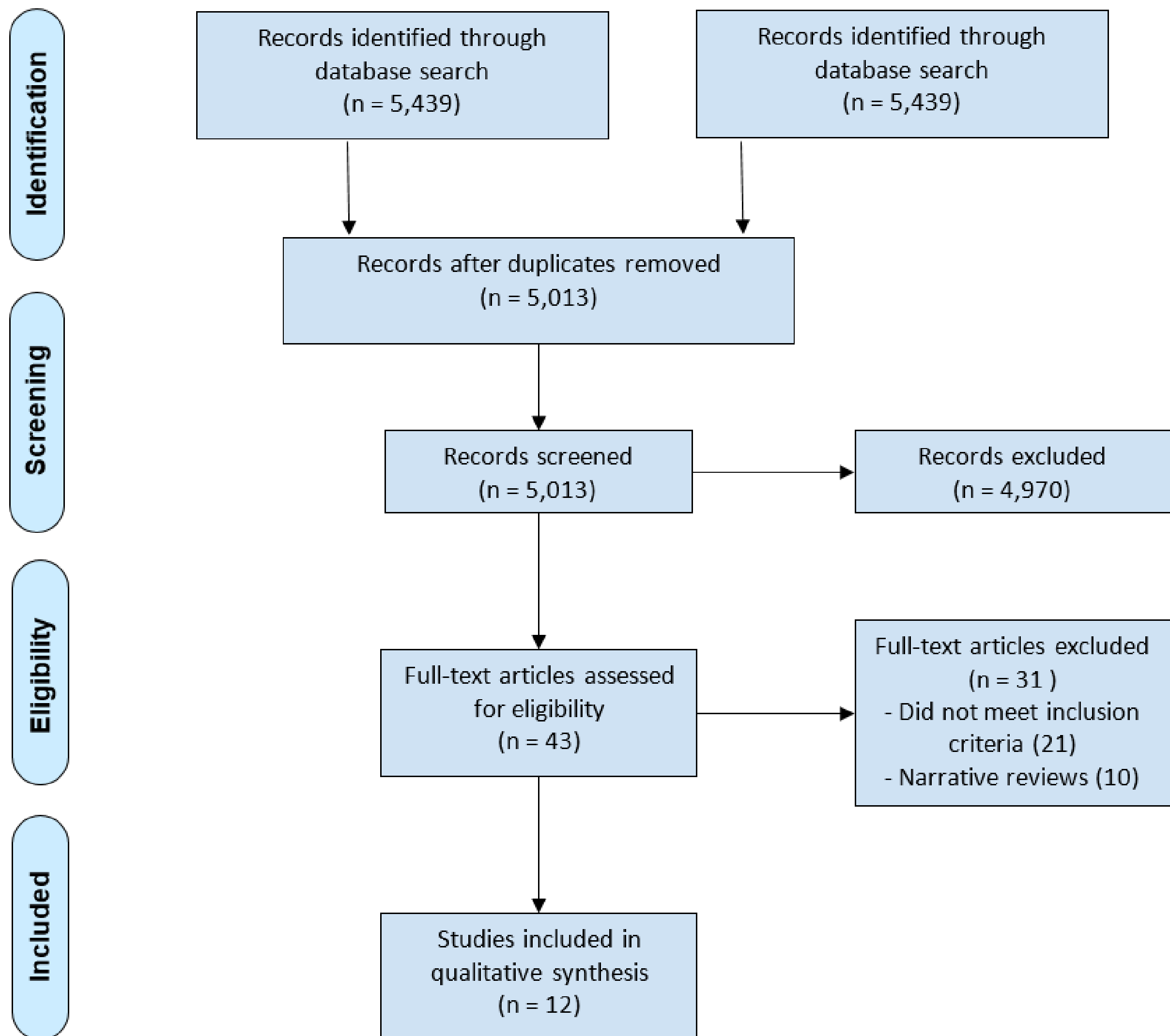
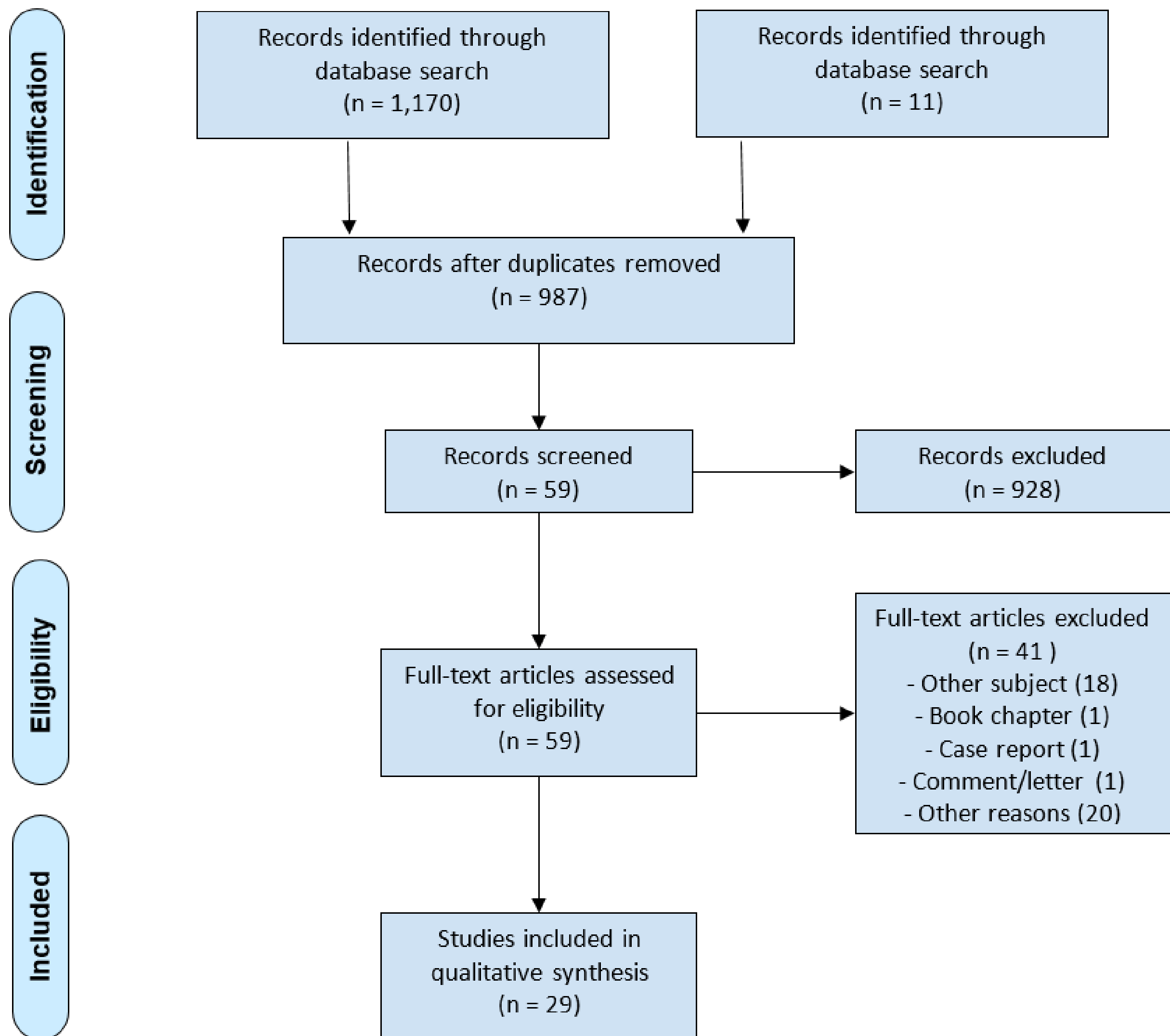
http://doi.org/10.47626/1516-4446-2023-3056

