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EXISTENTIAL CONCERNS AS PREDICTORS OF SPIRITUAL EMERGENCY AND PSYCHOSIS

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ABSTRACT: The cause of psychosis remains uncertain, and the current biological model for treating psychosis is only about 41% effective. Calls have been made for new hypotheses to be examined to aid in the understanding and treatment of psychosis. Evidence suggests that spiritual emergency (SE) can be psychologically healing and can be differentiated from psychosis by its divergent relationship with alogia and depression. Existential psychologists have posited a relationship between psychosis and existential distress (ED). The present study aimed to confirm alogia and depression as differentiating variables between psychosis and SE, in addition to exploring the relationships SE and psychosis have with existential concerns (ECs). Results confirmed that alogia and depression predict psychosis only, and there was no overlap in the ECs that predicted SE and psychosis. Psychosis was predicted by increased death anxiety, existential loneliness, and identity distress, while increased meaning (search for and presence of), psychological reactance, and decreased death anxiety predicted SE. The results indicate that SE may lead to psychological healing given the reduction in ED, while psychosis seems more a means of coping with ED. The findings have implications for the diagnosis of and potential treatments for psychosis.

Keywords: psychosis, spiritual emergency, existential concerns, existentialism, spirituality.

Psychosis is a highly debilitating psychological disorder that causes the individual to experience a phenomenal break from reality. There are five key symptoms prevalent in psychosis outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–5*): (a) delusions, (b) hallucinations, (c) disorganized thinking and speech (e.g., alogia), (d) grossly disorganized or abnormal motor behaviour, and (e) negative symptoms, such as diminished emotional expression, decrease in self-motivated purposeful activities and asociality (American Psychiatric Association, 2013). Gaebel and Zielasek (2015) additionally point out that "depressive and manic symptoms also come into play" (p. 12). There are many factors that are associated with psychosis, and the 'umbrella review' by Radua et al. (2018) is perhaps the most comprehensive report to date that systematically assessed a host of reviews and meta-analyses. Their conclusions were that the key factors associated with psychosis include "trait anhedonia, premorbid IQ, minor physical anomalies" (p. 49), and "urbanicity [i.e., "socio-environmental adversities"]", which tie in with "substance use, social isolation, social defeat, social fragmentation, and discrimination" (p. 58). In their meta-analysis, Oliver et al. (2020) found suggestive evidence (or greater) that transition to psychosis is associated with attenuated positive psychotic symptoms (e.g., "obsessive thoughts, derealization and depersonalization experiences," p. 116), "global functioning" (to do with social, psychological, and occupational functioning as, for example, in

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everyday living), and negative psychotic symptoms (such as loss of motivation, "social anhedonia and ideational richness," p. 117).

The global prevalence of psychotic disorders is estimated to be between 3.8 to 4.6 per 1000 persons and is ranked among the top 15 leading causes of disability worldwide (Moreno-Küstner, Martín, & Pastor, 2018). Thus, the severe impact of psychosis necessitates a comprehensive understanding of the cause and ideal treatments for the disorder, yet currently the aetiology of psychotic disorders is not well understood (Moncrieff, 2009). The prevalent explanatory hypothesis is the "dopamine hypothesis," a biological explanation that proposes psychosis is triggered by a dysregulation of dopaminergic activity in the brain (Tost, Alam & Meyer-Lindenberg, 2010). This operational theory has been the dominant theory since the discovery of the first effective antipsychotic agents in the early 1950s, but the reasons why this dysregulation occurs and what influences play a role in its development are still uncertain (Howes & Kapur, 2009). Examples of evidence supporting this hypothesis come from Gaebel and Zielasek (2015), who found evidence indicating a relationship between some psychosis symptoms and "alterations of dopamine neurotransmission" (p. 13), and Radua et al. (2018) also note the neurobiological links to psychosis.

The dopamine hypothesis is pragmatically useful due to the ease of using biological treatments such as antipsychotic medication, but it has limitations. Currently there is no clear biological marker that we can use to identify psychosis, and there are numerous cases of psychosis that cannot be explained biologically (Shields, 2014). Additionally, the efficacy of biological treatments using antipsychotic drugs to reduce psychotic symptoms and prevent relapse is only 41% (Leucht et al., 2009). The dopamine hypothesis also lacks cultural sensitivity as it fails to account for religious and spiritual variables, leading to the potential misdiagnosis of spiritual experiences and introduction of harmful iatrogenic (treatment related) effects (Bowman, 2009; Cashwell & Young, 2005; Chirban, 2001; Johnson, Hayes, & Wade, 2007). Consequently, calls have been made for new hypotheses to be investigated regarding the aetiology and potential treatments of psychosis (Moncrieff, 2009).

The aims of this exploratory and confirmatory study are complementary, and concern the nature of psychosis, 'spiritual emergency' (SE), and 'existential distress' (ED). We use the term 'existential distress' (and its acronym ED) in a global sense to represent the more general state of emotional and cognitive distress caused by any or all five of the so-called 'existential concerns' (ECs), nominally labelled 'death', 'isolation', 'identity', 'freedom' and 'meaning' (Koole, Greenberg, & Pyszczynski, 2006). Specifically, the study is an investigation of the hypotheses: (a) psychosis as a coping mechanism for existential distress, and (b) spiritual emergency as a healing mechanism for existential distress. The former posits that when one's ED becomes too great, the psyche produces an alternative more bearable reality to help one cope (Shields, 2014). The latter posits that certain types of psychosis that are not biologically explainable may be due to the psyche experiencing an SE that may lead to healing seen through a reduction in ED; in other words, spiritual awakening/emergence (Grof & Grof, 1990).

