Experiences

Spiritual experience is part of the human condition (Peterson & Seligman, 2004), but there is a quandary as to why some people have positive experiences and others more negative ones. As we discussed above, the drivers of darker beliefs appear to be personality and the perception of those beliefs. But how does experience fit into this? The problem here seems to be that a certain personality profile linking to an experience might lead to a certain belief to take hold. Therefore, if a person with a dark personality has an experience, they are more likely to interpret it as negative. While this might make sense on the surface, people can clearly have dark beliefs that have not been driven by experiences, whereas people with quite positive beliefs and personalities might have very dark spiritual experiences. So, while negative personality and negative belief obviously contribute, other forces are also present. For example, popular culture could play a role, or grief. Social scientists refer to these contextual variables as "state or trait" effects. For example, popular culture's ubiquity helps to sustain certain attitudes (trait-like effect) compared to a temporary episode like grief (state-like effect). However, this does not entirely explain variations in the content of people's spiritual experiences.

Our simple Systems Phenomenology Matrix idea pinpoints some potential sources or facilitators of darker religio-spiritual experiences, although the direction of causation or strength of influence are hotly debated. Also, do correlates like personality and belief lead to the perception of these experiences as negative? Otherwise, it is the personality and belief that are interacting with popular culture to drive the spiritual experience to be negative. Does the overall collective perception of the belief lead

to the negative experience? Are these experiences good or bad regardless of the experiencer? Or are they natural, and we place a particular meaning on it? More empirical research is obviously needed on the phenomenology of spirituality across all its guises or expressions.

Focus Area C: Struggling with Religio-Spiritual Beliefs, Experiences, or Practices

Although spirituality and religiosity are generally positive predictors of subjective well-being (Villani et al., 2019) and can play an important role in physical health (Koenig et al., 2012), it is also well-known that many people report various "religious/spiritual struggles." These are defined as tensions, strains, or conflicts relative to what people hold sacred (Exline, 2013; Lukoff et al., 1998; Pargament et al., 2005; Pargament & Exline, 2021; Park et al., 2023). However, there are ongoing questions about the nature or factor structure of such struggles. Three general categories are often used to map their contents: (1) *Supernatural struggles* involving perceptions of deities or demonic/evil forces; (2) *Intrapsychic struggles* that reflect strains and tensions about religious/spiritual beliefs, moral issues, or ultimate meaning; and (3) *Interpersonal struggles* that involve conflicts with other people about religious/spiritual issues.

On the other hand, Exline et al.'s (2014) factor analytic study suggested six types of religious/spiritual struggles that are moderately intercorrelated: (1) *Divine* (negative emotion centered on beliefs about God or a perceived relationship with God); (2) *Demonic* (concern that the devil or evil spirits are attacking an individual or causing negative events); (3) *Interpersonal* (concern about negative experiences with religious people or institutions; interpersonal conflict around religious issues); (4) *Moral* (wrestling with attempts to follow moral principles; worry or guilt about perceived offenses by the self); (5) *Doubt* (feeling troubled by doubts or questions about one's beliefs), and (6) *Ultimate meaning* (concern about not perceiving deep meaning in one's life).

But, Exline et al.'s (2014) solution has several conceptual and empirical problems. First, their questionnaire items arguably addressed religion more than spirituality per se, as these two concepts are not strictly synonymous (Paul-Victor, & Treschuk, 2020). Second, the six factors seemingly lack any explicit references to difficulties coping with spontaneous spiritual-mystical experiences that are unwanted or unexpected (Rabeyron, 2022). Third, the six factors have not been validated with Modern Test Theory methods (like Rasch scaling) that overcome the limitations of factor analysis alone (Lange, 2017). More advanced psychometric approaches like these might

eventually affirm Stauner et al. (2016) argument for one all-encompassing "religious/ spiritual struggles" factor.

Clarifying the experience structure of religious/spiritual struggles should assist practitioners in developing effective therapeutic approaches for afflicted individuals. The available clinical literature on coping strategies for exceptional human experiences is multi-faceted and includes helping individuals to (a) temper psychobiological mechanisms that facilitate spontaneous altered-anomalous experiences, (b) strengthen their cognitive skills to parsimoniously contextualize unwanted or undesirable spontaneous experiences, and (c) learn stress management techniques skills to deal with any negative after-effects of spontaneous experiences. We refer interested readers to Laythe et al. (2021) for an overview of key literature in these respects.