Figure S1 PRISMA flowchart for question 1 (How to take a religious or spiritual history?)



http://doi.org/10.47626/1516-4446-2023-3056

Figure S2 PRISMA flowchart for question 2 (differential diagnosis between psychiatric disorders and religious/spiritual experiences).



http://doi.org/10.47626/1516-4446-2023-3056

Table S1 ROBIS tool for assessing risk of bias for systematic reviews

Author	1. Concerns about eligibility criteria?	2. Concerns about methods of identifying and selecting studies?	3. Concerns about methods of collecting data and appraise studies?	4. Concerns about synthesis of the findings?	A. Did the interpretation of the findings address all of the concerns identified in domains 1-4?	B. Was the relevance of identified studies to the review's research question appropriately considered?	C. Did the reviewers avoid emphasizing the results on the basis of their statistical significance?	Risk of bias in the review
Paal et al.[36]	PY[1]	N	N	N	Y	Y	Y	Unclear
Lucchetti et al.[35]	N	N	N	N	Y	Y	Y	Low
Best et al.[33]	N	N	N	N	Y	Y	Y	Low
Best et al.[A]	N	N	N	N	Y	Y	Y	Low
Best et al.[B]	PN[2]	N	N	N	Y	Y	Y	Low

N = no; NI = no information; PN = probably no; PY = probably yes; Y = yes.
Risk of Bias: low, high, unclear.
1. Concerns: inclusion of individual non-controlled studies with potentially biased populations. Limitations addressed in the review.
2. Concerns: synthesis of a broad number of subjective concepts and measures related to suffering and spirituality. Limitations addressed in the review.
References followed by superscript numbers refer to the reference list in the main manuscript. References followed by superscript letters are supplementary and are fully listed below:
A. Best M, Butow P, Olver I. Do patients want doctors to talk about spirituality? A systematic literature review. Patient Educ Couns. 2015;98:1320-8.
B. Best M, Aldridge L, Butow P, Olver I, Price M, Webster F. Assessment of spiritual suffering in the cancer context: A systematic literature review. Palliat Support Care. 2015;13:1335-61.