Psychosis as a Coping Mechanism for Existential Distress

Existential psychology is a humanistic approach to understanding psychopathology as uniquely individual experiences and draws on concepts from existential philosophy to explain psychological conditions in terms of the impact one's existential beliefs have on one's psychological well-being (Hunot et al., 2013). The principles of existentialism are applied to psychology to allow for a holistic view of human beings by considering their unique capacity for consciousness, and the relationship that the ECs have with mental well-being.

Existential psychologists argue the aetiology of mental disorders from a psychological and phenomenological perspective—that is, as subjectively experienced by each individual (Frankl, 1979; Thorne, 1973; Yalom, 1980). Specifically, they suggest that as conscious beings we need to contend with, accept and find meaning within our existential reality (Saunders, 1988). Thorne also noted the incapacitating effects of self-doubt, and concerns over self-worth and lack of meaning, and pointed out existential psychology's role in the integration of such complaints and disorders in the context of "Self-functioning and the state of Being in the world" (p. 387). Thus, coming to terms with our existential reality is regarded as so important, that existential psychotherapists see the avoidance of existential issues as a cause of psychopathology (Frankl, 1979; Shields, 2014; Yalom, 1980). Research suggests that existential issues are so profoundly important to us that we value the significance and meaning of life events in relation to our existential beliefs (Hirsh, 2010).

In the field of existential psychology, it has been proposed that psychosis is a coping mechanism against overwhelming ED (Shields, 2014). Under this hypothesis, psychosis occurs when individuals become overwhelmed by ECs, but refuse to acknowledge these concerns or change their behaviour. The refusal to contend with one's ECs leads to a build-up of ED, and if ED becomes too great the psyche copes by generating an alternative, more bearable reality. The psychotic episode, therefore, is a mechanism for coping with ED, as it allows an individual to escape existential realities that the individual could not otherwise avoid.

While existential psychologists agree that ED has a negative impact on one's mental wellbeing, ED as a theoretical construct still lacks a concrete definition (LeMay & Wilson, 2008). For some, ED is a 'spiritual pain' or 'suffering' that affects an individual's entire being (Cassel, 1982; Grof & Grof, 1990; Kearney, 2000; Millspaugh, 2005; Saunders, 1988), with the spiritual aspect of this pain understood to be a connection to the transcendent (i.e., referring to broader questions about existence). Cassel (1982) describes this suffering as "... the state of severe distress associated with events that threaten the intactness of the person" (p. 640). Kissane (2000) suggests that ED is experienced as an overwhelming mental turmoil, stemming from a feeling that one cannot cope, or does not know what to do to alleviate one's current life situation. While definitions vary, the recurring theme is that ED is an overwhelming aversive emotional state caused by the inability to overcome the distress caused by ECs threatening the integrity of the individual. Existential psychologists Koole et al. (2006) refined existential issues down to the 'Big Five' ECs: listed above

(namely, death, isolation, identity, freedom, and meaning—these will be discussed in detail later).

If the coping mechanism hypothesis is true it would aid in the explanation of psychotic symptoms that the biological hypothesis has yet to explain. For example, the reason why one particular type of positive symptom occurs, grandiose delusions, continues to elude researchers (McKay & Kinsbourne, 2010). If psychosis is a coping mechanism for managing ED, then grandiose delusions are the psyche generating an alternative more bearable reality to cope, whereas negative symptoms are a withdrawal from their unbearable reality (Shields, 2014).

Qualitative evidence stems from interviews with patients who have recovered from psychosis who reported that creating a new self-narrative was integral for their recovery (Roe & Davidson, 2005). In another study, six individuals who suffered from psychotic disorders were interviewed, and each revealed they had incurred an existential threat just before their psychotic break (Williams, 2011).

Researchers argue that the current model for psychosis treatment does not allow for subjective experiences, motivations, and beliefs of the patient to be considered (Grof & Grof, 1990; Yip, 2004). Interviews with psychotic patients suggest they are unhappy with their clinicians because they wish to discuss their subjective experiences, but such themes are thought to be irrelevant (McCabe et al., 2002; Van Meer et al., 2003). When psychotic patients in a care facility were interviewed about which issues were most important to them they consistently expressed existential needs such as autonomy, beliefs about existence and the meaning of their illness in their lives as most pressing (Wagner & King, 2005). These studies strongly suggest that the subjective experiences and existential needs of psychotic patients may provide insight into developing our understanding of psychosis, and that further research into the relationship between ED and psychosis is necessary.

Spiritual Emergency

The second aim of this study is to investigate the construct ‘spiritual emergency’ (SE) and explore whether SE can act as a psychological healing mechanism for ED. Bronn and McIlwain (2015) note that religious and spiritual issues have been differentiated from psychopathology in the *Diagnostic and Statistical Manual for Mental Disorders* (*DSM-V*), also including a nonpathological diagnostic category (Code V62.89: “Religious or Spiritual Problems”; American Psychiatric Association, 2013). This major step was largely precipitated by the Grofs with the main point being that SE should not lead people to seek mental health services for spiritual problems (Grof & Grof, 1990). Lukoff, Lu, and Turner (1998) see spiritual problems as “distress associated with a person’s relationship to a higher power or transcendent force that is not related to a religious organization” (pp. 22-23). The *DSM-V* also refers to spiritual problems as stemming from questions about spiritual values not necessarily related to organised church or religious institution (APA, 2013). Debate may centre on

how closely related SE is to psychosis in its presentation, but proponents of SE argue that it is a unique construct as it can be psychologically healing and treated without medication.