Ending on a Lighter and Optimistic Note

Despite a few notable exceptions (e.g., Kelleher & Bigelow, 2022; Mayer, 2021; Wahbeh, 2022), frontier scientists (including spirituality-oriented researchers) often cope with a paucity of resources that seriously hinders the depth or pace of research progress. Fortunately, there is considerable overlap between seemingly disparate fields that can, and should, motivate the exploration of shared goals and even identity. One needs only to ponder the clear conceptual or empirical parallels between, say, *ufology* and *parapsychology* (Ouellet, 2015), *quantum physics* and *bioenergy* (Gonzalez et al., 2019), or *cryptozoology* and *folklore studies* (Dendle, 2006). Likewise, future research on *dark spirituality* might be informed in important ways by studies of psychological concepts that involve a deep sense of cognitive disorientation or existential disruption, such as *situational-enchantment* (Drinkwater et al., 2022), *ominous numinosity* (Cheyne, 2001), *ontological shock* (Mack, 1994), or *finding consonance* (Balch et al., 2023). E&C methods certainly offer important opportunities to harness and amplify resources for facilitating challenge- or charge- discoveries across these and other anomalies. This is a greenfield opportunity that transcends spirituality and transpersonal experience. But all this would likely require participatory team science, education, or training on a larger and sustained level that itself is charting unknown territories.

We are nevertheless encouraged by some successful programs in frontier science that have knowingly or unwittingly leveraged proven interorganizational frameworks. Efforts should now evolve beyond the individual-level linking of researchers or isolated projects among organizations to carefully planned, well-organized, and institutionally backed programs that foster new part-

nerships, academic connections, and research collaborations. According to Hong (2005), these campaigns are the most difficult to organize because they require stakeholders with common interests to have mutual trust, dependable communication, and, most crucially, a determination to carry out projects over long durations. Scientists from different academic fields or ideological camps might likewise need to show more openness, transparency, and intellectual humility (cf. Nosek et al., 2015; Todeva & Knoke, 2005; Wilkins, 2018). Ultimately, we are talking about social savviness and relationship-building (Hardavella et al., 2015). Frontier scientists might thus be well served by exerting greater effort and discipline to focus their collective energies on identifying shared goals, prioritizing the most critical research questions, allocating sparse resources, and then developing practical but effective plans of execution. It is daunting but doable—and certainly not a question of *can* or *should* we...but *will* we.

ACKNOWLEDGEMENTS

REFERENCES

Balch, J., Grafman, J., & McNamara, P. (2023). Finding consonance: An integrative neurocognitive model of human relationships with supernatural agents. *Religion, Brain & Behavior*. Advanced online publication, https://doi.org/10.1080/2153599X.2022.2143398

Barringer, B. R., & Harrison, J. S. (2000). Walking a tightrope: Creating value through interorganizational relationships. *Journal of Management*, *26*, 367–403. https://doi.org/10.1177/014920630002600302

Berkowski, M., & MacDonald, D. A. (2014). Childhood trauma and the development of paranormal beliefs. *Journal of Nervous and Mental Disease*, *202*, 305–312. https://doi.org/10.1097/NMD.0000000000000123

Castañer, X., & Oliveira, N. (2020). Collaboration, coordination, and cooperation among organizations: Establishing the distinctive meanings of these terms through a systematic literature review. *Journal of Management*, *46*, 965–1001. https://doi.org/10.1177/0149206320901565https://doi.org/10.1177/0149206320901565

Chalmers, D. J. (1995). Facing up to the problem of consciousness. *Journal of Consciousness Studies*, *2*, 200–219.

Cheyne, J. A. (2001). The ominous numinous: Sensed presence and 'other' hallucinations. *Journal of Consciousness Studies*, *8*, 133–150.

