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Assessing Spiritual Crises: Peeling Off Another Layer of a Seemingly Endless Onion

Gerhard Bronn[1] and Doris McIlwain[1]

Abstract

What feels like spiritual experience to believers could seem like psychosis, a break from reality, to another. Validating measures that discriminate spiritual experiences from psychopathology reduce iatrogenic effects of misdiagnosis. We tested the reliability and validity of the Spiritual Emergency Scale (SES), assessing internal consistency, test–retest reliability, structural, convergent, and divergent validity. The reliability and validity of the Experiences of Psychotic Symptoms Scale (EPSS) were tested to explore potential convergent and divergent relationships between SE and psychosis. Feedback from a spiritual pilot sample prompted scale amendments to the SES and EPSS, whereby 5-point Likert-type scales replaced true–false options. We sampled 98 people from online spiritual forums, 94 undergraduate psychology students, and 20 of their friends and family. Scales included the following: SE, positive symptoms of psychosis, alogia (disfluency of thought and speech), spirituality, depression, anxiety, stress, and mysticism (experiences of connectedness that escape language). The SES-R and EPSS-R exhibited good internal consistency and structural validity, adequate test–retest reliability, and convergent and divergent validity. SE emerges as a distinct measurable construct, overlapping with positive symptoms of psychosis, distinguishable from the negative dimension of psychosis by its divergent relationship with alogia.

[1]Macquarie University, Sydney, New South Wales, Australia

Corresponding Author:
Gerhard Bronn, Macquarie University, 105/11 Yarranabbe Road, Darling Point, Sydney, New South Wales 2027, Australia.
Email: polvion@hotmail.com

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Introduction

Researchers, practitioners, and theorists have argued for the inclusion of religious and spiritual variables in diagnostic clinical work to increase cultural sensitivity and reduce iatrogenic effects caused by clinicians wrongly diagnosing spiritual experiences (Bowman, 2009; Cashwell & Young, 2005; Chirban, 2001; Johnson, Hayes, & Wade, 2007). Iatrogenic effects arising from misdiagnosis may include more symptoms, appearance of new symptoms, and greater resistance to future psychological treatment (Lilienfeld, 2007). As a result, the American Psychological Association (APA; 2010) recommends that clinicians be aware of religious or spiritual factors that may influence assessment and treatment. To assist clinicians in differentiating religious and spiritual issues from psychopathology, the *Diagnostic and Statistical Manual for Mental Disorders* (*DSM-V*) has included a nonpathological diagnostic category (Code V62.89) titled "Religious or Spiritual Problems" (American Psychiatric Association, 2013). The *DSM-V*, however, only provides a brief definition of spiritual problems ". . . questioning of other spiritual values which may not necessarily be related to an organised church or religious institution" (APA, 2013). Given the general definition of spiritual problems in the *DSM-V* and the fact that psychologists receive no or little training in spiritual issues (Bowman, 2009), there remains doubt as to whether psychologists' can effectively discriminate between spiritual problems and psychopathology (Johnson & Friedman, 2008).

The vast majority of spiritual problems arise from "anomalous experiences," that is, experiences that are not readily accounted for within conventional explanations of reality (Cardena, Lynn, & Krippner, 2000). Spiritual problems triggered by anomalous experiences are often described as spiritual emergencies (SEs; Yang, Lukoff, & Lu, 2006). A reasonably new field of inquiry, within transpersonal psychology, SE has been described as a "critical and experientially difficult stage of profound psychological transformation that involves one's entire being" (Goretzki et al., 2009, p. 81). SE is a multidisciplinary concept, assimilating findings from experimental and clinical psychiatry and psychology, humanistic and existential psychotherapies, thanatology, consciousness research, anthropology, and comparative religion (Grof & Grof, 1989). As SE is a relatively new concept, there is a lack of scientific, peer-reviewed articles on the subject. The majority of the published work on SE has a "new age" bias, lacking empirical research and critical appraisal (Goretzki et al., 2009). Given that some claim that the outcomes

of SE are actually beneficial (Lukoff, 2007), SEs have the potential to be classified as a spiritual problem under the nonpathological V code of the *DSM-V* (Lukoff & Lu, 1998; Turner, Lukoff, Barnhouse & Lu, 1995; Yang et al., 2006), a reliable and valid measure of SEs is required to assist clinicians in discriminating such anomalous experiences from those arising from psychopathology. This is important given the significant overlap in form and content between SEs and psychotic symptoms (Johnson & Friedman, 2008; Lukoff, 2007).

Spirituality

Spirituality involves feelings and experiences associated with a meaningful and purposeful life (Brinkerhoff & Jacob, 1987), along with "a search for meaning, unity, connectedness to nature, humanity, and the transcendent" (Emmons, 1999, p. 877). Spiritual experiences are relatively common; between 5% and 40% of the general population and 50% of psychologist's surveyed reported having at least one transcendent experience (i.e., beyond normal human perception; Allman, de la Roche, Elkins, & Weathers, 1992; Davis & Smith, 1985; Kass, Friedman, Leserman, Zuttermeister, & Benson, 1991; Lukoff, Lu, & Turner, 1992). Bragdon (1993) outlined three main ways people react to spiritual experiences: (a) smoothly assimilate them into their lives and continue to develop psychologically and spirituality; (b) experience a psychological and spiritual crisis, but eventually assimilate the experience into their reality; or (c) fail to assimilate the experience and be caught in a continual state of fragmentation (i.e., breakdown in daily/social/occupational functioning).

Throughout history, many cultures have regarded inner transformation as a key aspect of life. Elaborate rituals and practices that frequently elicit nonordinary (or altered) states of consciousness have been devised to foster spiritual development (La Barre, 1990). With such an extensive history of documented spiritual growth, some suggest that "realizing one's true potential" or "moving toward wholeness" is an inherent evolutionary capacity for all human beings (Grof & Grof, 1991). This process is called "spiritual emergence," described as "the movement of an individual to a more expanded way of being that involves enhanced emotional and psychosomatic health, greater freedom of personal choices, and a sense of deeper connection with other people, nature, and the cosmos" (Grof & Grof, 1991, p. 34). This gradual unfolding of spiritual potential may be gently and briefly experienced in a variety of anomalous experiences. One may notice a number of surprising coincidences, suddenly feel more attuned to the environment, or become conscious of a sense of timelessness, selflessness, or boundlessness (Nelson, 1994). These experiences

often lead to a greater awareness of one's environment, values, and life strategies, prompting changes in perceptions, behaviors, and relationships (Watson, 1994). Cardena et al. (2000) suggest that although anomalous experiences may cause stress, many have no associations with psychopathology. Yang et al. (2006) go further to suggest that most anomalous experiences do not warrant psychiatric diagnosis and intervention.

Spiritual Emergency

Bragdon (1998) suggests that a spiritual emergence is more likely to lead to a crisis when (a) someone has no conceptual framework to support the experience, with which to understand and accept the phenomena with equanimity; (b) someone has neither the physical nor emotional flexibility to integrate the experience into their life; and/or (c) the friends, family, or helping professionals, who support the person having this experience, see the phenomenon in terms of psychopathology with no possibility of their being positive signs of growth. When spiritual emergence becomes overly forceful and dramatic, it is often referred to as Spiritual Emergency (SE; Watson, 1994). Grof and Grof (1991) have defined SE as

> critical and experientially difficult stages of a profound psychological transformation that involves one's entire being. Spiritual emergencies take the form of non-ordinary states of consciousness and involve intense emotions, visions, and other sensory changes, and unusual thoughts, as well as physical manifestations. (p. 31)

One may be bombarded by turbulent inner experiences that conflict with one's former belief structures of consensual reality (Watson, 1994), or one may have great difficulty in discriminating between one's inner visionary world and the external "everyday" world (Grof & Grof, 1991). This often leads to feelings of loneliness and thoughts of being "crazy," especially when suitable support is not provided. As a result, individuals often desire a brief withdrawal from daily activities as their involvement with strong feelings, thoughts, and internal processes increases (Grof & Grof, 1989).

The most widely accepted classification of SE began with Grof and Grof (1989), who outlined 10 components of SE. The authors classified the list from hundreds of case studies, collected by psychiatrists, psychologists, and other therapists belonging to the Spiritual Emergency Network. These include peak experiences, shamanic illness, near-death experiences, Kundalini awakening, the crisis of psychic opening, channeling, psychological renewal through return to the center, past life experiences, and alien abductions (see

Appendix A for descriptions). Goretzki et al. (2009) conducted an extensive literature review and found that *Dark Night of the Soul* was also a typical subtype of SE. This period is often characterized by great suffering, confusion (Kornfield, 2001), and feelings of loss, struggle, grief, and meaninglessness (Grof & Grof, 1991; Kavanaugh & Rodriguez, 1991).

A common experience that may also be relevant for inclusion as a SE is a mystical experience (ME; Yang et al., 2006). A definition of ME that is consistent across the theoretical and clinical literature is, a brief, remarkable experience characterized by feelings of unity, ecstasy, absence of ego-functioning, lack of control of the experience, sense of noesis (i.e., access to subtle spiritual dimensions), changes in time and space perception, and rapport with the Divine and everything in existence (Allman et al., 1992; Hood, 1974; Lukoff & Lu, 1988). Previous studies that examined the prevalence of mystical experience have shown that 30% to 40% of the population have had mystical experiences (Back & Bourque, 1970; Greeley, 1987; Hood, 1974, 1977; Thomas & Cooper, 1980), implying that they are normal and should not be considered pathological (Lukoff, 2007; Lukoff et al., 1992).

Goretzki et al. (2009) published the first self-report scale purporting to measure the 10 subtypes of SEs. One hundred and nine individuals from the Australian general public were recruited from a newspaper advertisement. An omnibus questionnaire containing demographic variables measuring psychiatric history and spiritual involvement, 10 different subscales of SE (totaling 84 items), and the Experiences of Psychotic Symptoms Scale (EPSS; 15 items) was administered. Principal component analyses of the 10 subscales revealed a single underlying factor, labeled "spiritual emergency." The Spiritual Emergency Scale (SES) was created by combining the 30 items that correlated most highly with this underlying factor. Principal components analysis of the SES revealed a single underlying dimension. Preliminary evidence suggests that the SES exhibits excellent internal consistency, adequate test–retest reliability over a 4-month period, and evidence of convergent and concurrent validity. The SES correlated .70 with the EPSS, lending support to the notion that psychotic symptoms overlap significantly with SE (Goretzki et al., 2009).