Grof and Grof (1990) define SE as "critical and experientially difficult stages of a profound psychological transformation that involves one's entire being" (p. 31). SE is thought to occur when one experiences a rapid and dramatic onset of personal crisis that leads to 'spiritual emergence'—a naturally occurring psychological phenomenon that is transformational in nature. Spiritual emergence involves a gradual unfolding of spiritual awareness, with the movement of an individual to a more "expanded way of being" that can lead to enhanced emotional and psychosomatic health, greater freedom of personal choices, and a deeper connection with other people, nature and the cosmos (Grof & Grof, 1990, p. 34). Spirituality in spiritual emergence should be thought of as situations and personal experiences of certain dimensions of reality that give one's life and existence, in general, a numinous quality (Grof & Grof, 1990; Jung, 1968). Typically, spiritual emergence is gradual and subtle, lasting months or years. However, if spiritual emergence is suppressed, or one experiences a dramatic life event, then spiritual emergence can be dramatic, rapid and dominate the phenomenal experiences of the individual; this is an SE (Kane, 2005).

The phenomenal experiences of SE are similar to symptoms of psychosis and may include certain manifestations of delusions, hallucinations, and disorganized/abnormal motor behaviour (Grof & Grof, 1990). As SE symptoms correspond with the DSM-V criteria for psychosis, proponents of SE argue it is often mislabelled as psychosis (Bragdon, 2013). However, conventional understandings of psychosis have been criticised for overlooking or dismissing the spiritual experiences often reported during psychosis; and by labelling spiritual experiences as delusions, conventional psychiatry may be conflating multiple constructs (Goretzki, Thalbourne, & Storm, 2009; Grof, 1985; Phillips, Lukoff, & Stone, 2009). Indeed, recent findings from Bronn and McIlwain's (2015) research led them to conclude that SE is a distinct construct and "should be differentiated from psychopathology" (p. 367).

Differentiating Psychosis from Spiritual Emergency

It is difficult to differentiate between psychosis and SE as the term psychosis is not accurately and objectively defined in contemporary psychiatry due to psychosis manifesting phenomenally in a wide multitude of forms (Grof & Grof, 1990, p. 43). While psychosis and SE can be similar in their presentation, studies have found that SE can be differentiated from psychosis by its divergent relationship with alogia and depression (Bronn & McIlwain, 2015; Storm & Goretzki, 2021). Alogia is the disfluency of thought and speech and is a common negative symptom of psychosis, but has been found to be absent for individuals experiencing an SE (Bronn & McIlwain, 2015).

Psychosis also tends to be correlated with depression, yet Bronn and McIlwain (2015) found depression using DASS-21 (Lovibond & Lovibond, 1995) did not

correlate significantly with SE, as measured on the Spiritual Emergency Scale (SES), a 30-item measure of SE constructed by Goretzki, Storm, and Thalbourne (2014); and Storm, Drinkwater, and Jinks (2017) found that scores on the SES did not correlate significantly with depression as measured on Beck's Depression Inventory-II (BDI-II) (Beck, Steer, & Brown, 1996). While the DSM-V specifies alogia and depression as symptoms of psychosis, we hypothesize that these two symptoms are unique to psychosis but not SE.

Healing Potential of Spiritual Emergency

Research indicates that therapeutic approaches that are effective for SE, are not suitable for treating psychosis (Grof & Grof, 1990**)**. In contrast to psychosis, if SE is treated using a transpersonal approach (i.e., SE is left to run its course in a safe environment under supervision) it has the potential to be a transformational healing process (Cooper et al., 2015). Individuals who experience an SE successfully have reported a wide variety of benefits that they attribute to the experience, including but not limited to: alleviating various forms of emotional and psychosomatic disorders, aiding interpersonal relationships, reducing aggressive tendencies, improving self-image, increasing tolerance towards others, building a deep sense of connection with other people and nature, and enhancing general quality of life (Grof & Grof, 1990, p. 41). As SE may act as a psychological healing process, the use of antipsychotic drugs would hinder the healing potential of the experience and may introduce harmful iatrogenic effects, potentially leading to worse health outcomes for the patient (Bronn & McIlwain, 2015). Therefore, to improve patient outcomes, it is imperative that clinicians identify variables that differentiate psychosis from SE.

Existential Concerns and Psychosis

There are many ECs that have been proposed to contribute to ED, but (as stated above) Koole et al. (2006) narrowed these down to the 'Big Five' ECs, nominally labelled: death, isolation, identity, freedom, and meaning (search for and presence of). These five ECs (or six ECs if we count 'search for meaning' and 'presence of meaning' as two separate ECs) were all found to be correlated with one another by Kretschmer and Storm (2017), supporting the notion that these proposed ECs are fundamentally related to each other and contribute to the proposed superordinate construct ED. The properties of each EC along with their potential relationship to psychosis and SE are now summarised:

Death

ECs relating to death contend with the awareness of the inevitability of death vs. the desire for a continued existence (Koole et al., 2006). Most individuals sooth ECs surrounding death in two ways: through a worldview that provides hope of a literal immortality, or through a symbolic immortality of enhanced self-esteem

through exceeding societal expectations (Burke, Martens, & Faucher, 2010). Meta-analyses have shown that death anxiety is strongest in late adolescence, coinciding with this age group being the most likely to develop psychosis (Harrop & Trower, 2001). Existential psychologists argue that this age group is particularly vulnerable because during this time-period individuals are capable of understanding their own mortality, but do not yet have a consolidated worldview to buffer against their fear of death, leading to overwhelming ED and consequently psychosis (Shields, 2014, p. 146).

Isolation

Isolation concerns relate to the need to feel connected to others vs. experiences of rejection and the knowledge that our subjective experience of reality can never be fully shared (Koole et al., 2006). Social exclusion, separation from others and ostracism serve to remind us that we are fundamentally separate from others, and our unbridgeable phenomenological gap reminds us that we are fundamentally alone in this world. As such, the more socially isolated we become, the more ED we incur due to existential loneliness.