Claridge, G. (Ed.). (1997). *Schizotypy: Implications for illness and health*. Oxford University Press. https://doi.org/10.1093/med:psych/9780198523536.001.0001

Corneille, J. S., & Luke, D. (2021). Spontaneous spiritual awakenings: Phenomenology, altered states, individual differences, and well-being. *Frontiers in Psychology*, *12*, Article 720579. https://doi.org/10.3389/fpsyg.2021.720579

Dean, C. E., Akhtar, S., Gale, T. M., Irvine, K., Grohmann, D., & Laws, K. R. (2022). Paranormal beliefs and cognitive function: A systematic review and assessment of study quality across four decades of research. *PLoS One*, *17*, Article e0267360. https://doi.org/10.1371/journal.pone.0267360

Dein, S. (2020). Transcendence, religion and social bonding. *Archive for the Psychology of Religion*, *42*, 77–88. https://doi.org/10.1177/0084672420905018

Dendle, P. (2006). Cryptozoology in the medieval and modern worlds. *Folklore*, *117*, 190–206. https://doi.org/10.1080/00155870600707888

Drinkwater, K., Laythe, B., Houran, J., Dagnall, N., O'Keeffe, C., & Hill, S. A. (2019). Exploring gaslighting effects via the VAPUS model for ghost narratives. *Australian Journal of Parapsychology*, *19*, 143–179.

Drinkwater, K., Massullo, B., Dagnall, N., Laythe, B., Boone, J., & Houran, J. (2022). Understanding consumer enchantment via paranormal tourism: Part I - Conceptual review. *Cornell Hospitality Quarterly*, *63*, 195–215. https://doi.org/10.1177/1938965520967920

Eisenmann, C., Englert, K., Schubert,C., & Voss, E. (Eds.) (2023). *Varieties of cooperation: Mutually making the conditions of mutual making*. Springer VS Wiesbaden. https://doi.org/10.1007/978-3-658-39037-2

Emmons, C. F., & Sobal, J. (1981). Paranormal beliefs: Testing the marginality hypothesis. *Sociological Focus*, *14*, 49–56. https://doi.org/10.1080/00380237.1981.10570381

Evans, J., Lange, R., Houran, J., & Lynn, S. J. (2019). Further psychometric exploration of the transliminality construct. *Psychology of Consciousness: Theory, Research, and Practice*, *6*, 417–438. https://doi.org/10.1037/cns0000163

Exline, J. J. (2013). Religious and spiritual struggles. In K. I. Pargament, J. Exline, & J. Jones (Eds.), *APA handbook of psychology, religion, and spirituality: Vol. 1, Context, theory, and research* (pp. 459–476). American Psychological Association.

Exline, J. J., Pargament, K. I., Grubbs, J. B., & Yali, A. M. (2014). The Religious and Spiritual Struggles Scale: Development and initial validation. *Psychology of Religion and Spirituality*, *6*, 208–222. https://doi.

org/10.1037/a0036465

Ferschl, S., Till, M., Abu-Omar, K., Pfeifer, K., & Gelius, P. (2021). Scientific cooperation and the co-production of scientific outcomes for physical activity promotion: Results from a transdisciplinary research consortium. *Frontiers in Public Health*, *9*, Article 604855. https://doi.org/10.3389/fpubh.2021.604855

Fisher, J. (2011). The four domains model: Connecting spirituality, health and well-being. *Religions*, *2*, 17–28. https://doi.org/10.3390/rel2010017

Franco, M., & Pinho, C. (2019). A case study about cooperation between university research centres: Knowledge transfer perspective, *Journal of Innovation & Knowledge*, *4*, 62–69. https://doi.org/10.1016/j.jik.2018.03.003

Goff, P. (2017). *Consciousness and fundamental reality*. Oxford University Press. https://doi.org/10.1093/oso/9780190677015.001.0001

Gonzalez, M. J., Sutherland, E., & Olalde, J. (2019). Quantum functional energy medicine: The next frontier of restorative medicine. *Journal of Restorative Medicine*, *9*, Article 8. https://doi.org/10.14200/jrm.2019.0114

Gorelik, G. (2016). The evolution of transcendence. *Evolutionary Psychological Science*, *2*, 287–307. https://doi.org/10.1007/s40806-016-0059-3

Hardavella, G., Saad, N., & Bjerg, A. (2015). Doing science: Managing colleagues and collaborations in scientific research. *Breathe*, *11*, 77–79. https://doi.org/10.1183/20734735.020814

Hill, S. A., Laythe, B., Dagnall, N., Drinkwater, K., O'Keeffe, C., Ventola, A., & Houran, J. (2019). "Meme-spirited": II. Illustrations of the VAPUS model for ghost narratives. *Australian Journal of Parapsychology*, *19*, 5–43.