Reference

Whiting P, Savović J, Higgins JPT, Caldwell DM, Reeves BC, Shea B, et al. ROBIS: A new tool to assess risk of bias in systematic reviews was developed. J Clin Epidemiol. 2016;69:225-34.

http://doi.org/10.47626/1516-4446-2023-3056

Table S2 Revised Cochrane risk-of-bias tool for randomized trials (RoB 2)

Author	Risk of bias arising from the randomization process	Risk of bias due to deviations from the intended interventions	Risk of bias due to missing outcome data	Risk of bias in outcome measurement	Risk of bias in selection of the reported result	Overall risk of bias
Huguelet et al.[29]	Low	Low	Low	Low	Low	Low
Best et al.[34]	Low	Some concerns†	Low	Low	Low	Some concerns
Vermandere et al.[31]	Low	Some concerns§	Low	Low	Low	Some concerns
Osório et al.[37]	Low	Low	Some concerns‖	Low	Low	Some concerns
Kristeller et al.[27]	Some concerns‡	Low	Low	Low	Low	Some concerns

Low risk, some concerns, high risk of bias.
† Participants and professionals aware of the intervention.
‡ Randomization method using alternate assignment.
§ Participants, caregivers, or those who applied the interventions were aware of group allocation during the trial.
‖ Outcome data were not available for all, or nearly all, randomized participants (around 40% of drop-outs in both groups).

Reference

Sterne JAC, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I, et al. RoB 2: a revised tool for assessing risk of bias in randomized trials. BMJ. 2019;366:l4898.

Table S3 Revised Cochrane risk-of-bias tool for non-controlled trials (ROBIS-E)

Author	Risk of bias due to confounding	Risk of bias arising from measurement of the exposure	Risk of bias in participant selection	Risk of bias due to post-exposure interventions	Risk of bias due to missing data	Risk of bias arising from outcome measurement	Risk of bias in selecting the reported results	Overall risk of bias
King et al.[38]	Some concerns	Low risk	Low risk	Some concerns	Some concerns	Low risk	Low risk	Some concerns
Williams et al.[28]	Low risk	Low risk	Low risk	Low risk	Some concerns†	Low risk	Low risk	Some concerns

Low risk, some concerns, high risk of bias, very high risk of bias.
† Missing data on follow-up analysis.

Reference

ROBINS-E Development Group (Higgins J, Morgan R, Rooney A, Taylor K, Thayer K, Silva R, Lemeris C, Akl A, Arroyave W, Bateson T, Berkman N, Demers P, Forastiere F, Glenn B, Hróbjartsson A, Kirrane E, LaKind J, Luben T, Lunn R, McAleenan A, McGuinness L, Meerpohl J, Mehta S, Nachman R, Obbagy J, O'Connor A, Radke E, Savović J, Schubauer-Berigan M, Schwingl P, Schunemann H, Shea B, Steenland K, Stewart T, Straif K, Tilling K, Verbeek V, Vermeulen R, Viswanathan M, Zahm S, Sterne J). Risk Of Bias In Non-randomized Studies - of Exposure (ROBINS-E). Launch version, 1 June 2022. Available from: https://www.riskofbias.info/welcome/robins-e-tool.

http://doi.org/10.47626/1516-4446-2023-3056

Table S4 Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross Sectional Studies

Author	Were the inclusion criteria clearly defined?	Were the subjects and the setting described in detail?	Was the exposure measured in a valid and reliable way?	Were objective, standard criteria used to measure the condition?	Were confounding factors identified?	Were strategies for dealing with confounding factors stated?	Were the outcomes measured in a valid and reliable way?	Was appropriate statistical analysis used?	Overall appraisal‡
Gabbard et al.[55]	Yes	Yes	Yes	Yes	Yes	Unclear[1]	Yes	Yes	Include
Peters et al.[40]	Yes	Yes	Yes	Yes	Yes	Unclear[1]	Yes	Yes	Include
Brett et al.[48]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Preti et al.[51]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Moreira-Almeida et al.[45]	Yes	Yes	Yes	Yes	Yes	Unclear[§]	Yes	Yes	Include
Preti et al.[52]	Yes	Yes	Yes	Yes	Yes	Unclear[§]	Yes	Yes	Include
Cella, 2012[C]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Brett et al.[49]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Bronn & McIlwain[42]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Humpston et al.[44]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Peters et al.[41]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Peters et al.[D]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Alminhana et al.[62]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Unterrassner et al.[46]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Mainieri et al.[65]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
Vencio et al.[47]	Yes	Yes	Yes	Yes	Yes	Unclear[§]	Yes	Yes	Include
Escolà-Gascón et al.[43]	Yes	Yes	Yes	Yes	Yes	Unclear[§]	Yes	Yes	Include