Research reveals that social isolation significantly increases the likelihood of developing psychosis (Lim & Gleeson, 2014; Reininghaus et al., 2008), and has been posited to be a prime cause of psychosis according to the 'social deafferentation hypothesis' (Hoffman, 2007). This hypothesis suggests that high levels of social withdrawal/isolation in vulnerable individuals prompt social cognition programs to produce spurious social meaning in the form of complex, emotionally compelling hallucinations and delusions representing other persons or agents.

Identity

Personal identity concerns stem from the sense of who one is and how one fits into the world vs. uncertainties due to conflicts of self-identity (Koole et al., 2006). While particularly prevalent in adolescence, ED arises when one struggles to integrate one's vast range of experiences to create and maintain a consistent sense of self and how one fits in the world throughout one's lifespan.

To alleviate the threat to identity posed by undesirable or inconsistent information about the self, people use a wide variety of tactics, including distorting their perceptions of self and affirming or exaggerating unrelated but valued aspects of the self (McGregor, 2006). If identity distress were to become too great, these distortions of the perception of self may become severe enough to develop psychosis. In support of this claim, researchers have found substantial overlap between symptoms of identity disorders and psychosis, such as depersonalization, derealization, delusions and auditory hallucinations (Laddis & Dell, 2012; Steinberg, 1994).

Freedom

Freedom concerns relate to the experience of free will vs. external forces on behaviour, and the burden of responsibility for one's choices in response to a complex array of alternatives (Koole et al., 2006). Research inspired by reactance theory has shown that threats to freedom create an aversive psychological state (reactance) that motivates people to restore and reassert their freedom (Brehm & Brehm, 1981). If one's perception of autonomy is threatened in response to regulations or impositions, psychological reactance (reactance for short) is directed towards restoring the behaviour that is threatened through oppositional behaviour to reassert their perception of freedom.

The links that reactance may have with psychosis is conflicted. Higher levels of reactance are predictive of increased non-compliance of patients with psychotic conditions and consequently associated with greater psychopathology (Hoge et al., 1990; Kasper et al., 1997). Joubert (1990) found that happiness is negatively correlated with reactance, and Dowd et al. (1994) showed that reactance was associated with aggression, a construct they argue to be similar to depression. In contrast, reactance is positively correlated with personality variables such as *internal locus of control*, meaning one believes they have control over their life outcomes (Brehm & Brehm, 1981). Individuals with greater internal locus of control tend to have increased confidence in oneself, are happier and have better life outcomes (Phares, 1976). As there is conflicting research, the presence or absence of depression alongside reactance may be indicative of whether higher levels of reactance intensifies or lessens ED.

Meaning

Meaning concerns stem from the desire to believe life is meaningful vs. life events that seem random or inconsistent with one's bases of meaning (Koole et al., 2006). Existential psychologists argue that meaning is the greatest defence against ED (Saunders, 1988; Yalom 1980). Frankl (1959) emphasises that meaning is our primary motivation in life, and if meaning is absent then we are left with an existential vacuum that leads to psychopathology. Indeed, when treating psychosis in a psychiatric setting, it is acknowledged that in the first episode of psychosis it is imperative that the patient find meaning in the experience to increase the likelihood of successful treatment (McGorry, 1995).

Interviews with psychotic patients reveal that the desire to find meaning in their lives is their primary concern, suggesting an absence of presence of meaning, and the existence of Frankl's existential vacuum (Wagner & King, 2005). Other studies have found that psychotic patients were able to overcome their disorders by finding existential explanations (meaning) for their psychosis through individual agency, social influences, and cultural resources (i.e., spirituality/religion) (Larsen, 2004). Additionally, broad measures of religiosity have significant negative correlations with psychoticism, suggesting a protective relationship that the presence of meaning has against psychosis (Francis & Wilcox, 1996; Roman & Lester, 1999).

Existential Concerns and Spiritual Emergency

Currently, SE as a construct is almost exclusive to the transpersonal psychological literature despite increasing evidence for psychosis and SE being unique constructs (Harris, Rock & Clark, 2019). As such, there is currently no substantive quantitative research to draw on that examines the relationship between ED and SE. Although quantitative research is lacking, subjective accounts from individuals who experience SE strongly suggest a connection between SE and ECs. For example, Grof and Grof (1990) found that experiencing an SE often results in a fundamental change in existential belief within the individual. These changes include, but are not limited to: finding more meaning and purpose in life, feeling freer (less bound or restricted) feeling interconnected or 'one' with the universe, being less fearful of death and discovering a new identity, all of which coincide with the 'Big Five' ECs.

The potential link between SE and ED is also evident in how ED and SE are described. As previously mentioned, ED has been described as a 'spiritual pain' or 'suffering' that affects an individual's entire being. This description of ED compares with SE as a "critical and experientially difficult stage of a profound psychological transformation that involves one's entire being" (Grof & Grof, 1990, p. 31). The similarities between ED and SE are so cogent that SE researchers Viggiano and Krippner (2010) have identified 'Existential Crisis' as a potential type of SE (p. 123). As such, we expect experiences of SE to have relationships with the ECs, but as this is the first study to link the two constructs quantitatively, we can only hypothesize how they might be related.

Design of the Current Study

This study aims to determine whether the six ECs are related to psychosis or SE, and to determine whether alogia, depression and the six ECs can be used to differentiate between the two constructs. Specifically, this study tests (a) the individual relationships of the ECs with each other, and the ECs with both psychosis and SE; (b) the potential of the ECs, alogia, and depression to predict psychosis and SE; and (c) whether ECs, alogia or depression can be used to differentiate between psychosis and SE. Bivariate correlational analyses were conducted to test whether there are relationships between each variable. Hierarchical Multiple Regression Analyses (MRAs) were conducted to test the predictive power of the ECs, depression and alogia, with psychosis and SE as criterion variables. Accordingly, the following hypotheses have been proposed:

1. There are relationships (a) between the six ECs (i.e., amongst each other), and (b) between the six ECs and SE and Psychosis.