Hong, G (2005). Promoting US-China collaborative sponsored research programs. Paper presented at the 3rd Annual Hawaii International Conference on Education, January 4–7, Honolulu, Hawaii.

Houran, J., & Laythe, B. (2022). Case study of recognition patterns in haunted people syndrome. *Frontiers in Psychology*, *13*, Article 879163. https://doi.org/10.3389/fpsyg.2022.879163

Houran, J., Rock, A., Laythe, B., & Tressoldi, P. E. (2023). Dead reckoning: A multiteam system approach to commentaries on the *Drake-S* equation for survival. *International Journal of Transpersonal Studies, 42*, 80–105. https://doi.org/10.24972/ijts.2023.42.1.80

Houran, J. & Williams, C. (1998). Relation of tolerance of ambiguity to global and specific paranormal experience. *Psychological Reports*, *83*, 807–818. https://doi.org/10.2466/pr0.1998.83.3.807

Hunt, H., Dougan, S., Grant, & House, M. (2002). Growth enhancing versus dissociative states of consciousness: A questionnaire study. *Journal of Humanistic Psychology*, *42*, 90–106. https://doi.org/10.1177/0022167802421005

Irvine, A., & Luke, D. (2022). Apophenia, absorption and anxiety: Evidence for individual differences in positive and negative experiences of hallucinogen persisting perceptual disorder. *Journal of Psychedelic Studies*, *6*. 88–103. https://doi.org/10.1556/2054.2022.00195

Irwin, H. J. (1992). Origins and functions of paranormal belief: The role of childhood trauma and interpersonal control. *Journal of the American Society for Psychical Research*, *86*, 199–208.

Irwin, H. J. (1993). Belief in the paranormal: A review of the empirical literature. *Journal of the American Society for Psychical Research*, *87*, 1–39.

Irwin H. J. (1994). Childhood trauma and the origins of paranormal belief: A constructive replication. *Psychological Reports*, *74*, 107–111. https://doi.org/10.2466/pr0.1994.74.1.107m

Johnson C. V., & Friedman, H. L. (2008). Enlightened or delusional?: Differentiating religious, spiritual, and transpersonal experiences from psychopathology. *Journal of Humanistic Psychology*, *48*, 505–527. https://doi.org/10.1177/0022167808314174

Joshi, S., Kumari, S., & Jain, M. (2008). Religious belief and its relation to psychological well-being. *Journal of the Indian Academy of Applied Psychology*, *34*, 345–354.

Kaplan, H. (2012). Belief in a just world, religiosity and victim blaming. *Archive for the Psychology of Religion*, *34*, 397–409. https://doi.org/10.1163/15736121-12341246

Kapuscinski, A. N., & Masters, K. S. (2010). The current status of measures of spirituality: A critical review of scale development. *Psychology of Religion and Spirituality*, *2*, 191–205. https://doi.org/10.1037/a0020498

Kekecs, Z., Palfi, B., Szaszi, B., Szecsi, P., Zrubka, M., *et al.* (2023). Raising the value of research studies in psychological science by increasing the credibility of research reports: The transparent psi project. *Royal Society Open Science*, *10*, Article 191375. https://doi.org/10.1098/rsos.191375

Kelleher, C., & Bigelow, R. (2022). The 2021 Bigelow Institute for Consciousness Studies (BICS) essay contest. *Journal of Scientific Exploration*, *36*, 350–365. https://doi.org/10.31275/20222693

Kennedy, J. E. (2004). A proposal and challenge for proponents and skeptics of psi. *Journal of Parapsychology*, *68*, 57–67.

Kitson, A., Chirico, A., Gaggioli, A., & Riecke, B. E. (2020). A review on research and evaluation methods for investigating self-transcendence. *Frontiers in Psychology*, *11*, Article 547687. https://doi.org/10.3389/

fpsyg.2020.547687

Kleiner, J. (2020). Mathematical models of consciousness. *Entropy*, *22*, Article 609. https://doi.org/10.3390/e22060609

Koenig, H. G. (2012). Religion, spirituality, and health: The research and clinical implications. *ISRN Psychiatry*, *2012*, Article 278730. https://doi.org/10.5402/2012/278730

Koenig H., King D., & Carson V. B. (2012). *Handbook of religion and health*. Oxford University Press.