Psychosis

Psychosis and *psychotic* are very broad terms used to describe anything from relatively usual aberrant experiences through to the vivid and catatonic symptoms of schizophrenia and bipolar Type 1 disorder (*DSM-V*, 2013). In a restricted sense, psychosis pertains to delusions (i.e., distortions or exaggerations of inferential thinking) or prominent hallucinations (i.e., distortions or

exaggerations of perception), with the hallucinations presenting without the person being aware of their pathological nature (*DSM-V*, 2013). Psychosis is believed to exist on a continuum, ranging from normal psychological functioning to progressively more debilitating psychotic conditions (Hanssen et al., 2003; Stefanis et al., 2002; Verdoux & van Os, 2002). According to the vulnerability-stress model (Yank, Bentley, & Hargrove, 1993), psychotic symptoms arise when environmental stressors exceed the individual's capacity to cope with them (i.e., vulnerability level), with the latter trait being relatively stable (Van Winkel, Stefanis, & Myin-Germeys, 2008). Psychotic symptoms can also be seen in clinical conditions such as depression, anxiety, borderline personality disorder, schizotypal personality disorder, obsessive–compulsive disorder, and drug-induced psychosis (Buckley, Miller, Lehrer, & Castle, 2009; Cosoff & Hafner, 1998; Siris, 1991; Wigman et al., 2012).

The *DSM-V* characterizes psychotic symptoms as either positive or negative. Positive symptoms represent an excess or distortion of normal functioning and may include delusions, hallucinations, disorganized speech, and disorganized or catatonic behavior (i.e., muscular rigidity and mental stupor; *DSM-V*, 2013). Negative symptoms represent a reduction or loss of normal functions and appear to be responsible for the chronic disability associated with the condition (Norman et al., 2000). Negative symptoms can include affective flattening (i.e., constraints in the intensity and range of emotional expression), alogia (i.e., constraints in the production and fluency of thought and speech), and avolition (i.e., lack of motivation toward goal-directed behavior; *DSM-V*, 2013). There is extensive evidence supporting the positive and negative dimensional model for psychosis, both in the clinical and nonclinical populations (Kitamura, Okazaki, Fujinawa, Yoshino, & Kasahara, 1995; Mata et al., 2003; Vollema & Hoijtink, 2000).

The 42-item Community Assessment of Psychic Experiences (CAPE42; Stefanis et al., 2002) was published in 2000 with the intention of assessing psychotic symptoms found across both clinical and nonclinical samples. The CAPE measures frequency of as well as distress related to those experiences, essentially making it an 84-item scale (Stefanis et al., 2002). The CAPE is a three-dimensional scale, composed of positive symptoms, negative symptoms, and depressive symptoms (Stefanis et al., 2002). Follow-up studies have confirmed the three-dimensional model of psychosis in clinical and nonclinical populations (Hanssen et al., 2003; Konings, Bak, Hanssen, van Os, & Krabbendam, 2006).

Reflecting on and engaging with memories of unpleasant experiences may trigger emotional reactions in participants (Kraut et al., 2004). As psychotic disorders are one of the most debilitating mental disorders (Saha, Chant, & McGrath, 2007), researchers must be mindful of the medium by which

psychotic measures are administered. Researchers have a reduced capacity to assess and monitor a participant's state in online research and to alleviate any harm caused by participation (Kraut et al., 2004). Given the length and breadth of unpleasant experiences covered in the CAPE, a more concise and less stressful measure of negative features of psychosis may be appropriate to assess the SES in online methodologies.

Goretzki et al. (2009) published a unidimensional measure of psychosis, the EPSS, with the intention of using it to validate the SES. The authors constructed the scale using symptoms outlined in the *DSM-IV* "Schizophrenia and other Psychotic Disorders" chapter, which is presently used as the diagnostic criteria for psychosis. On inspection of the items, however, the content validity of the EPSS was in question. Twelve items appeared to belong to a "positive symptoms of psychosis" factor, whereas 3 items appeared to belong to a "negative symptoms of psychosis" factor comprising only alogia items. To determine whether a two-factor solution is more appropriate for EPSS-R, a confirmatory factor analyses is warranted. Although the EPSS may not be representative of the breadth of psychotic experiences documented in the literature, it may still provide a concise and generalized measure of typical psychotic experiences that can be used to validate the SES in online populations.

Differentiating Spiritual Emergency From Psychosis

Since particular types of psychoses have been related to positive outcomes, many clinicians have devised separate categories to discriminate "standard" psychotic disorders from those with the potential of producing a positive outcome. These include problem-solving schizophrenia (Boisen, 1962), positive disintegration (Dabrowski, 1964), creative illness (Ellenberger, 1970), spiritual emergencies (Grof & Grof, 1989), and visionary states (Perry, 1977, as cited in Lukoff, 2007). Given the crippling effects of "standard" psychotic disorders (e.g., auditory hallucinations, paranoid delusions, catatonia, thought disorder), Grof and Grof (1986, 1989) and Lukoff (1985) have provided exhaustive criteria for discriminating a "standard" psychotic episode from those with the potential of a positive outcome.

Grof and Grof (1986, 1989) outlined the original criteria for diagnosis of SE that included episodes of anomalous experiences with spiritual themes, having the insight to see the process as an inner psychological process, absence of an organic brain disorder or physical disease, reasonably good general somatic and cardiovascular health, and the absence of a history of conventional psychiatric treatment and hospitalizations. Lukoff (1985) lists three major criteria that need to be taken into account when making a diagnosis of mystical experiences with psychotic features: the individual must be

considered "low risk," show phenomenological overlap with ME, and meet criteria associated with a positive outcome. Individuals may be deemed "low risk" if they have not demonstrated evidence of being suicidal or homicidal. Phenomenological overlap with ME is likely when the following five criteria are met: (a) ecstatic mood, (b) sense of newly gained knowledge, (c) perceptual alterations, (d) delusions (if present) having themes related to mythology, and (e) lack of cognitive impairment. The probability of a positive outcome is likely to be met if two of the following criteria are present: (a) duration of acute onset of symptoms is 3 months or less; (b) good pre-episode functioning, demonstrated by no previous history of psychotic episodes, preservation of social network of friends, intimate relationships with romantic partners, and some success in a vocation or school; (c) stressful antecedents to the psychotic episode, such as major life changes (e.g., death, divorce, loss of job) or major life passages with resulting identity crisis (e.g., transition to adulthood); and (d) a positive exploratory attitude toward the experience as insightful, revelatory and "growthful" (Lukoff, 1985). Yang et al. (2006) argue that the diagnostic procedures outlined above can be used to distinguish spiritual problems from psychopathology as well.

Differential diagnosis of spiritual growth from psychotic experiences would also be assisted by generating sound empirical approaches based on quantitative research. Developing and validating measures that are able to discriminate anomalous experiences from psychopathology would help reduce iatrogenic effects caused by misdiagnosis (Johnson & Friedman, 2008).

Construct Validity of Spiritual Emergency

A scale that sufficiently measures a theoretical construct is considered to have construct validity (DeVellis, 2003). Confirmatory factor analysis (CFA) is commonly used in scale development to assess construct validity. A structural equation modeling program is often preferred for CFA as it offers a statistical criterion for how appropriately the specified model fits with real data (DeVellis, 2003). Goodness-of-fit (GOF) indices reveal how strongly the data fit the relationships specified in the model being tested (Klem, 2000). Commonly reported GOFs include the relative chi-square (χ^2/df), comparative fit index (CFI), Tucker–Lewis index (TLI), and root mean square error of approximation (RMSEA; Hu & Bentler, 1999). Values below 2 for χ^2/df ratio, below .06 for RMSEA, and above .95 for CFI and TLI are regarded as satisfactory indicators of fit, even though these cutoff points are more like guidelines than rigid rules (Hu & Bentler, 1999; Worthington & Whittaker, 2006).

To ensure that the parameter estimates of the CFA are stable, it has recommended that there be a minimum participant-to-parameter ratio (PPR) of 5:1

(Bentler & Chou, 1987; Klem, 2000). If the minimum PPR of 5:1 is not met, item parceling may be used to ensure the stability of CFA parameter estimates. Item parcels are calculated by aggregating a set of unidimensional items, that is, items that are intercorrelated and thought to be tapping into the same construct (Little, Cunningham, Shahar, & Widaman, 2002). The benefits of item parcels include the following: improved stability of parameter estimates, improved reliability for item-parcel responses, smaller sample requirements, increased GOF indices, simplified model interpretation, and more continuously distributed variables because the number of parameters estimated are reduced (Hau & Marsh, 2004; Little et al., 2002). Before parcels can be entered into confirmatory analyses, they must satisfy a minimum standard of internal consistency (e.g., >.60) and demonstrate unidimensionality (Kishton & Widaman, 1994).

Construct validity can also be enhanced by showing that scores on a scale are associated (i.e., convergent validity) or not associated (i.e., divergent validity) with other scales as predicted by previous research (Messick, 1993). Therefore, it was decided to test the convergent and divergent validity of the SES. As there are phenomenological similarities and distinctions between SE and psychotic symptoms (Johnson & Friedman, 2008; Yang et al., 2006), including a reliable and valid measure of psychotic symptoms would be an effective way to test the convergent and discriminant validity of the SES. Given that using the CAPE for online research may raise too many ethical risks, as discussed previously, it was decided to amend the EPSS to a two-factor model (i.e., positive symptoms and alogia) and test its reliability and validity for the purpose of validating the SES. Scales measuring spirituality, mysticism, and psychopathology were also included to also test the convergent and divergent validity of the SES.

This pilot study aims to investigate the psychometric properties of the SES-R and EPSS-R (see the Results section in the spiritual tourists study for scale amendments). The first aim (hypothesis) of the study is to investigate the reliability of the SES-R and EPSS-R. The second aim is to structurally analyze the SES-R and EPSS-R. The third aim is to develop preliminary support for the construct validity of the EPSS-R and SES-R by investigating the convergent validity of the EPSS-R and the convergent and divergent validity of the SES-R. It was expected that (a) the SES-R will demonstrate adequate internal consistency and test–retest reliability among first-year psychology students; (b) the EPSS-R will demonstrate adequate internal consistency and test–retest reliability among first-year psychology students; (c) the one-factor SES-R model will fit the data from the student and spiritual samples; (d) the two-factor EPSS-R model will fit the data from the student and spiritual samples; (e) positive symptoms of psychosis and alogia scores will be positively associated with each other and scores of depression, anxiety, and stress; (f) SES-R scores will

be positively associated with scores of positive symptoms of psychosis, spiritual identity, and mysticism in the student and spiritual samples; and (g) SES-R scores will be not associated with scores of alogia, depression anxiety, and stress in the student and spiritual samples after controlling for age, sex, positive symptoms of psychosis, spiritual identity, and mysticism.