2. The six ECs (Death, Isolation, Identity, Freedom, Meaning [Search for and Presence of]), Depression and Alogia predict Psychosis.

3. The six ECs (Death, Isolation, Identity, Freedom, Meaning [Search for and Presence of]) predict SE, but Depression and Alogia do not predict SE.

Table 1
Descriptive Statistics: Psychosis, Spiritual Emergency Scale (SES), and the Existential Concerns

Variable	*M*	*SD*	α	Range		Mean 95% CI
				Potential	Actual	
EPSS	4.82	3.77	.85	0-15	0-15	4.45 - 5.19
EPSS-POS	3.78	2.98	.80	0-12	0-12	3.49 - 4.08
Alogia	1.04	1.00	.58	0-3	0-3	0.94 - 1.14
SES	6.82	6.20	.90	0-30	0-30	6.21 - 7.44
BDI-II	34.90	12.40	.95	21-74	21-70	33.64 - 36.10
ELQ	57.80	20.30	.76	22-132	22-115	55.80 - 59.82
IDS	21.40	7.70	.85	10-50	10-42	20.61 - 22.14
HPRS-R	32.60	7.34	.82	11-55	13-54	31.82 - 33.27
DAS	6.91	3.36	.76	0-15	0-15	6.58 - 7.24
MLQ	43.40	8.48	.71	10-70	19-64	42.52 - 44.20
MLQ-P	23.10	7.44	.90	5-35	5-35	22.34 - 23.81
MLQ-S	21.90	8.15	.92	5-35	35-35	21.05 - 22.66

Note. EPSS = Experiences of Psychotic Symptoms Scale; EPSS-POS = Experiences of Psychotic Symptoms Scale (positive symptoms only); Alogia = Experiences of Psychotic Symptoms Scale (alogia symptoms only); SES = Spiritual Emergency Scale; BDI-II = Beck Depression Inventory-II; ELQ = Existential Loneliness Questionnaire; IDS = Identity Distress Scale; HPRS-R = Hong's Psychological Reactance Scale Revised; DAS = Templer's Death Anxiety Scale; MLQ = Meaning In Life Questionnaire; MLQ-P = Meaning in Life Questionnaire (Presence of meaning); MLQ-S = Meaning in Life Questionnaire (Search for meaning).

Method

Participants

A total of 399 participants were recruited through The University of Adelaide's School of Psychology's Research Participation System and Facebook advertising. The University of Adelaide's participants consisted of first-year psychology students enrolled in the 2020 study year. All participation was voluntary, and the first-year psychology students received course credit for participation with no reward offered for non-university students. Participants were required to complete the survey online via computer, had to be fluent in English, and be 18 years or older. Five participants were removed from analysis for completing the study faster than the questionnaires could plausibly be read (six minutes), leading to 394 participants analysed. Mean age of 44 years ($SD = 20$ years; min. = 17 years; max. = 86 years). There are 99 males (Mean Age = 43 years; $SD = 22$ years; min. = 18 years; max. = 86 years), and 293 females (Mean Age = 44 years; $SD = 19$ years; min. = 17 years; max. = 84 years). (One participant did not specify sex.) In anticipation of testing requirements, age groups were created by splitting the sample into three age groups: grp1 = 17-25 years old ($n = 123$); grp2 = 26-39 years old ($n = 51$); grp3 = 40-78 years old ($n = 219$). For the same reason, we divided income into seven groups and education into five groups (see Table 2).

Measures

1. *Beck Depression Inventory-II* (BDI-II) (Beck, Steer, & Brown, 1996): The BDI-II is a 21-item forced-choice self-report measure of depression designed to rate the

Table 2
Demographic Statistics: Psychosis (EPSS, EPSS-POS, & Alogia), & Spiritual Emergency (SES)

		EPSS		EPSS-POS		ALOGIA		SES	
Variable	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Sex									
Female	294	4.78	3.77	3.77	3.00	1.00	0.98	6.64	6.06
Male	99	4.94	3.81	3.80	2.96	1.14	1.06	7.32	6.60
Religion									
Christian	134	4.54	3.65	3.60	2.91	0.95	0.98	6.78	5.94
Spiritual	81	5.68	4.16	4.49	3.34	1.19	1.03	4.76	4.67
Atheist	71	3.70	3.31	2.92	2.58	0.79	0.93	3.39	4.06
Agnostic	27	5.67	3.71	4.41	2.94	1.26	0.94	4.04	3.46
Unaffiliated	34	5.03	3.42	3.82	2.66	1.21	1.07	4.76	4.67
Other*	47	5.17	3.99	4.00	3.12	1.17	1.07	9.28	7.70
Income									
< $20,000	48	6.81	3.96	5.27	3.10	1.54	1.05	7.70	6.41
$21-50,000	113	5.26	3.73	4.14	2.95	1.12	1.02	7.64	6.30
$51-75,000	78	4.23	3.36	3.37	2.80	0.86	0.85	6.94	6.47
$76-100,000	58	5.15	3.91	3.97	3.09	1.19	1.00	7.26	6.32
$101-150,000	59	3.59	3.30	2.78	2.50	0.81	0.99	4.75	5.24
$151-200,000	23	3.48	3.47	2.83	2.73	0.65	0.94	4.87	4.59
$200,000 +	15	3.80	4.20	3.13	3.54	0.67	0.98	6.67	7.14
Education									
Under Year 12	25	4.60	3.56	3.64	2.84	0.96	0.94	6.16	5.02
Year 12	119	5.86	3.84	4.41	3.08	1.45	1.01	5.97	5.86
TAFE	70	5.34	3.78	4.19	2.97	1.16	1.00	7.69	6.63
Graduate	93	4.57	3.94	3.69	3.18	0.88	0.95	7.74	6.56
Post-graduate	86	3.35	2.98	2.77	2.40	0.58	0.82	6.53	6.16

* 'Other' includes Buddhism/Islam/Hinduism

severity of depression based on depression characteristics defined by the DSM-IV (American Psychiatric Association, 2000). Each item measures the cognitive, affective, and somatic symptoms associated with depression, with scores ranging from 0-3 for each item. The measure has been found to have strong internal consistency (Cronbach's $\alpha = .92$), and high level of test-retest (one week) reliability coefficients that range from .72 to .93 (Beck, Steer, & Brown, 1996).