Kong, L., & Wang, D. (2020). Comparison of citations and attention of cover and non-cover papers. *Journal of Informetrics*, *14*, Article 101095. https://doi.org/10.1016/j.joi.2020.101095

Lange, R. (2017). Rasch scaling and cumulative theory-building in consciousness research. *Psychology of Consciousness: Theory, Research, and Practice, 4*, 135–160. https://doi.org/10.1037/cns0000118

Lawrence, T., Edwards, C., Barraclough, N., Church, S., & Hetherington, F. (1995). Modelling childhood causes of paranormal belief and experience: Childhood trauma and childhood fantasy. *Personality and Individual Differences*, *19*, 209–215. https://doi.org/10.1016/0191-8869(95)00034-4

Laythe, B., Houran, J., Dagnall, N., & Drinkwater, K. (2021). Conceptual and clinical implications of a "haunted people syndrome." *Spirituality in Clinical Practice, 8*, 195–214. https://doi.org/10.1037/scp0000251

Lenzenweger, M. F. (2010). *Schizotypy and schizophrenia: The view from experimental psychopathology*. Guilford

Lomborg, J. (2014). *How to spend $75 billion to make the world a better place*. Copenhagen Consensus Center.

Lönneker, C., & Maercker, A. (2021). The numinous experience in the context of psychopathology and traumatic stress studies. *Culture & Psychology, 27*, 392–416. https://doi.org/10.1177/1354067X20922139

Lucchetti, G., Koenig, H. G., & Lucchetti, A. L. G. (2021). Spirituality, religiousness, and mental health: A review of the current scientific evidence. *World Journal of Clinical Cases*, *9*, 7620–7631. https://doi.org/10.12998/wjcc.v9.i26.7620

Lukoff, D., Lu, F., & Turner, R. (1998). From spiritual emergency to spiritual problem: The transpersonal roots of the new DSM-IV category. *Journal of Humanistic Psychology*, *38*, 21–50. https://doi.org/10.1177/00221678980382003

MacDonald, D. A., & Friedman, H. L. (2012). Transpersonal psychology, parapsychology, and neurobiology: Clarifying their relations. *International Journal of Transpersonal Studies, 31*, 49–60. https://doi.org/10.24972/ijts.2012.31.1.49

Mack, J. E. (1994). *Abduction: Human encounters with aliens.* Ballantine Books.

Maier, M. A., Buechner, V. L., Dechamps, M. C., Pflitsch, M., Kurzrock, W., *et al.* (2020). A preregistered multi-lab replication of Maier et al. (2014, Exp. 4) testing retroactive avoidance. *PLoS One*, *15*, Article e0238373. https://doi.org/10.1371/journal.pone.0238373

Maraldi, E. O., & Krippner, S. (2013). A biopsychosocial approach to creative dissociation: Remarks on a case of mediumistic painting. *NeuroQuantology*, *11*, 544–572. https://doi.org/10.14704/nq.2013.11.4.695

Marshall, P. (2022). Does mystical experience give access to reality? *Religions*, *13*, Article 983. https://doi.org/10.3390/rel13100983

Mayer, G. (2021). Bigelow, BIAL, and the funding of parapsychological research. *Zeitschrift für Anomalistik*, *21*, 354–366. http://dx.doi.org/10.23793/zfa.2021.354

Mayseless, O., & Russo-Netzer, P. (2017). A vision for the farther reaches of spirituality: A phenomenologically based model of spiritual development and growth. *Spirituality in Clinical. Practice. 4*, 176–192. https://doi.org/10.1037/scp0000147

McCreery, C., & Claridge, G. (1995). Out-of-body experiences and personality. *Journal of the Society for Psychical Research*, *60*, 129–148.