Method

The Spiritual Tourist Study

Participants. The pilot sample used a known groups method whereby we selected people highly likely to be very high on the parameters of interest, namely, intense spiritual experiences. This sample consisted of 30 "spiritual tourists" who visited Tiruvannamalai (India) in January-February 2012. Tiruvannamalai is famous for attracting a large number of tourists interested in spiritual emergence.

Measures. Basic demographic information (e.g., age, sex, nationality, profession) was collected along with a brief history of religious/spiritual practice, mental health support, and type of support received during anomalous experiences (see Appendix C).

Spiritual emergency was assessed using the SES (Goretzki et al., 2009), a 30-item multiple-choice scale that assesses anomalous experiences that can occur during a spiritual emergency (see Appendix D). The SES includes items that assess Shamanic Crisis (7 items), Crisis of Psychic Opening (6 items), Peak Experiences (5 items), Psychological Renewal through Return to the Center (4 items), Awakening of Kundalini (3 items), Past Life Experiences (3 items), Possession States (1 item), and Dark Night of the Soul (1 item). Responses were scored on a binary scale (Yes or No). The SES demonstrates excellent internal consistency (Cronbach's $\alpha = .94$), adequate test–retest reliability ($r = .77$) over a 4-month period, and evidence of convergent and concurrent validity (Goretzki et al., 2009). In the present study using the SES-R, Cronbach's α was found to be .94 (spiritual sample).

Psychosis was assessed using the EPSS (Goretzki et al., 2009), a 15-item multiple choice scale that assesses typical phenomena experienced by someone undergoing psychosis. Responses were scored on a binary scale (Yes or No). The EPSS shows good internal consistency (Cronbach's $\alpha = .82$), good test–retest reliability ($r = .84$) over a 4-month period, and evidence of criterion validity (Goretzki et al., 2009). In the present study, Cronbach's α for positive symptoms was .87 and .78 for alogia.

Spirituality was assessed by two subscales: spiritual identification and spiritual equanimity (Astin, Astin, & Lindoholm, 2011). Each subscale follows a multiple choice format. Different Likert-type spans with different cognitive anchors are found within each subscale. The 13-item Spiritual Identification Scale (SIS) assesses the degree to which participants identify themselves as "spiritual." The 5-item Equanimity Scale (ES) assesses the degree that one feels at peace/centered, is able to find meaning in times of adversity, and feels positive about the direction of her/his life. The SIS and ES have been administered to 98,593 first-year undergraduate students and exhibit good internal consistency (Cronbach's α: SIS = .88, ES = .76) as well as satisfactory convergent validity, divergent validity, concurrent validity, and predictive validity (Astin et al., 2011).

Depression, Anxiety, and Stress was assessed using DASS-21 (Lovibond & Lovibond, 1995). The DASS-21 is a 21-item multiple choice scale measuring three state factors (Depression, Anxiety, Stress; 7 items each). Participants were asked to rate their depression, anxiety, and stress on a 4-point Likert-type scale ranging from 0 (*Does not apply to me at all*) to 3 (*Applies to me very much or most of the time*). The DASS-21 is a reliable and valid measure of depression, anxiety, and stress in clinical and nonclinical populations (Anthony, Bieling, Cox, Enns, & Swinson, 1998; Lovibond, 1998; Szabo, 2010), and in different cultural and ethnic groups (Norton, 2007).

Mysticism was assessed using the MS (Hood, 1975), a 32-item multiple-choice scale that assesses commonly reported MEs. The MS is composed of three factors: introvertive mysticism (12 items), extrovertive mysticism (8 items), and religious interpretation (12 items). Participants were asked to select a response on a 5-point Likert-type scale (*definitely not true* =1, *probably not true* =2, *cannot decide* = 3, *probably true* = 4, *definitely true* = 5) for each of the items. The MS is the most effective and widely used self-report measure of MEs (Mercer & Durham, 2001) and has been found to be reliable and valid (Hood et al., 2001; Hood, Morris, & Watson, 1993).

Procedure. The survey was initially administered in pen-and-paper format to 30 spiritual tourists in Tiruvannamalai (India). Before commencing the spiritual tourists study, participants 18 years and older were provided with a general description of the research and invited to signify their consent to participate prior to continuing. Participants were asked several demographic questions followed by the remaining 9 scales. The 9 scales, including the order of presentation of the items within each scale, were presented in random order to reduce order effects. After completing the survey, participants were debriefed.

Table 1. Psychometric Properties of Study Variables in Spiritual Tourist Sample.

Variable	*n*	*M*	*SD*	α	Range		Skew	Std. error of skew
					Potential	Actual		
Age	30	39.34	12.68	—	18+	22-64	0.743	0.434
Spiritual emergency	30	17.34	5.69	.709	0-30	7-30	−0.36	0.243
Psychosis	30	6.99	3.92	.808	0-13	1-13	0.19	0.427
Spiritual identity	30	35.33	4.57	.670	13-43	19-41	−1.76	0.427
Equanimity	30	12.86	2.77	.841	5-15	6-15	−1.44	0.427
DASS depression	30	4.97	4.12	.800	0-21	0-16	1.34	0.427
DASS anxiety	30	3.43	3.48	.761	0-21	0-11	0.87	0.427
DASS stress	30	5.56	4.26	.859	0-21	0-15	0.50	0.427
MS (Introvertive)	30	52.27	9.76	.893	12-60	18-60	−1.95	0.427
MS (Extrovertive)	30	34.10	8.03	.918	8-40	9-40	−1.63	0.427
MS (Interpretive)	30	53.40	9.00	.895	12-60	27-60	−1.93	0.427

Results. Descriptive statistics for the SES, EPSS, AS, SIS, SQS, ES, DASS-21, and MS are presented in Table 1.

The majority of spiritual tourists (22/30) in the pilot sample were not enthusiastic about the binary response format of the SES and EPSS. In summary, they felt that spiritual and psychotic experiences are complex and multifaceted phenomena and cannot be captured by a binary scale. They recommended that a Likert-type scale similar to the MS would be an improvement. In line with the recommendation made by Goretzki et al. (2009) that future research should use a Likert-type scale for the SES and EPSS, the construct validity of the SES and EPSS was improved by replacing the dichotomous scale (Yes or No) with a with 5-point Likert-type scale (*definitely no, probably no, possibly, probably yes, definitely yes*). For clarity, the new scales were entitled "SES-R" and "EPSS-R."

The Online Study

Participants. The main study contained two online subsamples, composed of 158 females and 54 males (M_{age} = 31.21, *SD* = 13.93, age range = 18-71 years). Ninety four were first-year psychology students and 20 were their friends and family (termed the *student sample*). Students received a link to participate after signing up to the study on the psychology participant pool site. Ninety-eight people who discussed spiritual emergence/emergency content online (termed *spiritual sample*) were recruited by an advertisement in

various online forums (e.g., www.spiritualforums.com) and Facebook groups (e.g., Spirituality; see Appendix B for full list). After completing the survey, online participants were requested to send out an invitation to any friends or family who might be keen to partake in the study.

Measures. Basic demographic information (e.g., age, sex, nationality, profession) was collected along with a brief history of religious/spiritual practice, mental health support, and type of support received during anomalous experiences (see Appendix C). Spiritual emergency was assessed using the SES-R (Goretzki et al., 2009), a 30-item multiple-choice scale that assesses anomalous experiences that can occur during a spiritual emergency. In the present study using the SES-R, Cronbach's α was found to be .95 (student sample) and .94 (spiritual sample). Psychosis was assessed using the EPSS-R (Goretzki et al., 2009), a 15-item multiple choice scale that assesses typical phenomena experienced by someone undergoing psychosis. In the present study, Cronbach's α for positive symptoms was .88 (student sample) and .87 (spiritual sample) and alogia was .70 (student sample) and .78 (spiritual sample). Both the SES-R and EPSS-R scores responses on a 5-point Likert-type scale (*definitely no, probably no, possibly, probably yes, definitely yes*). As in the Spiritual Tourist sample, in the online study, spirituality was assessed by two subscales: spiritual identification and spiritual equanimity (Astin et al., 2011). Depression, Anxiety, and Stress was assessed using DASS-21 (Lovibond & Lovibond, 1995). Mysticism was assessed using the MS (Hood, 1975), a 32-item multiple-choice scale that assesses commonly reported MEs.

Procedure. Given that the APA characterizes psychotic symptoms as mostly positive or negative (*DSM-IV-TR*), it was decided to inspect the items of the EPSS-R for a possible two-factor solution. It became apparent that 12 items clustered around the positive symptoms and 3 items clustered around alogia symptoms. Since psychosis is not a unidimensional construct (Haddock et al., 2011; Stefanis et al., 2002), it was deemed suitable to test the EPSS-R for a two-factor solution (see Appendix E).

As the PPR for the SES-R was less than 5:1 in the student and spiritual samples, item parcels were used to ensure stability of CFA parameter estimates. Items parcels were created by randomly allocating the items of the SES into 6 parcels, with 5 items in each parcel. Internal consistencies for the item parcels ranged between .732 and .824 for the student sample and between .698 and .831 for the spiritual sample. The GOF statistics for each parcel indicated an excellent fit, confirming unidimensionality (see Appendix F).

Before commencing the online study, participants 18 years and older were provided with a general description of the research and invited to signify their

Table 2. Psychometric Properties of Study Variables in Student Sample.

Variable	*n*	*M*	*SD*	α	Range		Std. error of skew
					Potential	Actual	Skew	
Age	114	22.98	7.51	—	18+	18-55	2.19	0.226
SES-R	114	59.89	24.59	.954	30-150	30-139	1.14	0.227
√SES-R	114	9.80	1.45	—	—	5.5-12.2	−0.82	0.243
Positive Psychosis	114	29.96	10.07	.877	12-60	12-59	0.51	0.226
Alogia	114	8.53	3.19	.703	3-15	3-15	0.05	0.226
Spiritual Identity	114	26.32	6.54	.884	13-43	13-41	0.12	0.226
Equanimity	114	11.79	2.37	.807	5-15	5-15	−0.46	0.226
DASS Depression	114	6.39	4.83	.895	0-21	0-21	1.06	0.226
DASS Anxiety	114	6.42	4.48	.808	0-21	0-21	0.98	0.226
DASS Stress	114	8.30	4.73	.862	0-21	0-21	0.46	0.226
M Scale (INTRO)	114	32.03	9.83	.771	12-60	12-56	0.42	0.226
M Scale (EXTRO)	114	21.14	9.62	.920	8-40	8-40	0.17	0.226
M Scale (INTER)	114	40.89	9.86	.813	12-60	13-59	−0.60	0.226

Note. SES-R = Spiritual Emergency Scale–Revised; DASS = Depression, Anxiety, and Stress Scale; M Scale =Mysticism Scale; INTRO = Introvertive; EXTRO = Extrovertive; INTER = Interpretive.

consent to participate prior to continuing. Participants were asked several demographic questions followed by the remaining 10 scales. The 10 scales, including the order of presentation of the items within each scale, were presented in random order to reduce order effects. After completing the survey, participants were debriefed. An email invitation was sent out only to the first-year psychology students to complete the SES-R and EPSS-R approximately 12 weeks after they completed the questionnaire to establish test–retest reliability.