Cicero et al.[50]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

† Yes, no, unclear, not applicable
‡ Include, Exclude, Seek further information
§ Analysis based on univariate Pearson correlations and ANOVA to compare subgroups.
References followed by superscript numbers refer to the reference list in the main manuscript. References followed by superscript letters are supplementary and are fully listed below:

C. Cella M, Vellante M, Preti A. How psychotic-like are paranormal beliefs? J Behav Ther Exp Psychiatry. 2012;43:897-900.
D. Peters E, Ward T, Jackson M, Woodruff P, Morgan C, McGuire P, et al. Clinical relevance of appraisals of persistent psychotic experiences in people with and without a need for care: an experimental study. Lancet Psychiatry. 2017;4:927-936.

Reference

Moola S, Munn Z, Tufanaru C, Aromataris E, Sears K, Sfetcu R, et al. Chapter 7: Systematic reviews of etiology and risk . In: Aromataris E, Munn Z, editors. Joanna Briggs Institute Reviewer's Manual. The Joanna Briggs Institute; 2017. https://reviewersmanual.joannabriggs.org/

Table S5 Studies evaluating how to assess religiosity/spirituality in clinical practice

Reference	Study design	Objective	Number of participants or studies Included	Summary	Level of Evidence
Paal et al.[36]	Systematic review	To assess the outcomes of spiritual care training	46 studies	Spiritual care training was provided in multiprofessional (19%), nursing (46%), pastoral care (13%), and medical professional and student (22%) settings. Most studies originated in North America (57%) or Europe (30%). No studies were from South America. The outcomes included increased pastoral care calls, spiritual distress reports, and routine use of spiritual screening tools. One study reported an improved working atmosphere among health professionals. The outcomes included acknowledging spirituality on an individual level, and improvements in incorporating spirituality in communication with patients. Personal values and spiritual distress were identified as the most common perceived barriers to integrating spirituality in daily work.	2
Lucchetti et al.[35]	Systematic review	To compare the most common instruments for taking a SH in a clinical care	25 studies	The systematic review provided a comprehensive evaluation of 25 instruments for taking a SH, including questions about the influence of spirituality on a person’s life (80%), religious coping (68%), and options for discussing religious issues with patients (68%). A general score was calculated according to instrument’s attributes, content, and scientific quality. The instruments with the highest scores were FICA, SPIRITual History, FAITH, HOPE, and the Royal College of Psychiatrists instrument.	1
Best et al.[E]	Systematic review	To identify valid instruments for evaluating spiritual suffering among people diagnosed with cancer	90 studies	The review included studies published between 1992 and 2012 with a total of 58 different measures that included spirituality according to the following domains: suffering, hopelessness, demoralization, hope, meaning, spiritual well-being, and quality of life as a spiritual/ existential dimension.	2
Best, 2016[33]	Systematic review	To determine how often R/S issues are discussed among doctors and patients in consultations, in addition to perceived facilitators and barriers to R/S assessment in clinical practice	61 studies	R/S is seldom discussed by physicians, although the frequency increases with terminal illness. Many physicians refer patients to chaplains rather than discussing R/S with patients themselves. Such discussions are facilitated by prior training and increased physician R/S. Insufficient time and training were the most frequently reported barriers	2