McKergow, M. (2011). Solution focused approaches in management. In C. Franklin, T. Trepper, E. McCollum, & W. Gingerich (Eds.), *Solution-focused brief therapy: A handbook of evidence-based practice* (pp. 327–341). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195385724.003.0134

Mohr, C., & Claridge, G. (2015). Schizotypy—Do not worry, it is not all worrisome. *Schizophrenia Bulletin*, *41*, S436–S443. https://doi.org/10.1093/schbul/sbu185

Newell, C. & Bain, A. (2020) Academics' perceptions of collaboration in higher education course design. *Higher Education Research & Development*, *39*, 748–763 https://doi.org/10.1080/07294360.2019.1690431

Nosek, B. A., Alter, G., Banks, G. C., Borsboom, D., Bowman, S. D., *et al.* (2015). Promoting an open research culture. *Science*, *348*, 1422–1425. https://doi.org/10.1126/science.aab2374

Oman, D. (2013). Defining religion and spirituality. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 23–47). Guilford Press.

O'Reilly, M. L. (2004). Spirituality and mental health clients. *Journal of Psychosocial Nursing and Mental Health Services*, *42*, 44–53. https://doi.org/10.3928/02793695-20040701-06

Ouellet. E. (2015). *Illuminations: The UFO experience as a parapsychological event*. Anomalist Books.

Pace, E. (2017). Systems theory and religion. *Civitas - Revista De Ciências Sociais*, *17*, 345–359. https://doi.org/10.15448/1984-7289.2017.2.25281

Pargament, K. I., & Exline, J. A. (2021). *Shaken to the core: Spiritual struggles in research and clinical practice.* Guilford Press.

Pargament, K. I., Murray-Swank, N., Magyar, G., & Ano, G. (2005). Spiritual struggle: A phenomenon of interest to psychology and religion. In W. R. Miller & H. Delaney (Eds.), *Judeo-Christian perspectives on psychology: Human nature, motivation, and change* (pp. 245–268). American Psychological Association. https://doi.org/10.1037/10859-013

Park, C. L., Silverman, E. J., Sacco, S. J., Kim, D., Lewis Hall, M. E., *et al.* (2023). When suffering contradicts belief: Measuring theodical struggling. *Current Psychology.* Advance online publication. https://doi.org/10.1007/s12144-023-04642-w

Parnia, S., Post, S. G., Lee, M. T., Lyubomirsky, S., Aufderheide, T. P., *et al.* (2022). Guidelines and standards for the study of death and recalled experiences of death––A multidisciplinary consensus statement and proposed future directions. *Annals of the New York Academy of Sciences*, *1511*, 5–21. https://doi.org/10.1111/nyas.14740

Paul Victor, C. G., & Treschuk, J. V. (2020). Critical literature review on the definition clarity of the concept of faith, religion, and spirituality. *Journal of Holistic Nursing*, *38*, 107–113. https://doi.org/10.1177/0898010119895368

Persinger, M. A. (1983). Religious and mystical experiences as artifacts of temporal lobe function: A general hypothesis. *Perceptual and Motor Skills*, *57*, 1255–1262. https://doi.org/10.2466/pms.1983.57.3f.1255

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification.* Oxford University Press; American Psychological Association.

Plante, T. G., Schwartz, G. E., Exline, J. J., Park, C. L., Paloutzian, R. F., Seitz, R. J., & Angel, H-F. (2023). Human interaction with the divine, the sacred, and the deceased: Topics that warrant increased attention by psychologists. *Current Psychology*, 42, 31961-31975 https://doi.org/10.1007/s12144-022-04226-0

Popper, K. R. (1959). *The logic of scientific discovery.* University Press. https://doi.org/10.1063/1.3060577

Rabeyron, T. (2022). When the truth is out there: Counseling people who report anomalous experiences. *Frontiers in Psychology*, *12*, Article 693707. https://doi.org/10.3389/fpsyg.2021.693707

Rabeyron, T., & Loose, T. (2015). Anomalous experiences, trauma, and symbolization processes at the frontiers between psychoanalysis and cognitive neuroscience.

es. *Frontiers in Psychology*, *6*, Article 1926. https://doi.org/10.3389/fpsyg.2015.01926

Rosenbaum, R. (2012). Psychoanalysis, psi phenomena, and spiritual space: Common ground. In L. J. Miller (Ed.), *The Oxford handbook of psychology and spirituality* (pp. 271–285). Oxford Library of Psychology. https://doi.org/10.1093/oxfordhb/9780199729920.013.0018

Ross, C. A., & Joshi, S. (1992). Paranormal experiences in the general population. *Journal of Nervous and Mental Disease, 180*, 357–361. https://doi.org/10.1097/00005053-199206000-00004

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78. https://doi.org/10.1037/0003-066X.55.1.68

Schofield, M. B., Baker, I. S., Staples, P., & Sheffield, D. (2020). Modelling supernatural belief: Cognition and personality. *Journal of the Society for Psychical Research*, *84*, 129–156.