Results. Normality tests for the SES-R in the student sample revealed that the DV exhibited a positive skew (not surprising given that SEs are experienced by a minority of the population from which the sample was drawn). Normality tests for the SES-R in the spiritual sample revealed a normal distribution. To allow for comparisons across groups, a square-root transformation was performed to acquire a more approximately normal distribution of the DV. Descriptive statistics for the SES-R, EPSS-R, AS, SIS, SQS, ES, DASS-21, and MS are presented in Table 2 for the student sample and in Table 3 for the spiritual sample.

Among the first-year psychology undergraduate students: the SES-R exhibited good test–retest reliability of .84, confirming Hypothesis 1, whereas

Table 3. Psychometric Properties of Study Variables in Spiritual Sample.

Variable	*n*	*M*	*SD*	α	Range		Std. error of skew
					Potential	Actual	Skew	
Age	99	40.70	13.60	—	18+	19-71	0.19	0.244
SES-R	99	98.11	26.84	.941	30-150	30-148	−0.36	0.243
√SES-R	114	9.80	1.45	—	—	5.5-12.2	−0.82	0.243
Positive Psychosis	99	36.11	11.50	.873	13-60	13-60	0.06	0.243
Alogia	99	8.72	3.71	.780	3-15	3-15	−0.08	0.243
Spiritual Identity	99	32.62	5.84	.877	13-43	13-42	−1.10	0.243
Equanimity	99	12.72	2.46	.852	5-15	5-15	−1.12	0.243
DASS Depression	99	6.04	5.31	.912	0-21	0-21	1.00	0.243
DASS Anxiety	99	5.13	4.61	.838	0-21	0-21	1.51	0.243
DASS Stress	99	6.73	5.14	.894	0-21	0-21	1.08	0.243
MS (Intro)	99	44.21	9.57	.781	12-60	20-60	−0.70	0.243
MS (Extro)	99	30.53	9.07	.912	8-40	8-40	−0.90	0.243
MS (Inter)	99	49.80	8.05	.780	12-60	18-60	−1.22	0.243

Note. SES-R = Spiritual Emergency Scale–Revised; DASS = Depression, Anxiety, and Stress Scale; MS =Mysticism Scale; Inter = Introvertive; Extro = Extrovertive; Inter = Interpretive.

the positive symptoms and alogia subscales of the EPSS-R exhibited adequate test–retest reliabilities of .74 and .69, respectively, confirming Hypothesis 2. Although the response rate of psychology undergraduate students who completed the second part of the study was only 26%, compared with those who did not complete both parts of the study, the students who did showed no difference in age, gender, SE, positive symptoms of psychosis, or alogia (see Appendix G, Table G1).

The CFA for the SES-R in the student sample indicated an excellent fit, revealing a χ^2/df ratio of 0.117, CFI of 1.00, TLI of 1.00, and an RMSEA of .000. The CFA for the SES-R in the spiritual sample also indicated an excellent fit, revealing a χ^2/df ratio of 0.510, CFI of 1.00, TLI of 1.00, and an RMSEA of .000. The fact that all indices, in both samples, indicate a good fit to the model is a robust result, confirming Hypothesis 3. Table 4 shows the range of fit indices, signifying the degree to which the hypothesized model explains the covariances between responses to the SES-R items. The paths between the factor of SES and each of the six parcels in both samples were significant at $p < .0005$, further indicating that the model is a good fit. The one-factor SES-R model is shown diagrammatically for the student and spiritual samples in Figure 1. Coefficients indicating the maximum likelihood

Table 4. Summary of Fit Indices for One-Factor Spiritual Emergency Model (SES-R) and Two-Factor Experiences of Psychotic Symptoms Model (EPSS-R) in the Student and Spiritual Samples.

Model	χ^2/df	CFI	TLI	RMSEA	RMSEA 90% CI
Hypothesis 1: SES-R[a]	0.117***	1.00***	1.00***	.000***	(.000-.000)
Hypothesis 1: SES-R[b]	0.510***	1.00***	1.00***	.000***	(.000-.110)
Hypothesis 2: EPSS-R[a]	1.308***	.969***	.954***	.052***	(.010-.080)
Hypothesis 2: EPSS-R[b]	1.162***	.981***	.972***	.041***	(.000-.074)

Note. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval.
a. Student sample.
b. Spiritual sample.
***$p < .0005$.

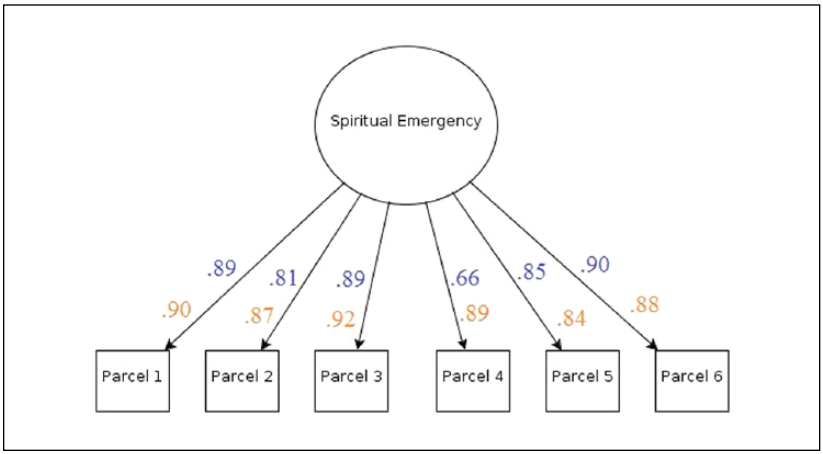

Figure 1. One-factor SES-R model for the student and spiritual samples.
Note. Orange = Student sample, Blue = Spiritual sample.

estimates of the loadings of each parcel onto the latent variable of SES are shown on each of the model diagrams. Ovals signify latent variables, whereas rectangular boxes signify observed variables.

The CFA for the EPSS-R in the student sample indicated a good fit, revealing a χ^2/df ratio of 1.308, CFI of .969, TLI of .954, and an RMSEA of .052. The CFA for the EPSS-R in the spiritual sample also indicated a good fit, revealing a χ^2/df ratio of 1.162, CFI of .981, TLI of .972, and an RMSEA of .041. The fact that all indices in both samples indicate a good fit to the model

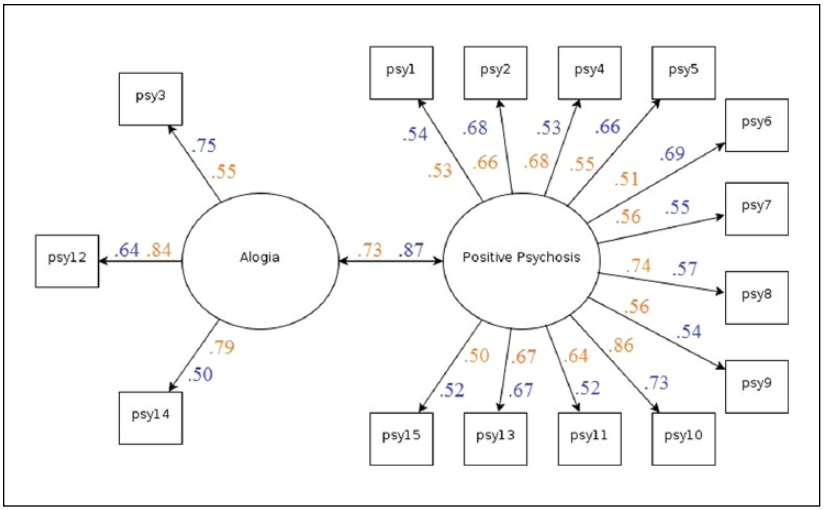

Figure 2. Two-factor EPSS-R model for the student and spiritual samples.
Note. Orange = Student sample; Blue = Spiritual sample.

is a strong finding and a confirmation of Hypothesis 4. Table 3 shows the range of fit indices, signifying the degree to which the hypothesized model explains the covariances between responses to the EPSS-R items. All pathways between the latent variables and between the latent variables and the observed variables were significant at $p < .0005$, further signifying that the model is a good fit. The hierarchical two-factor EPSS model is shown diagrammatically for the student and spiritual samples in Figure 2.

The item parcel loadings for the SES-R were similar across samples, ranging from strong to very strong associations. The only exception was Parcel 4, where the loading in the spiritual sample was .23 less than the loading in the student sample. The loadings of items in the EPSS-R ranged from moderately strong to very strong associations. The loadings in the positive symptoms factor were similar across samples, with 10/13 items having differences in loadings less than 15 points. The loadings in the alogia factor were similar, with differences in loadings across items ranging between .20 and .29.

Correlational analyses support Hypotheses 5 and 6. Significant positive correlations ranging from weak to strong were found in the student sample between the positive symptoms of psychosis and alogia ($r = .67$, $p < .0005$), depression ($r = .26$, $p = .005$), anxiety ($r = .27$, $p = .004$), and stress ($r = .30$, $p = .001$). Significant weak positive correlations were found in the student sample between alogia and depression ($r = .26$, $p = .005$), anxiety ($r = .24$,

$p = .011$), and stress ($r = .29$, $p = .002$). Significant positive correlations ranging from weak to strong were found in the spiritual sample between the positive symptoms of psychosis and alogia ($r = .69$, $p < .0005$), depression ($r = .29$, $p = .003$), anxiety ($r = .36$, $p < .0005$), and stress ($r = .37$, $p < .0005$). Significant positive correlations ranging from moderate to strong were found in the spiritual sample between alogia and depression ($r = .37$, $p < .0005$), anxiety ($r = .42$, $p < .0005$), and stress ($r = .42$, $p < .0005$).