2. *Templer Death Anxiety Scale* (DAS) (Templer, 1970): The DAS is a 15-item self-report 'true' or 'false' forced-choice questionnaire that measures death anxiety, with item scores summed to quantify the severity of death anxiety. The DAS has been validated through use in prior existential research for measuring existential death concerns and has been found to have strong psychometric properties (Weems et al., 2004). The scale reported a high test-retest reliability (.83) after three weeks, and has good internal consistency (Cronbach's $\alpha = .77$; Kretschmer & Storm, 2017).

3. *Existential Loneliness Questionnaire* (ELQ) (Mayers, Khoo, & Svartberg, 2002): The ELQ was chosen as it was the only scale identified in the literature to specifically measure existential isolation. There are 22 items, with each item measured on a 6-point Likert scale reflecting how true the statement is for the individual (1 = not at all true of me, to 6 = very much true of me). The ELQ has strong internal consistency (.90) and good reliability ($\alpha = .78$; Brandstatter, Baumann, Borasio, & Fegg, 2012). Initially, the scale was designed to measure existential loneliness in HIV-infected women. In the current study references in

three questions to HIV specifically were removed to be suitable for the general population. For example: "because I am HIV+ I feel hopeless about having a romantic relationship" was altered to "I feel hopeless about having a romantic relationship".

4. *Identity Distress Survey* (IDS) (Berman, Montgomery, & Kurtines, 2004): The IDS was selected to measure identity as it has been shown to be a valid tool for measuring existential identity concerns in prior existential research (Weems et al., 2004). The IDS is a 10-item self-report measure. Each item is answered on a 5-point Likert scale, with higher scores indicating higher identity distress (ranging from 1 = none, to 5 = very severely). The measure was found to have strong internal consistency (Cronbach's $\alpha = .87$; Kretschmer & Storm, 2017), with a test-retest (within a three-month period) coefficient of .82 (Berman et al., 2004).

5. *Revised Hong Psychological Reactance Scale* (HPRS-R) (Hong & Faedda, 1996): This scale was selected as reactance theory has been illustrated as a paradigm reflective of existential freedom (Koole et al., 2006), and the scale has been used successfully to measure existential freedom in prior research (Kretschmer & Storm, 2017). The HPRS-R is an 11-item self-report measure of psychological reactance. Item responses are recorded on a 5-point Likert scale (1 = strongly disagree, to 5 = strongly agree). The scores from the 11 items are summed for analysis, with high scores indicating reactant personalities. It is a reliable measure of the reactance construct as 78% of the variance in HPRS-R scores can be attributed to reactance (Brown, Finney, & France, 2010), and has been found to have strong internal consistency (Cronbach's $\alpha = .86$; Kretschmer & Storm, 2017).

6. *Meaning in Life Questionnaire* (MLQ) (Steger et al., 2006): The MLQ was selected as it consists of two subscales that measure two aspects of existential meaning: (a) presence of meaning in life (MLQ-P), and (b) search for meaning in life (MLQ-S) (Kretschmer & Storm, 2017). The MLQ consists of a 10-item self-report measure, with each item answered on a 7-point Likert scale (1 = absolutely untrue, to 7 = absolutely true). The MLQ has been found to have good reliability, with a test-retest (four weeks) coefficient of .70, and strong internal consistency being reported for both the MLQ-S ($\alpha = .87$) and MLQ-P ($\alpha = .86$) subscales.

7. *Experiences of Psychotic Symptoms Scale* (EPSS) (Goretzki, Thalbourne & Storm, 2009): The EPSS was selected as it is the only scale designed specifically to discriminate between the symptoms of psychosis outlined in the DSM-IV and spiritual experiences. Additionally, the measure has two subscales that differentiate between the positive symptoms of psychosis and the negative symptom of alogia that will be used to test the hypotheses. The EPSS is a 15-item true/false questionnaire, with higher scores on the EPSS indicating an increased likelihood of having experienced psychosis. The measure has good reliability (Cronbach's $\alpha = .92$; Storm & Goretzki, 2021) and good test-retest (three weeks) reliability of .84 (Goretzki, et al., 2009).

8. *Spiritual Emergency Scale* (SES) (Goretzki, Storm & Thalbourne, 2014; see Appendix): The SES was selected as it is currently the only known measure of

Spiritual Emergency (Cooper et al., 2015). The SES is a 30-item yes/no questionnaire and contains items from eight different subscales that were identified by Grof (1985) as the major themes of Spiritual Emergency. The SES has been shown to have good internal reliability (Cronbach's $\alpha = .96$) and test-retest (8 to 12 months) reliability (.67 to .88) (Storm & Goretzki, 2021).

Procedure

Ethics approval was obtained from the Human Research Ethics Committee at The University of Adelaide (approval number #20/13). Participants from The University of Adelaide accessed the survey through the research participation webpage. The study was posted as an advertisement to Australian users of Facebook until the planned number of participants was reached. Participants had to read an information page and give consent before commencing. Each measure was presented sequentially in random order, and participants answered all questions until the survey was complete.