Schofield, M. B., Roberts, B. L. H., Harvey, C. A., Baker, I. S., & Crouch, G. (2022). Tales from the dark side: The dark tetrad of personality, supernatural, and scientific belief. *Journal of Humanistic Psychology*, *62*, 298–315. https://doi.org/10.1177/00221678211000621

Seligman, R., & Kirmayer, L. J. (2008). Dissociative experience and cultural neuroscience: Narrative, metaphor and mechanism. *Culture, Medicine and Psychiatry*, *32*, 31–64. https://doi.org/10.1007/s11013-007-9077-8

Shin, H., Kim, K., & Kogler, D. F. (2022). Scientific collaboration, research funding, and novelty in scientific knowledge. *PLoS One*, *17*, Article e0271678. https://doi.org/10.1371/journal.pone.0271678

Shuffler, M. L., Jiménez-Rodríguez, M., & Kramer, W. S. (2015). The science of multiteam systems: A review and future research agenda. *Small Group Research*, *46*, 659–699. https://doi.org/10.1177/1046496415603455

Spilka, B., Shaver, P., & Kirkpatrick, L. A. (1985). A general attribution theory for the psychology of religion. *Journal for the Scientific Study of Religion*, *24*, 1–20. https://doi.org/10.2307/1386272

Stauner, N., Exline, J. J., Grubbs, J. B., Pargament, K. I., Bradley, D. F., & Uzdavines, A. (2016). Bifactor models of religious and spiritual struggles: Distinct from religiousness and distress. *Religions*, *7*, Article 68. https://doi.org/10.3390/rel7060068

Sturrock, P. A. (Dir.) (1998). Physical evidence related to UFO reports: The proceedings of a workshop held at the Pocantico Conference Center, Tarrytown, New York, September 29 - October 4, 1997. *Journal of Scientific Exploration*, *12*, 179–229.

Tart, C. T. (2002). Parapsychology and transpersonal psy-

chology: "Anomalies" to be explained away or spirit to manifest? *Journal of Parapsychology*, *66*, 31–47.

Tebes, J. K., Thai, N. D., & Matlin, S. L. (2014). Twenty-first century science as a relational process: From eureka! to team science and a place for community psychology. *American Journal of Community Psychology*, *53*, 475–490. https://doi.org/10.1007/s10464-014-9625-7

Todeva, E., & Knoke, D. (2005). Strategic alliances and models of collaboration. *Management Decision*, *43*, 123–148. https://doi.org/10.1108/00251740510572533

Van Leeuwen, N., & van Elk, M. (2019). Seeking the supernatural: The interactive religious experience model. *Religion, Brain and Behavior*, *9*, 221–275. https://doi.org/10.1080/2153599X.2018.1453529

Villani, D., Sorgente, A., Iannello, P., & Antonietti, A. (2019). The role of spirituality and religiosity in subjective well-being of individuals with different religious status. *Frontiers in Psychology*, *10*, Article 1525. https://doi.org/10.3389/fpsyg.2019.01525

Wager, E., & Kleinert, S. & on behalf of the CLUE Working Group (2021). Cooperation & Liaison between Universities & Editors (CLUE): Recommendations on best practice. *Research Integrity and Peer Review*, *6*, Article 6. https://doi.org/10.1186/s41073-021-00109-3

Wahbeh, H. (2022). Expanding parapsychology research: Learnings from a beneficent funder. *Journal of Scientific Exploration*, *36*, 305–310. https://doi.org/10.31275/20221977

Wilkins, C. H. (2018). Effective engagement requires trust and being trustworthy. *Medical Care*, *56*, S6–S8. https://doi.org/10.1097/MLR.0000000000000953

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

Zusne, L., & Jones, W. H. (1982). *Anomalistic psychology: A study of extraordinary phenomena of behavior and experience*. Erlbaum Associates.