Significant positive correlations ranging from strong to very strong were found in the student sample between the SES-R and positive symptoms of psychosis ($r = .73$, $p < .0005$), spiritual identity ($r = .67$, $p < .0005$), interpretative mysticism ($r = .73$, $p < .0005$), extrovertive mysticism ($r = .69$, $p < .0005$), and religious interpretation ($r = .55$, $p < .0005$). Significant positive correlations ranging from moderate to strong were found in the spiritual sample between the SES-R and positive symptoms of psychosis ($r = .70$, $p < .0005$), spiritual identity ($r = .55$, $p < .0005$), introvertive mysticism ($r = .67$, $p < .0005$), extrovertive mysticism ($r = .64$, $p < .0005$), and religious interpretation ($r = .53$, $p < .0005$).

Regression analyses partially support Hypothesis 7. As shown in Table 5, after controlling for age, sex, positive symptoms of psychosis, alogia, spiritual identity and mysticism, depression, anxiety, and stress did not significantly predict SE in the student and spiritual samples. After controlling for age, sex, positive symptoms of psychosis, spiritual identity, and mysticism, alogia significantly predicted SE in the spiritual sample, $\beta = -.18$, $t(87) = 2.4$, $p = .017$, but not in the student sample. The relationship between positive symptoms of psychosis and alogia was further explored to examine the divergent relationship between SE and psychosis. After controlling for gender, age, spiritual identity, mysticism, depression, anxiety, stress, and SE, alogia significantly predicted positive symptoms of psychosis in the student sample, $\beta = .342$, $t(101) = 4.9$, 4.9, $p < .0005$, and spiritual sample, $\beta = .441$, $t(87) = 7.1$, $p < .0005$. In the regression analyses outlined above, no serious violations were found when testing the regression assumptions of independence, normality of residuals, linearity, and homoscedacity in the student and spiritual samples.

Discussion

The results suggest that SE is a distinct and measurable construct, distinguishable from psychosis by its divergent relationship with alogia, depression, anxiety, and stress. The SES-R and EPSS-R demonstrated good internal consistency and adequate test–retest reliability among the first-year psychology students. Confirmatory factor analyses showed that the one-factor SES-R model and the

Table 5. Simultaneous Multivariate Regression Results Predicting Spiritual Emergency by Sample.

	Student sample (n = 114)					Spiritual sample (n = 98)				
Variable	Est.	*SE*	*t*	*df*	*p* Value	Est.	*SE*	*t*	*df*	*p* Value
Gender	−.04	.18	−.97	101	.335	−.04	.17	−.77	87	.439
Age	.16	.01	3.41	101	.001	.03	.01	.48	87	.634
+ Psychosis	.36	.01	5.02	101	.000	.65	.01	7.66	87	.000
Spiritual Identity	.23	.01	.23	101	.000	.11	.02	1.69	87	.095
MS: Introvertive	.30	.01	4.47	101	.000	.16	.01	1.87	87	.065
MS: Extrovertive	.11	.01	1.67	101	.100	.14	.01	1.67	87	.098
MS: Interpretive	.01	.01	.02	101	.915	.19	.01	2.39	87	.019
Alogia	.11	.03	1.85	101	.067	−.19	.03	−2.43	87	.017
Depression^	.04	.01	.70	101	.486	.03	.01	.35	87	.727
Anxiety^	.02	.01	.22	101	.825	.14	.01	1.46	87	.148
Stress^	−.10	.01	−1.48	101	.143	−.17	.01	−1.62	87	.108

Note. Gender: *0* = Male, *1* = Women. MS = Mysticism Scale. + = Positive. ∧ = DASS-21.

two-factor EPSS model fitted the data from the student and spiritual samples. Positive symptoms of psychosis and alogia scores were positively associated with each other and scores of depression, anxiety, and stress in the student and spiritual samples. SES-R scores were positively associated with scores of positive symptoms of psychosis, spiritual identity, and mysticism in the student and spiritual samples. Controlling for age, sex, positive symptoms of psychosis, spiritual identity, and mysticism, SES-R scores were not associated with scores of depression, anxiety, and stress in the student and spiritual samples. Controlling for the factors listed above, SES-R showed no relationship with alogia in the student sample, while showing a weak significant negative relationship with alogia in the spiritual sample.

The SES-R exhibited excellent internal consistency in the student and spiritual samples and adequate test–retest reliability among first-year psychology students. Goretzki et al. (2009) found similar results in a Perth community sample, showing that the SES exhibited excellent internal consistency and adequate test–retest reliability over a 12-week period. The one-factor SES-R model fitted the data from both the student and spiritual samples. Comparison of CFA factor loadings for the SES-R between the samples reveals a few distinctions. All parcels loaded onto the latent variable SE, in both samples, significantly at <.0005. The lack of major differences in factor loadings between the samples further signifies a good fit for the SES-R in the student and spiritual samples. These study findings are important because

they are the first to show that the SES-R is a structurally valid unidimensional measure of SE across two distinct populations: a relatively normal population and a population engaged in spirituality.

The positive symptoms subscale exhibited excellent internal consistency in the student and spiritual samples and adequate test–retest reliability among first-year psychology students. The alogia subscale exhibited adequate internal consistency in the student and spiritual samples and test–retest reliability among the first-year psychology students. The two-factor EPSS-R model fitted the data from the student and spiritual samples. Comparison of CFA factor loadings for the EPSS-R between samples reveals a number of distinctions. Although the factor loadings for the alogia subscale range from moderately strong to very strong, the differences between samples range from .20 to .29. On inspecting the items of the alogia subscale, no discernible patterns are seen. The factor loadings for the positive symptoms subscale range from moderately strong to very strong, with the majority of loadings (10/13) differing across samples 15 points or less. All factor loadings for both subscales were found to be are significant at <.0005. This suggests that any differences in factor loadings are probably caused by sampling issues, yet should be considered negligible.

This finding suggests that the EPSS-R is structurally valid in two distinct populations: a relatively normal population and a population engaged in spirituality. This provides further support to the positive and negative dimensional model for psychosis (Kitamura et al., 1995; Mate et al., 2003; Vollema & Hoijtink, 2000). This finding is also robust because the spiritual sample contains a heterogeneous distribution of participants with and without a previous diagnosis of psychosis. The fact that the EPSS-R fit the data in two distinct heterogeneous nonclinical samples provides evidence for its structural validity in the normal population.

Positive symptoms of psychosis and alogia scores were found to be positively related to each other and to scores of depression, anxiety, and stress. It is not surprising that positive symptoms of psychosis and alogia were strongly associated, given that they are thought to tap into the same underlying construct of psychosis (e.g., Hanssen et al., 2003; Stefanis et al., 2002; Verdoux & van Os, 2002). The finding that positive symptoms of psychosis and alogia exhibited a weak positive relationship with depression supports previous research indicating that depression is a factor of psychosis (Konings et al., 2006; Stefanis et al., 2002). Also, the finding that positive symptoms of psychosis and alogia displayed a weak positive relationship with anxiety, further confirms the established literature on comorbidity between psychosis and anxiety in clinical (Cosoff & Hafner, 1998; Wigman et al., 2012) and nonclinical samples (Olfson et al., 2002). Last, the result that positive symptoms

of psychosis and alogia exhibited a weak positive association with of stress is understandable through the vulnerability model of psychosis, which stipulates that higher incidences of psychotic episodes coincide with higher stress levels (Van Winkel et al., 2008; Zubin et al., 1983).

The finding that SE showed a strong positive association with positive symptoms of psychosis is supported by previous research detailing the various forms of overlap in form and content between the two constructs (Johnson & Friedman, 2008; Yang et al., 2006). The fact that SE exhibited a strong positive association with spiritual identity confirms the results found by Goretzki et al. (2009). It must be mentioned, however, that Goretzki et al. (2009) measured spiritual identity with a single item scored on a dichotomous scale. It is not surprising to find that SE had a strong positive relationship with all three components of mysticism (i.e., introvertive, extrovertive, and religious interpretation) given that MEs are often classified under SEs (Grof & Grof, 1986, 1989; Yang et al., 2006).

Controlling for age, sex, positive symptoms of psychosis, spiritual identity, and mysticism, no relationships were found between SE and depression, anxiety, and stress in both samples. Although previous research has not directly examined the relationships between SE, depression, anxiety, and stress, the literature suggests little association between anomalous experiences and psychopathology (Cardena et al., 2000; Yang et al., 2006). Given that the SES-R covers a wide range of anomalous experiences investigated in the literature (Cardena et al., 2000), these findings support the notion that SE should not be confused with depression, anxiety, or stress. In the current study, the relationship between SE and alogia differed between samples. Controlling for the variables listed above, no significant relationship between SE and alogia was seen in the student sample, but a significant weak negative association was found between SE and alogia in the spiritual sample. These results align with previous research stipulating that individuals undergoing a SE will not exhibit symptoms of alogia (Grof & Grof, 1986, 1989; Lukoff, 1985; Yang et al., 2006). The findings that a strong and positive association exists between positive symptoms of psychosis and alogia, after controlling for age, sex, spiritual identity, mysticism, depression, anxiety, stress, and SE, further provides evidence for the divergent relationship between SE and psychosis. While these patterns of results only partially support Hypothesis 7, they suggest that SE can be differentiated from psychosis by its relationship to alogia.

Although it is unclear why the relationship between SE and alogia differed between samples, one could suggest that meditation experience moderates the relationship between SE and alogia. While 28% of the student sample reported practicing meditation, 73% of the spiritual sample reported practicing

meditation. Although the link between meditation and alogia has not been directly examined and requires further research, there is evidence that long-term meditation improves higher-order cognitive processes (Cahn & Polich, 2006). A recent study by Zeidan, Johnson, Diamond, David, and Goolkasian (2010) randomly allocated 63 students, with no prior meditation experience, to groups that received four 20-minute sessions of either meditation training or listening to a recorded book. Brief mindfulness training significantly improved attention, executive functioning, working memory, and visuospatial processing (Zeidan et al., 2010). This explanation is only tentative, however, until future research can investigate the link between meditation and alogia.

The study provides evidence for the reliability and validity of the SES-R and EPSS-R. Importantly, the findings suggest that SE is a distinct construct, overlaps considerably with the positive aspects of psychosis, and can be differentiated from psychosis by its divergent relationship with alogia. The difference between SE and psychosis is further highlighted given the divergent relationship between SE and depression, anxiety, and stress. If the SES-R was in fact measuring psychosis, we would expect a convergent relationship with the DASS-21 given the high comorbidity between psychosis, depression, anxiety, and stress (Van Winkel et al., 2008; Wigman et al., 2012). This suggests that the concept of spiritual problems is indeed a distinct construct and should be differentiated from psychopathology. The SES-R may therefore provide the clinician with a quick and easy test for administration to clients with psychotic symptoms that have spiritual themes. For example, if the client scores above one standard deviation of the normal population on the SES-R (Goretzki et al., 2009), the clinician might consider using the differential diagnosis guidelines outlined by Grof and Grof (1989) and Yang et al. (2006) in differentiating SE from psychosis.