Results

Preliminary Findings

The descriptive statistics for all scales and subscales can be found in Table 1. Cronbach's alphas (indicating reliability) were very good for all scales, although Alogia was only .58 (not reliable as it falls below .70, but considered "sufficient to permit valid theory-based research" (Smith, 1992, p. 136). The descriptive statistics for the demographic variables Sex, Religion, Income, and Education, and for the dependent variables (DVs) Psychosis (EPSS) and Spiritual Emergency (SES), including the two EPSS subscales of Positive Symptoms of Psychosis (EPSS-POS) and Alogia, can be found in Table 2. To simplify analysis of the demographic variable Religion, we demarcated only the major denominations (i.e., religious affiliation or religious membership) of the organized religious bodies, but had to merge smaller groups (Hindu, Islam, Buddhism) into the heterogeneous category 'Other'.

The sample comprised two semi-distinct groups (students: $n = 114$; and Facebook: $n = 261$) and a minor group, which was not used in the following participant-source comparison due to being too small and non-distinct ($n = 19$). Although Facebook participants can be university students, and *vice versa*, we conducted comparisons on key variables using the multivariate analysis of covariance (MANCOVA), with Sample Source as a covariate with two levels (Grace-Martin, 2021; Meehl, 1970). The effect of the covariate was not significant. Education was also not significant. However, results for tests on Age, Sex, Income, and Religion were significant, indicating that EC values differed across the respective levels of these four demographic measures (results are given in the *Note* for Table 3). Regarding homogeneity of variance/covariance, there were no significant differences, Box's $M = 146.79$, $p = .228$. In support of this finding, results for five Wilks' Lambda tests

Table 3
MANCOVA and ANOVA: Demographic Differences on Variables (EPSS, SES, & Six ECs)

Demographic Variable	*F*	*df*	*p*	Partial Eta^2	*F*	*df*	*p*	Power
Sex								
DAS	8.96	1, 371	.003	.02	8.21	1, 390	.004	.82
Age Group								
EPSS	10.12	2, 371	< .001	.05	8.53	1, 388	< .001	.97
SES	4.94	2, 371	.008	.03	5.21	2, 388	.006	.83
ELQ	6.43	2, 371	.002	.03	7.92	2, 388	< .001	.95
MLQ-S	12.26	2, 371	< .001	.06	7.63	2, 388	.001	.95
IDS	15.61	2, 371	< .001	.08	22.61	2, 388	< .001	1.00
Income								
EPSS	4.57	6, 371	< .001	.07	5.39	6, 385	< .001	.99
ELQ	4.13	6, 371	< .001	.06	4.00	6, 385	.001	.97
Religion								
EPSS	2.67	5, 371	.022	.04	2.76	5, 386	.018	.83
SES	14.52	5, 371	< .001	.16	14.53	5, 386	< .001	1.00
MLQ-S	9.10	5, 371	< .001	.11	6.78	5, 386	< .001	1.00

Note. ECs = Existential Concerns; EPSS = Experiences of Psychotic Symptoms Scale; SES = Spiritual Emergency Scale; DAS = Death Anxiety Scale; ELQ = Existential Loneliness Questionnaire; MLQ-S = Meaning in Life Questionnaire (Search for meaning); IDS = Identity Distress Scale; BDI-II = Beck Depression Inventory-II. Sample Source: Pillai's Trace = .03, $F(10, 362) = 1.16$, $p = .316$; Education: Pillai's Trace = .15, $F(50, 1830) = 1.14$, $p = .236$; Age: Pillai's Trace = .19, $F(20, 726) = 3.86$, $p < .001$; Sex: Pillai's Trace = .07, $F(10, 362) = 2.91$, $p = .002$; Income: Pillai's Trace = .26, $F(60, 2202) = 1.63$, $p = .002$; Religion: Pillai's Trace = .39, $F(50, 1830) = 3.09$, $p < .001$.

were all non-significant. In testing homogeneity of regression slopes, *F* test results were not significant.

Mean-score comparisons were made between the two groups on the six ECs (ELQ, MLQ-P, MLQ-S, IDS, HPRS-R, DAS), as well as BDI-II, EPSS, and SES. Only DAS was significantly different, but the effect size was very weak, $F(1, 371) = 4.12$, $p = .043$ ($\eta^2 = .01$). We then prepared two correlation matrices (Partial and Bivariate), and checked *r*-value differences using the Fisher *r*-to-*z* transformation (http://vassarstats.net/rdiff.html). We also checked Sex and Age as possible correlates of the above nine variables. Although the relevant correlations tended to be significant in both matrices, there were no significant *z* scores for the corresponding paired *r* values. We regarded the full sample as homogeneous and suitable for multiple regression analyses (MRA).

As mentioned, five demographic variables were investigated: Sex, Age group, Income, Education, and Religion. Given the very large sample ($n = 394$), parametric tests were used. The same MANCOVA used above tested for demographic differences on Psychosis (EPSS), Spiritual Emergency (SES), and the six ECs. Significant effects were found for Sex, Age, Income, and Religion (for statistics, see Table 3). However, the effects (measured as partial eta-squared) tended to range from weak to moderate. As a follow-up to the MANCOVA, a series of 11 univariate ANOVAs were then run. Results are given in the four columns on the far right of Table 3, which include power values. All differences were significant.

Table 4
Pearson's Correlations: Psychosis (EPSS), Spiritual Emergency (SES), and the Six ECs

Variable	1.	2.	3.	4.	5.	6.	7.
1. EPSS	–						
2. SES	.51**	–					
3. DAS	.23**	-.08	–				
4. ELQ	.46**	.09	.21**	–			
5. IDS	.48**	.11*	.38**	.65**	–		
6. HPRS-R	.34**	.29**	.13**	.35**	.31**	–	
7. MLQ-P	-.27**	.09	-.29**	-.60**	-.45**	-.17**	–
8. MLQ-S	.35**	.17**	.35**	.36**	.49**	.16**	-.26**

Note. $df = 392$; * $p < .05$; ** $p < .001$; DAS = Templer's Death Anxiety Scale; ELQ = Existential Loneliness Questionnaire; IDS = Identity Distress Scale; HPRS-R = Hong's Psychological Reactance Scale Revised; MLQ-P = Meaning in Life Questionnaire (Presence of meaning); MLQ-S = Meaning in Life Questionnaire (Search for meaning).