Best et al.[F]	Systematic review	To determine the patient's perspective on the doctor's role in discussing spirituality	54 studies, comprising 12,327 patients	In the majority of studies patients thought it was appropriate for the doctor to enquire about spiritual needs (median 70.5%). Interest in discussing R/S was not limited to those with strong personal beliefs. For instance, in one study 45% of individuals who denied having strong R/S beliefs agreed or strongly agreed that physicians should ask them about R/S if they become gravely ill. Overall, the literature suggests that SH-taking was rare (median 15.1%), with responses ranging from never to 80%. The highest frequency of enquiries occurred around major life events: birth (13%), death (19%), major surgery (10%), major illness (8%), and terminal illness (6%).	2
Osório et al.[37]	Randomized controlled trial	To evaluate the efficacy of an educational intervention to foster R/S competences among health care students	49 students	Students in the intervention group had higher knowledge scores, felt more comfortable and prepared to talk about religious/spiritual beliefs with patients, more readily recognized importance of hospital chaplains, more frequently held the opinion that addressing spirituality is important, and demonstrated more ability in taking a patient's spiritual history than the control group.	2
King et al.[38]	Non-controlled intervention	To evaluate the impact of a SH-taking curriculum on the skills, knowledge, and attitudes of 1st year medical students	146 students	On the final videotaped spiritual interview, 65% of the students could recognize the patient's spiritual concern according to trained faculty observers; according to the attitude survey, there was an increased desire to accommodate patient beliefs, although the magnitude was generally quite small.	3
Huguelet et al.[29]	Randomized controlled trial	To evaluate the acceptance of a spiritual assessment by patients with schizophrenia, in addition to treatment compliance and care satisfaction	78 patients	Spiritual assessment was well accepted by patients and, during clinical supervision, psychiatrists reported potential clinical uses for the information in 67% of patients; there were no differences in medication adherence or care satisfaction between groups in 3 months of follow-up, although the intervention group was significantly more likely to attend consultations during the follow-up period. Their interest in discussing R/S with their psychiatrists has remained high, although the process has not been well accepted by psychiatrists.	2
Kristeller et al.[27]	Nonrandomized trial	To evaluate a brief (5-7 minute) semi-structured SH method and its impact on care satisfaction and quality of life in cancer patients	118 patients	Oncologists considered themselves comfortable during the inquiry with 85% of their patients; 76% of patients felt the inquiry was "somewhat" to "very" useful. At 3 weeks, the intervention group had fewer depressive symptoms, better quality of life, and a better sense of interpersonal caring from their physician than control patients.	3
Best et al.[34]	Randomized controlled trial	To evaluate the impact of using question prompt lists prior to consultations when discussing spirituality with patients with advanced cancer	174 patients	Spirituality was discussed in half of the consultations; there was no significant increase in discussion when the patient received a question-prompt list prior to the appointment. The subject of R/S was usually raised by the doctor, and the most commonly discussed aspect was peace and coming to terms with mortality. Discussion of spirituality was significantly more likely in patients seeing the physician for the first time and in those who did not live alone.	2
Vermandere et	Randomized	To investigate the effect of a	245 health-care	No significant difference at any time point in spiritual well-being, quality of life, pain,	2

al.[31]	controlled trial	structured SH on the spiritual well-being of palliative patients in home care	providers	or patient–provider trust scores between the intervention and control groups.	
Williams et al.[28]	Cohort study	To determine the prevalence and predictors of inpatient desire to discuss R/S issues with health care professionals, as well as care satisfaction	3,141 inpatients	The study suggests that many more inpatients desire R/S conversations than actually experience them. Individuals who discussed their R/S concerns as inpatients reported higher levels of care satisfaction, even when they did not actively seek discussion of their R/S concerns.	3

R/S = religiosity/spirituality; SH = spiritual history.
References followed by superscript numbers refer to the reference list in the main manuscript. References followed by superscript letters are supplementary and are fully listed below:

E. Best M, Aldridge L, Butow P, Olver I, Price M, Webster F. Assessment of spiritual suffering in the cancer context: A systematic literature review. Palliat Support Care. 2015;13:1335-61.
F. Best M, Butow P, Olver I. Do patients want doctors to talk about spirituality? A systematic literature review. Patient Educ Couns. 2015;98:1320-8.

Table S6 Studies evaluating differential diagnosis between psychiatric disorders and religious/spiritual experiences

Author	Study design	Objective	Participants	Main findings	Level of evidence
Gabbard et al.[55]	Cross-Sectional	Differentiating OBEs from depersonalization, autoscopic phenomena, and schizophrenic body distortions.	420 (nationwide U.S. community sample)	Educational level, religious affiliation, practice of meditation, drug use patterns, psychological measures of psychoticism, and hysteroid propensity did not differ between individuals who reported OBE and healthy controls. The OBE group was significantly healthier than a group of psychiatric patients.	2
Cardeña et al.[G]	Narrative Review	Discussing a proposed new diagnostic category "Trance and Possession Disorder" for the DSM-IV.	NA	A detailed discussion about the historical and clinical background of differential diagnosis between dissociative disorders and cultural issues. The proposed diagnostic category “Trance and Possession Disorder” represents a unique contribution to the study of human consciousness and personal identity, providing a clearer perspective on dissociative disorders across different cultures.	5
Prins et al.[59]	Narrative Review	Reviewing possession in historical, cultural, and clinical contexts and considering differential diagnosis and management.	NA	In many cultures, even highly diverse or anomalous behavior would not be considered as mental illness. A number of possession-like states are associated with some 'culture-bound' syndromes. It is suggested that a multi-disciplinary approach is required to evaluate such conditions.	5
Jackson & Fulford[39]	Case Series	Reporting three cases in which anomalous experiences occurred in a spiritual context rather than a mental illness context	3	Discussion of three detailed case histories and their implications to differential diagnosis between pathological and non-pathological spiritual experiences. The authors argue that these experiences cannot be distinguished based on their form and content alone as in traditional psychopathology.	4
Peters et al. [40]	Cross-Sectional	Exploring anomalous experiences and delusional ideation among religious individuals, new religious movements, and controls.	142 (community and clinical samples from the UK)	Individuals from new religious movements scored higher on delusional measures and could not be differentiated from psychotic individuals based the number of delusional ideas. However, they were significantly less distressed or preoccupied.	2