Despite the SES-R being the most reliable and valid measure of SE to date, it has several drawbacks. First, there is no sensible cutoff criterion for the SES-R when establishing whether someone has experienced a SE. The criterion suggested by Goretzki et al. (2009) is a score of one deviation above the mean. This may be too simplistic, given that most spiritual experiences are not associated with psychopathology (Cardena et al., 2000). Second, it assesses only the anomalous experiences associated with the SE, ignoring other psychosocial factors that coexist with SE. For instance, lack of spiritual conceptual framework, physical or emotional flexibility, and positive social support along with dysfunctions in daily, social, and occupational functioning have all been implicated as coexisting factors of SE (Bragdon, 1998; Grof & Grof, 1989; Yang et al., 2006). Lastly, as the SES-R is a generalized indicator of SE, it does not allow the clinician to identify which subtype(s) of SE were experienced by the client.

Findings of the current study must be evaluated with regard to several limitations of the research. First, the design of the current study relies heavily on self-report assessment, which is susceptible to errors or distortions in memory, response biases, and introspective awareness (Haslam, 2007). Future studies on SE measurement could be supplemented with the use of observer reports (Hill & Pargament, 2003) and/or ecological momentary assessment, which "involves repeated sampling of subjects' current behaviors and experiences in real time, in subjects' natural environments" (Shiffman, Stone, & Hufford, 2008, p. 1). Further criticism could be leveled at the fact that the alogia factor in the EPSS-R is not representative of the breadth of negative symptoms associated with psychosis in clinical patients, making comparisons between patients and the normal population difficult. Although it was chosen specifically for its ability to test the divergent validity of the SES-R, further studies could test and improve the validity of the EPSS-R by (a) administering the scale along with the CAPE in clinical settings to establish links and overlaps, (b) supplement the alogia scale with milder negative items to cover the breadth of negative symptoms experienced by psychotic patients, and (c) administering the scale in a nonanonymous online setting where researchers can contact participants who show high levels of negative symptoms. A final limitation of the current study concerns the possible selection bias in the recruitment procedure of study participants. As individuals who have experienced a SE are a population of interest that is difficult to access, it was deemed appropriate to use online snowball sampling. This method not only had the potential to greatly increase the number of participants in each sample, but to maximize the chances of collecting data on anomalous experiences with spiritual themes. Samples acquired from Internet sampling, however, may be biased and therefore not generalizable to the wider population (Nosek, Banaji, & Greenwald, 2002). Attaining a more random sample could be realized by recruiting a very large independent sample of individuals who have and have not experienced a SE and then allocating a random proportion of these participants to involvement in the study (Nosek et al., 2002). The drawback of using this approach, however, is the difficulty of recruiting an even larger initial sample than the large sample already required for a study employing factor analysis.

Given that establishing construct validity is an ongoing process (Clark & Watson, 1995), future studies could investigate the structural, convergent, discriminant, and concurrent validity of the SES-R in different samples representing: the normal population, those who have experienced a SE and those with a psychotic disorder. CFAs could be used to test whether the unidimensional SES-R model fits the data in each of these samples. Convergent validity could be further tested by stratifying samples in accordance with psychosocial factors linked with SE (Bragdon, 1998; Grof & Grof, 1989;

Yang et al., 2006). Discriminant validity could be further demonstrated by showing that the SES-R is not associated with alogia in each of these samples. Investigating the relationship between the SES-R and diagnostic criteria for SE and spiritual problems (e.g., Grof & Grof, 1986, 1989; Lukoff, 1985; Yang et al., 2006) in each of these samples would not only strengthen concurrent validity of the SES-R but also provide a more synthesized framework for differentiating SE from psychopathology. Also, it would be useful to include a psychosis scale that has been validated in nonclinical and clinical populations, such as the CAPE, to allow for cross-sample comparisons of the relationships between SE and the factors of psychosis. Another area of focus could be the development of scales that reliably and validly measure the SE subtypes outlined by past research (e.g., Cardena et al., 2000; Grof & Grof, 1989). These suggested developments would provide clinicians with more effective instruments to differentiate SE from psychopathology.

Appendix A

1. *Unitive Consciousness* or "Peak Experiences" are commonly described as exciting or joyous moments in life, including sudden intense feelings of well-being, happiness, wonder, rapture, awe, and possibly also containing a transcendental awareness of unity or higher truth.
2. Shamans are initiated, often involuntarily, by undergoing a *Shamanic Illness*, where they lose contact with their environment and experience a range of frightening and euphoric states. Shamanism has been described as a cluster of traditions whose aim is to enter non-ordinary states of consciousness in order to travel to and interact with entities in other realms, with the interest of learning, acquiring power, healing, and serving their community.
3. *Near-death Experiences* are commonly defined by a wide range of personal experiences related to impending death, which may include sensations of bodily detachment, feelings of levitation, extreme fear, total serenity, presence of intense light, or the experience of total dissolution.
4. *Kundalini Awakening* is a transformative physio-psycho-spiritual process outlined in the Yogic systems of Hinduism and Taoism. It usually presents with a diverse range of physical and psychological symptoms (e.g., intense involuntary bodily movements, psychological upheavals, or mystical experiences).
5. *The Crisis of Psychic Opening* refers to psychic phenomena described in various religious and spiritual texts, such as such as out-of-body experiences, precognition, premonition, channeling, and sudden healing abilities.

6. *Channeling* is often classified under psychic phenomena, being described as an experience whereby "a person purports to transmit information or messages directly from a personality or consciousness other than his or her own, usually through automatic writing or trance speaking; this other personality usually claims to be a non-physical spirit or being."
7. *Psychological Renewal through Return to the Center* is characterized by the involuntary flooding of impressive, distressing, and/or euphoric archetypal imagery (i.e., ancient patterns that form the content of religions, mythologies, and legends) into the person's consciousness.
8. Many individuals around the world have reported experiencing what they thought was *Past Life Experiences*. These recollections often include strong emotions related to a series of events, portraying the personal situations and experiences of a person in another country and/or period of history.
9. *Possession States* often refer to the control exerted over a human body by external forces or entities, resulting in visible changes in health and behavior. For example, evangelical Christians often invite the Holy Spirit to possess them, which results in "speaking in tongues" and body-shaking.
10. Individuals who report *Alien Abduction Experiences* describe being taken against their will by nonhuman entities to comply with complex physical and psychological procedures.

Appendix B

Websites/Facebook Groups Where Advertisement to Spiritual Sample Was Displayed

Websites:

- www.psychforums.com
- www.shalomplace.org
- www.spiritualforum.org

Facebook Groups:

- Osho
- Spirituality
- Mental Health
- Positive Psychology
- Spiritual Emergency Network
- Psychology

Appendix C

Online Questionnaire: Demographic Information

The following questionnaire contains two sections. The first section aims to collect some general information about you. The second section will be asking for more specific information about your spiritual experiences, spirituality, and well-being. Some of the questions are similar in content. However, they are necessary, so please bear with the process.

This research is seeking information about extraordinary experiences that occur in the natural, un-intoxicated state, so it is important that you *do not include* those instances when you may have been under the influence of drugs.

Please choose the answer that best fits your experience by highlighting "Y" for yes, "N" for no, or "?" for unsure.

Section 1

Year of Birth: …… Sex: …… Nationality: ……..

Are you studying either PSY101 or PSY102 at Macquarie University? Y N

Do you consider yourself a religious person? Y N

Do you consider yourself a spiritual person? Y N

If so, what is your main method of practice? (e.g., attending church, mediation, etc.)

How often do you practice? (e.g., daily, once a week, etc.)
…….

How many years have you practiced your current spiritual/religious path?
……..

*Have you ever experienced an extraordinary positive or negative experience that was difficult to describe or understand? Y ? N

*Have you ever experienced a period of rapid personal or spiritual Growth that became chaotic or overwhelming? Y ? N

If you answered "NO" to both of the above questions with an asterisk (*), please go to Section II.

If you answered "YES" to any of the above questions with an asterisk (*), when did you have this (these) experience(s)? ……

How long did it (they) last? ……

Are you undergoing such an experience right now? ……

Did you see a mental health professional about it (them)? Y N

If yes, what was the outcome? ……..

Were you prescribed any kind of medication? Y N

If so, what medication were you prescribed? ……

How long were you (have been) on medication? ……

If you didn't see a mental health professional, what happened? ……

Until this experience were you able to maintain a good level of functioning in your daily activities, work, studies?	Y	?	N
During this experience were (are) you able to maintain a good level of functioning in your daily activities, work, studies?	Y	?	N
After this experience were (are) you able to maintain a good level of functioning in your daily activities, work, studies?	Y	?	N
Until this experience were you able to maintain your social life and intimate relationships?	Y	?	N
During this experience were (are) you able to maintain your social life and intimate relationships?	Y	?	N
After this experience were (are) you able to maintain your social life and intimate relationships?	Y	?	N
During your experience(s) did (do) you generally hold a Positive exploratory attitude?	Y	?	N
During your experience(s) were (are) you able to maintain a level of insight into the unusual nature of your thoughts and behavior?	Y	?	N
Were (are) you able to integrate your experience(s) into your everyday life?	Y	?	N
Were you able to make meaning from your experience(s)?	Y	?	N
Have your experience(s) prompted you to make changes in the way you live?	Y	?	N
During your experience(s) were (are) you ever at risk of attempting suicide or harming others?	Y	?	N

During this (these) experiences: (Please circle most correct answer)				
	Never			Constantly
I received support from my family	1	2	3	4
I received support from my friends	1	2	3	4
I received support from a romantic partner	1	2	3	4
I received support from a spiritual/religious community	1	2	3	4
I received support from my workplace	1	2	3	4
I received support from a mentor	1	2	3	4

Appendix D

Spiritual Emergency Scale–Revised (SES-R) Items

- Have you ever experienced the presence of something that has a divine nature and is radically different from your ordinary perception of the real world?
- Have you ever had the need to fight off or try to control the actions of a negative being or entity?
- Have you ever experienced rich connections with mythological symbols of ancient history?
- Have you ever been aware of the presence of spiritual entities or beings?
- Have you ever lost your sense of reference as your outer and inner worlds dissolved?
- Have you ever experienced the spontaneous production of complex visual geometrical images or chants inside your head?
- Have you ever had the sense of becoming one with humanity, nature, the creative energy of the universe and/or God?
- Have you ever had the spontaneous desire to create rituals?
- Have you ever been overwhelmed by powerful emotions and physical sensations, concerning yourself and others in various circumstances and historical settings?
- Have you ever spontaneously attained profound insights into the nature of reality?
- Have you ever undertaken a powerful inner experience that involved a journey into another world?
- Have you ever had the ability to move in and out of non-ordinary states of consciousness at will?