Marzanski & Bratton[53]	Case Series	Claiming that values and actions are not good discriminators between religious experience and psychopathology using three cases.	3 (Americans from the Christian tradition)	The authors criticize the Jackson & Fulford (1997) model of differentiating between spiritual experiences and psychotic symptoms based on the patient's personal values. The proposed approach argues that spirituality cannot be understood based on personal experience alone, without reference to the subject's personal history and spiritual tradition. That perspective would allow consideration of religious experiences in those who have suffered ego disablement related to mental illness.	4
Brett et al.[H]	Narrative Review	Discussing the importance of examining the fundamental conceptual organization of psychotic and mystical mental states for differential diagnosis.	NA	Mystical experiences and psychosis usually involve similar disintegration and altered perceptions. Oriental philosophical systems, for instance, such as Tibetan and Zen Buddhism, and Tantric Hinduism, provide conceptualizations of mystical states of mind, from which a model can be drawn. Mystical and psychotic experiences can be distinguished not only by emotional and behavioral consequences, but also by cultural contexts that provide meaning to them.	5
Brett et al.[48]	Cross-Sectional	Developing and validating a semi-structured interview to assess anomalous experiences.	91 (community and clinical samples from the UK)	Development and validation of a semi-structured interview assessing anomalous experiences. The undiagnosed group showed significantly different characteristics than individuals diagnosed with psychosis or an at-risk mental state. Overall, undiagnosed group's appraisal of the experiences was more positive, with less distress and higher perceived control.	2
Preti et al.[51]	Cross-Sectional	Assessing multidimensionality of delusion-like or hallucinatory experiences in the general population.	250 (community-dwelling individuals from Italy)	In a non-clinical group of individuals, delusion-like beliefs were endorsed by 25-30%, with a clear pathological connotation in 10-15%. Hallucination-like experiences were reported by 5-10% of the participants, with 0.4-0.8% having a pathological connotation.	2
Koenig et al.[I]	Narrative Review	Examining religious beliefs and activities among nonpsychotic persons in different countries, discussing contributing factors to differentiation between religion and mental disorders and between pathological and non-pathological religious involvement, and R/S interventions that may assist treatment.	NA	Review on the prevalence of religious beliefs and practices among psychotic individuals in the U.S., Brazil, and other areas of the world, examining the effects of religious involvement on the course of the disease, psychotic exacerbation, and hospitalization. While around one-third of psychoses involve religious delusions, not all religious experiences are psychotic. Many individuals with severe mental illness often use non-pathological religious beliefs to cope with their disorder, which may have positive effects on the course of illness and should be supported by clinicians.	5

Lukoff et al.[56]	Narrative Review	Discussing visionary spiritual experiences and differentiating them from psychotic symptoms and disorders.	NA	A comprehensive perspective on several diagnostic categories proposed for psychotic-like episodes which may have positive outcomes: problem-solving schizophrenia, positive disintegration, creative illness, spiritual emergencies, mystical experiences with psychotic features, metanoiac voyages, and visionary states. Considering the phenomenological overlap between anomalous experiences and psychopathology, potential criteria for differentiating these experiences from psychosis (hallucinations, delusions, psychotic disorders) are discussed using a clinical and cross-cultural approach.	5
Moreira-Almeida et al.[45]	Cross-Sectional	Assessing the similarities and differences between mediums and dissociative identity disorder patients.	115 (Brazilian community-dwelling mediums)	Brazilian Spiritist mediums reported a high frequency of Schneider “first-rank symptoms”. Compared to Americans with dissociative disorders, they had better social adjustment, a lower prevalence of mental disorders, and a different clinical profile, including less childhood trauma or and a lower likelihood of being diagnosed with borderline personality disorder.	2
Johnson & Friedman[69]	Narrative Review	Discussing the DSM diagnostic category "Religious and Spiritual Problems"	NA	Many studies suggest that mental health diagnoses are influenced by the clinician’s values, culture, and background. The review discusses a new DSM category to distinguish four types of problems related to R/S: (a) purely R/S problems, (b) mental disorders with R/S content, (c) R/S problems concurrent with a mental disorder, and (d) R/S problems not attributable to a mental disorder. When differentiating between psychotic disorders, the content of R/S language alone is rarely enough for a differential diagnosis. Clinicians should be aware of individual R/S experiences, other symptoms and functioning, and understand if some of those experiences are shared by a R/S community. Different models or criteria for differentiating religious experiences and psychopathology are discussed.	5
Menezes Júnior & Moreira-Almeida[60]	Narrative Review	Discussing spiritual and religious problems and psychosis based on the DSM-IV.	NA	Authors discuss perspectives about the “religious or spiritual problems” category for the DSM-IV considering the considerable prevalence of religious content in psychotic patients. Different criteria for a differential diagnosis between healthy spiritual experiences and mental disorders involving religious content are discussed, including: a lack of psychological suffering, a lack of social and occupational impediments, short and occasional experiences, a critical attitude, compatibility with some religious tradition, a lack of psychiatric comorbidities, control over the experience, perceived meaning or purpose from the experience, and concern with helping others.	5

Preti et al.[52]	Cross-Sectional	Determining whether subjective certainty or uncertainty of unusual subjective experiences can impact wellbeing.	504 (undergraduates from Italy)	Unusual subjective experiences rated according to certainty were associated with poor health and emotional processing and increased distress.	2
Cella et al.[J]	Cross-Sectional	Investigating the association between anomalous experiences, paranormal beliefs, and psychological distress.	503 (undergraduates from Italy)	Paranormal beliefs and psychotic-like experiences are phenotypically similar and can also in the general population. The study showed that the frequency and intensity of psychotic-like experiences was higher among believers than non-believers in the paranormal, although psychological distress levels were comparable. Regression findings confirmed that paranormal beliefs were predicted by delusion- and hallucination-proneness but not psychological distress.	2
Brett et al.[49]	Cross-Sectional	Identifying factors that predict distress across three groups with anomalous experiences (diagnosed, at risk, and undiagnosed).	91 (community and clinical samples from the UK)	Spiritual appraisal, greater perceived social support, higher perceived control, and neutral responses were predictors of lower distress among individuals who had anomalous experiences.	2
Johns et al.[58]	Narrative Review	Reviewing research on nonclinical individuals with auditory verbal hallucinations and discussing the clinical relevance of these experiences in the risk of developing mental illness.	NA	Similar phenomenology was found in individuals with auditory verbal hallucinations with or without need for care, but these groups presented differences in emotional valence, appraisal, and behavioral response to the hallucinations. Negative emotional states, specific cognitive difficulties and poor coping, in addition to a family history of psychosis and environmental childhood adversity, are potential predictors of mental disorder diagnosis.	5
Bronn & McIlwain[42]	Cross-Sectional	Assessing the reliability and validity of the Spiritual Emergency Scale, comparing spiritual individuals with a community sample.	212 (online spiritual forum and undergraduate psychology students from Australia)	The Spiritual Emergency Scale assesses anomalous experiences in the following domains: Shamanic crisis, psychic opening, peak experiences, psychological renewal, Kundalini awakening, past life experiences, and dark night of the soul. The instrument's constructs had a divergent relationship with psychosis, alogia, depression, anxiety and distress.	2
Humpston et al.[44]	Cross-Sectional	Investigating which types of dissociation were more strongly associated with psychosis-like experiences.	215 participants (healthy community-dwelling individuals from the UK)	Detachment and absorption dissociation were significantly associated with psychotic-like experiences in a non-clinical sample. Compartmentalization had a reduced predictive effect for psychotic-like experiences.	2

Peters et al.[41]	Cross-Sectional	Comparing individuals with persistent psychotic experiences but no need for care with patients with psychotic disorders and controls.	259 (community and clinical samples from the UK)	The non-clinical group experienced hallucinations and first-rank symptoms and had an earlier age of onset than in clinical group. Somatic/tactile hallucinations were more frequent than in the clinical group. Participants in the non-clinical group were less paranoid and deluded, having fewer cognitive difficulties and negative symptoms and better psychosocial functioning. They were similar to the controls in psychological characteristics including emotional problems, self-esteem, and schemas about the self, presenting high life satisfaction, well-being, and mindfulness. According to the authors, lower levels of social and environmental adversity, intact IQ, spirituality, and psychological and emotional well-being may reduce the likelihood of persistent psychotic experiences that lead to pathological outcomes.	2
Peters et al.[K]	Cross-Sectional	Assessing the role of interpretation and meaning attributed to experiences by comparing individuals with persistent psychotic experiences (clinical group), individuals with psychotic experiences but no need for care (non-clinical group) and controls. The three groups were compared regarding their appraisals of an experimentally induced anomalous experience.	271 (community and clinical sample from the UK)	The clinical group was significantly more likely to make appraisals of “other people” and less likely to make “normalizing” or “supernatural” appraisals of their psychotic experiences. They were more likely to make biological appraisals of their experiences and to rate their psychotic experiences as more negative, more dangerous, more abnormal, and less controllable. Participants in the clinical group also rated the tasks as more striking, distressing, and globally threatening than the other two groups	2
St. Arnaud & Cormier[57]	Narrative Review	Comparing the classic medical model with a developmental approach, finding that the developmental model offers greater resources for distinguishing spiritual emergencies from psychotic symptoms.	NA	Diagnosing R/S problems is challenging due to the symptomatic similarities between some spiritual experiences and psychotic disorders. Disorders involve a complex interaction of biology and adaptation to the environment, and there are multiple routes toward psychopathology or wellbeing. Psychotic symptomatology and spiritual experiences might be phenomenologically similar, but they are in fact distinct when assessing the individual’s pre-episodic functioning and developmental trajectory. Psychopathology is generally the product of repeated disturbances to healthy developmental processes. Spiritual emergencies often occur in normal or otherwise healthy individuals. Understanding the sociocultural background and the contextual aspects of the individual’s functioning and experience is essential.	5