- Have you ever spontaneously received accurate information about things in the past, present or future by extra-sensory means?
- Have you ever experienced living what seemed to be another life, in another time and place, in great detail?
- Have you developed a deep change in consciousness during which you lost contact with everyday reality?
- Have you ever experienced a visionary state, taking you back through your own history and that of mankind to creation?
- Have you ever felt a sense of overcoming the usual divisions of the body and mind and reaching a state of complete inner unity and wholeness?
- Have you ever spontaneously gained a greater understanding of the cosmos?
- Have you ever experienced going beyond your normal understanding of time and space and entered a timeless realm where these categories no longer apply?
- Have you ever heard voices, music or the repetition of mantras, without knowing where they're coming from?
- Have you experienced visions or insights, in which you received sacred teachings and/or healing abilities in order to help others?
- Have you experienced intense sensations of energy and/or heat streaming along your spine?
- Have you ever spontaneously lost your sense of identity?
- Have you ever felt like you have personally witnessed detailed sequences of events taking place in other historical periods and/or cultures that you have no previous exposure to?
- Have you ever spontaneously attained profound insights into the nature of reality?
- Have you ever been able to see auras around people, animals, plants or other living things?
- Have you ever experienced an increased connection with animals and plants and the elemental forces of nature?
- Have you ever been aware of a huge battle being played out between the forces of good and evil or light and darkness?
- Have you experienced the destruction of an old sense of identity followed by the rebirth and a renewed purpose for living?
- Have you ever experienced a greater awareness of the inter-connectedness of all things?

Appendix E

Experiences of Psychotic Symptoms Scale–Revised (EPSS-R) Items

Positive Symptoms:

- Have you ever found that the familiar boundaries between people, events, time and space were blurred or not as accessible as they once were?
- Have you ever experienced distressing voices inside your head that didn't seem to belong to you?
- Have you ever feel strange and cut off from the world with everything moving in slow motion?
- Have you ever been really convinced of something being real even though others did not share the same belief?
- Have you ever found yourself desperately trying to make sense of an unfamiliar environment?
- Have you ever experienced someone outside of yourself controlling your body or actions?
- Have you ever heard voices as distinct from your own coming from inside your head?
- Have you ever experienced significant difficulties in keeping up with social and/or occupational obligations?
- Have you ever felt that your internal world was being played out in the external communication of those around you?
- Have you ever found your everyday thoughts becoming confused or not joining up properly?
- Have you ever experienced seeing, hearing, feeling, smelling or tasting something that no one else could?
- Have you ever found yourself laughing inappropriately or becoming angry or upset without a reason?

Symptoms of Alogia:

- Have you ever experienced a time when your sentences were unclear or didn't make sense?
- Have you ever believed that your thoughts were being interfered with in some way?
- Have you ever experienced great difficulty in organizing your thoughts?

Appendix F

Table F1. Summary of Fit Indices of One-Factor Spiritual Emergency Model (SES-R) Item Parcels in the Student and Spiritual Samples.

Model	χ^2/df	CFI	TLI	RMSEA	RMSEA 90% CI
Item Parcel 1[a]	.662***	1.00***	1.00***	.000***	(.000-.134)
Item Parcel 1[b]	.268***	1.00***	1.00***	.000***	(.000-.105)
Item Parcel 2[a]	1.359***	.982***	.965***	.056***	(.000-.151)
Item Parcel 2[b]	.923***	1.00***	1.00***	.000***	(.000-.135)
Item Parcel 3[a]	.265***	1.00***	1.00***	.000***	(.000-.036)
Item Parcel 3[b]	1.172***	.995***	.990***	.042***	(.000-.151)
Item Parcel 4[a]	.402***	1.00***	1.00***	.000***	(.000-.110)
Item Parcel 4[b]	1.026***	.999***	.998***	.016***	(.000-.172)
Item Parcel 5[a]	.598***	1.00***	1.00***	.000***	(.000-.130)
Item Parcel 5[b]	.931***	1.00***	1.00***	.000***	(.000-.166)
Item Parcel 6[a]	1.235***	.993***	.983***	.046***	(.000-.155)
Item Parcel 6[b]	0.931***	1.00 ***	1.00***	.000***	(.000-.166)

Note. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation.
a. Student sample.
b. Spiritual sample.
***$p < .0005$.

Appendix G

Table G1. Results of *t* Tests Comparing First-Year Psychology Students Who Did and Did Not Complete the Second Part of the Study on the Outcome and Predictor Variables.

	Responded		Did not respond			
Variable	*M*	*SD*	*M*	*SD*	*t*(94)	Sig. of *t* (2-tailed)
Gender[a]	0.82	0.39	0.87	0.34	−.53	.597
Age	21.38	5.50	22.22	6.96	−.60	.551
Spiritual emergency	60.55	24.07	56.04	20.78	.81	.422
Positive psychosis	31.47	10.13	26.78	9.17	1.98	.051
Alogia	8.86	3.36	8.48	2.71	.50	.618

a. Male = 0, female = 1.

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References

Allman, L. S., de la Roche, O., Elkins, D. N., & Weathers, R. S. (1992). Psychotherapists' attitudes towards clients reporting mystical experiences. *Psychotherapy*, *29*, 564-569. doi:10.1037/0033-3204.29.4.564

American Psychological Association. (2010). 2010 Amendments to the 2002 "Ethical principles of psychologists and code of conduct." *American Psychologist*, *56*, 494. doi:10.1037/a0020168

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

Anthony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales (DASS) in clinical groups and a community sample. *Psychological Assessment*, *10*, 176-181.

Astin, A. W., Astin, H. S., & Lindoholm, J. A. (2011). Assessing students' spiritual and religious qualities. *Journal of College Student Development*, *52*, 39-61. doi:10.1353/csd.2011.0009

Back, K., & Bourque, L. (1970). Can feelings be enumerated? *Behavioral Sciences*, *15*, 487-496.

Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural equation modelling. *Sociological Methods & Research*, *17*, 303-316.

Brinkerhoff, M. B., & Jacob, J. C. (1987). Quasi-religious meaning systems, official religion, and quality of life in an alternative lifestyle: A survey from the back-to-the-land movement. *Journal for the Scientific Study of Religion*, *26*, 63-80.

Boisen, A. T. (1962). *The exploration of the inner world*. New York, NY: Harper & Row.

Bowman, E. S. (2009). Teaching religious and spiritual issues. In P. Huguelet & H. G. Koenig (Eds.), *Religion and spirituality in psychiatry* (pp. 332-353). Cambridge, England: Cambridge University Press. doi:10.1017/CBO9780511576843.022

Bragdon, E. (1998). *A sourcebook for helping people in spiritual emergency*. Aptos, CA: Lightening Up Press.

Bragdon, E. (1993). *A source book for helping people with spiritual problems*. Aptos, CA: Lightening Up Press.

Buckley, P. F., Miller, B. J., Lehrer, D. S., & Castle, D. J. (2009). Psychiatric comorbidities and schizophrenia. *Schizophrenia Bulletin*, *35*, 383-402. doi:10.1093/schbul/sbn135

Cahn, B. R., & Polich, J. (2006). Meditation states and traits: EEG, ERP, and neuroimaging studies. *Psychological Bulletin*, *132*, 180-211. doi:10.1037/0033-2909.132.2.180

Cardena, E., Lynn, S. J., & Krippner, S. (Eds.). (2000). *Varieties of anomalous experience: Examining the scientific evidence*. Washington, DC: American Psychological Association. doi:10.1037/10371-000

Cashwell, C. S., & Young, J. S. (2005). *Integrating spirituality and religion into counseling: A guide to competent practice*. Alexandria, VA: American Counseling Association.

Chirban, J. T. (2001). Assessing religious and spiritual concerns in psychotherapy. In T. G. Plante & A. C. Sherman (Eds.), *Faith and health: Psychological perspectives* (pp. 265-290). New York, NY: Guilford.

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, *7*, 309-319. doi:10.1037/1040-3590.7.3.309

Cosoff, S., & Hafner, R. J. (1998). The prevalence of comorbid anxiety in schizophrenia, schizoaffective disorder and bipolar disorder. *Australian and New Zealand Journal of Psychiatry*, *32*, 67-72. doi:10.1046/j.1440-1614.1998.00374.x

Dabrowski, K. (1964). *Positive disintegration*. Boston, MA: Little Brown.

Davis, J. A., & Smith, T. W. (1985). *General social surveys, 1972-1985*. Chicago, IL: National Opinion Research Center.

DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage.

Ellenberger, H. F. (1970). *The discovery of the unconscious: The history and evolution of dynamic psychiatry*. New York, NY: Basic Books.

Emmons, R. A. (1999). Religion in the psychology of personality: An introduction. *Journal of Personality*, *67*, 873-888.

Goretzki, M., Thalbourne, M. A., & Storm, L. (2009). The questionnaire measurement of spiritual emergency. *Journal of Transpersonal Psychology*, *41*, 81-97.

Greeley, A. (1987). Mysticism goes mainstream. *American Health*, *6*, 47-49.

Grof, S., & Grof, C. (1986). Spiritual emergency: The understanding and treatment of transpersonal crises. *ReVision*, *8*(2), 7-20.

Grof, S., & Grof, C. (Eds.). (1989). *Spiritual emergency: When personal transformation becomes a crisis*. Los Angeles, CA: Tarcher.

Grof, S., & Grof, C. (1991). *The stormy search for self: Understanding and living with spiritual emergency*. London, England: Mandala.

Haddock, G., Wood, L., Watts, R., Dunn, G., Morrison, A. P., & Price, J. (2011). The Subjective Experiences of Psychosis Scale (SEPS): Psychometric evaluation of a scale to assess outcome in psychosis. *Schizophrenia Research*, *133*, 244-249. doi:10.1016/j.schres.2011.09.023

Hanssen, M., Peeters, F., Krabbendam, L., Radstake, S., Verdoux, H., & van Os, J. (2003). How psychotic are individuals with non-psychotic disorders? *Social Psychiatry and Psychiatric Epidemiology*, *38*, 149-154. doi:10.1007/s00127-003-0622-7

Haslam, N. (2007). *Introduction to personality and intelligence*. London, England: Sage.

Hau, K. T., & Marsh, H. W. (2004). The use of item parcels in structural equation modelling: Non-normal data and small sample sizes. *British Journal of Mathematical Statistical Psychology*, *57*, 327-351.

Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychologist*, *58*, 64-74. doi:10.1037/0003-066X.58.1.64

Hood, R. W. (1974). Psychological strength and the report of intense religious experience. *Journal of the Scientific Study of Religion*, *13*, 65-71.

Hood, R. W. (1975). The construction and preliminary validation of a measure of reported mystical experience. *Journal for the Scientific Study of Religion*, *14*, 29-41.

Hood, R. W. (1977). Differential triggering of mystical experience as a function of self-actualization. *Review of Religious Research*, *18*, 264-270.

Hood, R. W., Morris, R. J., & Watson, P. J. (1993). Factor analysis of Hood's Mysticism Scale. *Psychological Reports*, *73*, 1176-1178.

Hood, R. W., Ghorbani, N., Watson, P. J., Ghramaleki, A. F., Bing, M. N., Davison, H. K., . . . Williamson, W. P. (2001). Dimensions of the mysticism scale: Conforming the three-factor structure in the United States and Iran. *Journal for the Scientific Study of Religion*, *40*, 691-705. doi:10.1111/0021-8294.00085

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55. doi 10.1080/10705519909540118

Johnson, C. V., Hayes, J., & Wade, N. G. (2007). Psychotherapy with troubled spirits: A qualitative investigation. *Psychotherapy Research*, *17*, 450-460. doi:10.1080/10503300600953520

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. doi:10.1177/0022167808314174

Kass, J. D., Friedman, R., Leserman, J., Zuttermeister, P. C., & Benson, H. (1991). Health outcomes and a new index of spiritual experience. *Journal for the Scientific Study of Religion*, *30*, 203-211.

Kavanaugh, K., & Rodriguez, O. (Trans.) (1991). *Teresa of Avila, interior castle: Classics of western spirituality*. New York, NY: Paulist Press.

Kishton, J. M., & Widaman, K. F. (1994). Unidimensional versus domain representative parcels of questionnaire items: An empirical example. *Educational and Psychological Measurement*, *54*, 757-765. doi:10.1177/0013164494054003022

Kitamura, T., Okazaki, Y., Fujinawa, A., Yoshino, M., & Kasahara, Y. (1995). Symptoms of psychoses. A factor-analytic study. *British Journal of Psychiatry*, *166*, 236-240. doi:10.1192/bjp.166.2.236

Klem, L. (2000). Structural equation modeling. In L. G. Grimm & P.R. Yarnord (Eds.), *Reading and understanding more multivariate statistics* (pp. 227-260). Washington, DC: American Psychological Association.

Konings, M., Bak, M., Hanssen, M., van Os, J., & Krabbendam, L. (2006). Validity and reliability of the CAPE: A self-report instrument for the measurement of psychotic experiences in the general population. *Acta Psychiatria Scandinavia*, *114*, 55-61. doi:10.1111/j.1600-0447.2005.00741.x

Kornfield, J. (2001). *After the ecstasy, the laundry: How the heart grows wise on the spiritual path*. Westminster, England: Bantam Books.

Kraut, R., Olson, J., Banaji, M., Bruckman, A., Cohen, J., & Couper, M. (2004). Psychological research online: Report of board of scientific affairs' advisory group on the conduct of research on the internet. *American Psychologist*, *59*, 105-117. doi:10.1037/0003-066X.59.2.105

La Barre, W. (1990). *Ghost dance: The origins of religion*. Long Grove, IL: Waveland Press.

Lilienfeld, S. O. (2007). Psychological treatments that cause harm. *Perspectives on Psychological Science*, *2*, 53-70. doi:10.1111/j.1745-6916.2007.00029.x

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, *9*, 151-173. doi:10.1207/S15328007SEM0902_1

Lovibond, P. F. (1998). Long term stability of depression, anxiety, and stress syndromes. *Journal of Abnormal Psychology*, *107*, 520-526. doi:10.1037/0021-843X.107.3.520

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Sydney, Australia: Psychology Foundation.

Lukoff, D. (1985). The diagnosis of mystical experiences with psychotic features. *Journal of Transpersonal Psychology*, *17*, 155-181.

Lukoff, D. (2007). Visionary spiritual experiences. *Southern Medical Journal*, *100*, 635-641. doi:10.1097/SMJ.0b013e318060072f

Lukoff, D., & Lu, F. (1988). Transpersonal psychology research review topic: Mystical experience. *Journal of Transpersonal Psychology*, *20*(2), 161-184.

Lukoff, D., Lu, F., & Turner, R. (1992). Toward a more culturally sensitive DSM-IV: Psychoreligious and psychospiritual problems. *Journal of Nervous Mental Diseases*, *180*, 673-682.

Mata, I., Gilvarry, C. M., Jones, P. B., Lewis, S. W., Murray, R. M., & Sham, P. C. (2003). Schizotypal personality traits in non-psychotic relatives are associated with positive symptoms in psychotic probands. *Schizophrenia Bulletin*, *29*, 273-283.

Mercer, C., & Durham, T. W. (2001). The hood mysticism scale: Does the presence of a neutral response-item affect response style. *Psychological Reports*, *88*, 335-338. doi:10.2466/PR0.88.2.335-338

Messick, S. (1993). Validity. In L. Linn (Ed.), *Educational measurement* (2nd ed., pp. 13-104). Phoenix, AZ: American Council on Education and Oryx Press.

Nelson, J. E. (1994). *Healing the split: Integrating spirit into our understanding of the mentally ill* (Rev. ed.). Albany: State Universities of New York Press.

Norman, R. M., Malla, A. K., McLean, T., Voruganti, L. P., Cortese, L., McIntosh, E., . . . Rickwood, A. (2000). The relationship of symptoms and level of functioning in

schizophrenia to general well-being and the Quality of Life Scale. *Acta Psychiatria Scandinavia*, *102*, 303-309. doi:10.1034/j.1600-0447.2000.102004303.x

Norton, P. J. (2007). Depression Anxiety and Stress (DASS-21): Psychometric properties across four racial groups. *Journal of Anxiety, Stress and Coping*, *20*, 253-265. doi:10.1080/10615800701309279

Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). E-Research: Ethics, security, design, and control in psychological research on the internet. *Journal of Social Issues*, *59*, 161-176. doi:10.1111/1540-4560.00254

Olfson, M., Lewis-Fernandez, R., Weissman, M. M., Feder, A., Gameroff, M. J., Pilowsky, D., & Fuentes, M. (2002). Psychotic symptoms in an urban general medical practice. *American Journal of Psychiatry*, *159*, 1412-1419. doi:10.1176/appi.ajp.159.8.1412

Perry, J. (1977). Psychosis and the visionary mind. *Journal of Altered States of Consciousness*, *3*, 5-13.

Saha, S., Chant, D., & McGrath, J. A. (2007). Systematic review of mortality in schizophrenia: Is the differential mortality gap worsening over time? *Archive of General Psychiatry*, *64*, 1123-1131.

Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, *4*, 1-32. doi:10.1146/annurev.clinpsy.3.022806.091415

Siris, S. G. (1991). Diagnosis of secondary depression in schizophrenia. *Schizophrenia Bulletin*, *17*, 75-89. doi:10.1093/schbul/17.1.75

Stefanis, N. C., Hanssen, M., Smirnis, N. K., Avramopoulos, D. A., Evdokimidis, I. K., Stefanis, C. N., . . . Van Os, J. (2002). Evidence that three dimensions of psychosis have a distribution in the general population. *Psychological Medicine*, *32*, 347-358.

Szabo, M. (2010). The short version of the Depression Anxiety Stress Scales (DASS-21): Factor structure in a young adolescent sample. *Journal of Adolescence*, *33*, 1-8. doi:10.1016/j.adolescence.2009.05.014

Thomas, L., & Cooper, P. (1980). Incidence and psychological correlates of intense spiritual experiences. *Journal of Transpersonal Psychology*, *12*, 75-85.

Turner, R. P., Lukoff, D., Barnhouse, R. T., & Lu, F. G. (1995). A culturally sensitive diagnostic category in the DSM-IV. *Journal of Nervous and Mental Disease*, *183*, 435-444. doi:10.1097/00005053-199507000-00003

Van Winkel, R., Stefanis, N. C., & Myin-Germeys, I. (2008). Psychosocial stress and psychosis: A review of the neurobiological mechanisms and the evidence for gene-stress interaction. *Schizophrenia Bulletin*, *34*, 1095-1105. doi:10.1093/schbul/sbn101

Verdoux, H., & van Os, J. (2002). Psychotic symptoms in non-clinical populations and the continuum of psychosis. *Schizophrenia Research*, *54*, 59-65. doi:10.1016/S0920-9964(01)00352-8

Vollema, M. G., & Hoijtink, H. (2000). The multidimensionality of self-report schizotypy in a psychiatric population: An analysis using multidimensional Rasch models. *Schizophrenia Bulletin*, *26*, 565-575.

Watson, K. W. (1994). Spiritual emergency: Concepts and implications for psychotherapy. *Journal of Humanistic Psychology*, *34*, 22-45. doi:10.1177/00221678940342003

Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, *34*, 806-838. doi:10.1177/0011000006288127

Wigman, J. T. W., van Neirop, M., Vollebergh, W. A. M., Lieb, R., Beesdo-Baum, K., Wittchen, H. U., & van Os, J. (2012). Evidence that psychotic symptoms are prevalent in disorders of anxiety and depression, impacting on illness onset, risk and severity—Implications for diagnosis and ultra-high risk research. *Schizophrenia Bulletin*, *38*, 247-257. doi:10.1093/schbul/sbr196

Yang, P. C., Lukoff, D., & Lu, F. (2006). Working with spiritual issues in clinical practice. *Psychiatric Annals*, *36*, 168-174.

Yank, G. R., Bentley, M. S. S. W., & Hargrove, D. S. (1993). The vulnerability stress model of schizophrenia: Advances in psychosocial treatment. *American Journal of Orthopsychiatry*, *63*, 55-69.

Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and Cognition*, *19*, 597-605. doi:10.1016/j.concog.2010.03.014

Author Biographies

Gerhard Bronn recently completed his psychology honors degree at Macquarie University, Sydney, Australia, and is on track to enroll in a doctoral research program. He works as a mental health coach encouraging individuals to optimize their life engagement.

Doris McIlwain is an associate professor in the Department of Psychology at Macquarie University, Sydney, Australia. She chairs and teaches two third year courses: Personality Psychology and Philosophy of Psychoanalysis. She supervises many doctoral and masters research students. Her research addresses charismatic leader–follower relations, and she has developed a spiritual beliefs scale. She had published in the area of emotion, memory, and movement, exploring emotion and embodiment with yoga practitioners, therapists, and sports people.