Alminhana et al.[62,63]	Cross-Sectional	Determining whether personality traits can help differentiate healthy from unhealthy schizotypal individuals.	115	Personality features (Temperament and Character Inventory) are important characteristics in differential mental health diagnosis in individuals with high levels of anomalous experiences. Self-directedness was identified as a protective factor, while harm avoidance and novelty seeking were predictors of negative outcomes.	2
Unterrassner et al.[46]	Cross-Sectional	Assessing specific associations with psychotic-like experiences in healthy individuals to better understand the subclinical interplay between specific psychotic-like experiences and other symptoms.	206 (non-clinical sample from Switzerland)	The Revised Exceptional Experiences Questionnaire was validated in a sample of healthy adults. Three types of exceptional experiences were identified in factor analysis: odd beliefs, dissociative anomalous perceptions, and hallucinatory anomalous perceptions. The results suggest that even in healthy individuals some of these experiences were indicative of reduced functioning, as reflected in increased psychological burden and lower educational achievement.	2
Mainieri et al.[65]	Cross-Sectional	Functional imaging study comparing mentally healthy mediums to matched controls.	16 individuals (Germany)	The results indicate higher activation during a mediumistic-trance state in the lateral occipital cortex, posterior cingulate cortex, temporal pole, middle temporal gyrus, and orbitofrontal cortex, and increased functional connectivity within auditory and sensorimotor resting state networks. Comparing spiritual mediums and controls, no resting state differences were found. The preserved prefrontal cortex and connectivity of the default-mode network indicate maintained introspective control over non-pathological psychotic-like experiences.	2
Vencio et al.[47]	Cross-Sectional	Assessing the mental health of mediums compared to a control group from the same religious background using the Dissociative Disorders Interview Schedule.	69 (community-dwelling Brazilians)	Dissociative Disorders Interview Schedule scores were similar among mediums and controls and were distinct from expected scores in individuals diagnosed with a dissociative disorder. The results showed that mediumship might be considered a non-clinical or pathological dissociative phenomenon.	2
Escolà-Gascón et al.[43]	Cross-Sectional	Validating the Multivariable Multiaxial Suggestibility Inventory-2 instrument to assess psychological explanations for anomalous experiences.	254 (students from Barcelona)	Believers reported higher anomalous perceptions than those of other belief systems, and interpreted them as related to the paranormal. Interestingly, the agnostic group presented similar anomalous perception scores to the believer group. Agnostic doubt about paranormal beliefs might influence the prevalence of anomalous experiences.	2

Cicero et al.[50]	Cross-Sectional	Assessing a model for schizotypal personality that considers cognitive-perceptual, interpersonal, disorganized, and paranoid factors, and anomalous self-experiences.	744 (undergraduates from the USA)	The participants completed multiple measures of anomalous self-experiences and schizotypal personality. The best fitting model identified five factors: anomalous self-experiences, cognitive-perceptual factors, interpersonal factors, disorganized factors, and paranoid factors. The results suggest that anomalous experiences are distinct from other facets of schizotypal personality.	2

OBE = out-of-body experiences.

References followed by superscript numbers refer to the reference list in the main manuscript. References followed by superscript letters are supplementary and are fully listed below:

G. Cardeña E. Trance and possession as dissociative disorders. Transcult Psychiatric Res Rev. 1992;29:287-300.
H. Brett C. Psychotic and mystical states of being: connections and distinctions. Philos Psychiatr Psychol. 2002;9:321-41.
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J. Cella M, Vellante M, Preti A. How psychotic-like are paranormal beliefs? J Behav Ther Exp Psychiatry. 2012;43:897-900.
K. Peters E, Ward T, Jackson M, Woodruff P, Morgan C, McGuire P, et al. Clinical relevance of appraisals of persistent psychotic experiences in people with and without a need for care: an experimental study. Lancet Psychiatry. 2017;4:927-36.