Planned Analysis

Hypothesis 1: There are relationships (a) between the six ECs (i.e., amongst each other), and (b) between the six ECs and SE and Psychosis:

Pearson's Correlations. Pearson's correlation tests (two-tailed) were conducted to explore relationships between the six ECs amongst each other, and between the six ECs with SE and psychosis.

1. All six ECs were significantly correlated with one another, giving a total of 15 significant correlations (see Table 4). The hypothesis was supported.

2. The Spiritual Emergency measure (SES) correlated positively and significantly with three ECs: IDS, HPRS-R and MLQ-S. The Psychosis measure (EPSS) correlated significantly and positively with all ECs, apart from MLQ-P which had a negative correlation. The hypothesis was partially supported for SE and fully supported for psychosis. NB: Psychosis was positively and significantly correlated with SE. Table 4 shows that 25 of 28 correlations are significant, and even if we discount 5% (i.e., < 2) as the result of chance due to multiple analysis, the majority of these correlations are not Type I errors (Foster et al., 2018). Due to the significant overlap between SE and Psychosis (EPSS) found in the correlations and in prior literature, it was decided that they would be entered as predictor variables of each other in the relevant MRAs.

Multiple Regression Analyses (MRA). A series of MRAs were conducted to determine which variables would be predictors of the DVs Psychosis and SE. In each model the hierarchical block-wise sequential regression (i.e., 'Entry' method) was used. The hierarchical regression is a sequential process involving the entry of predictor variables into the MRA in separate steps.

Variables that were found to be predictive of SE or psychosis in prior literature (BDI-II, EPSS, EPSS-POS, Alogia and SES) were to be added in the first step (Model 1). The EC measures: death anxiety (DAS), existential loneliness (ELQ),

identity distress (IDS), reactance (HPRS-R), presence of meaning (MLQ-P), and search for meaning (MLQ-S) were added in the second step (Model 2) to see whether adding the ECs would significantly improve the model's ability to predict the relevant criterion variable. This hierarchical method enabled the study to confirm findings from prior research in addition to exploring whether ECs can predict psychosis and/or SE.

The five assumptions of multiple regressions of (a) normality, (b) linearity, (c) independence, (d) no outliers, and (e) homoscedasticity, were assessed in each model. The assumptions of normality, linearity and homoscedasticity were examined through visual inspection of the histogram, P-P plot, and scatter plots with locally weighted smoothing lines (LOESS) grafted onto the scatter plots to aid visual interpretation. Additionally, the Shapiro-Wilk (S-W) test of normality was deployed to test the residuals (critical alpha was set to .001 due to the sample being very large and sensitive tests like S-W tend to report statistically significant results when they do not actually exist; Hahs-Vaughn, 2016).

The Mahalanobis Distance (MD) was used to find outliers. MD identifies significant outliers by determining if the maximum observed value exceeds the critical value given by a chi-square distribution, using the relevant degrees of freedom to determine the number of predictors in the model (probability level set for MD was $\alpha < .001$). Independence of variables was determined by analysing the Tolerance values, with Tolerance values larger than .2 indicating no multicollinearity.

Hypothesis 2: The Six ECs (Death, Isolation, Identity, Freedom, Meaning [Search for and Presence of]), Depression, and Alogia predict Psychosis:

Two MRA's (MRA_{1a} and MRA_{1b}) were conducted to test Hypothesis 2 (H2). This step was taken because the measure used for alogia is a subscale of the EPSS. Therefore, to test whether alogia was a predictor of psychosis (MRA_{1a}), the 'Alogia' subscale was included as a predictor variable and the 'Positive Symptoms of Psychosis' (EPSS-POS) subscale was used as the DV. As the DSM-V includes alogia as a symptom of psychosis, MRA_{1a} would only partially test the EC hypothesis, so MRA_{1b} was conducted using the full EPSS as the DV, which includes the 'Alogia' items.

Positive Symptoms of Psychosis (MRA_{1a}). For MRA_{1a} the EPSS was separated into its two sub-measures: (i) EPSS-POS and (ii) 'Alogia', with EPSS-POS being the DV. Depression (BDI-II), Spiritual Emergency (SES) and Alogia were entered in the first step of the regression, followed by ECs in the second step. The five assumptions of normality, linearity, no-outliers, independence of variables and homoscedasticity were assessed for the model. Visual inspection of the histogram and P-P plot indicated that the normality and linearity assumptions had not been violated. For outliers, the MD critical statistic is 27.88 for nine predictors. One case exceeded the critical value and was removed. The LOESS line was effectively flat, and the scatter plot showed no evidence of heteroscedasticity. The S-W test confirmed normality, finding a non-significant departure from normality in residuals, $W(392) = .99$, $p = .325$. Independence of variables was confirmed as Tolerance was greater than .2 for all variables.

Table 5
MRA_{1a} Coefficients for Positive Symptoms of Psychosis (EPSS-POS)

						Correlations		
Block	B	SE	β	*t*	*p*	Zero-Order	Partial	Part
Step 1								
Alogia	1.58	.11	.53	14.86	< .001	.72	.60	.45
SES	0.16	.02	.34	10.37	< .001	.53	.47	.32
BDI-II	0.04	.01	.18	5.19	< .001	.45	.26	.16
Step 2								
Alogia	1.48	.11	.50	13.18	< .001	.72	.56	.40
SES	0.17	.02	.35	10.09	< .001	.53	.46	.30
BDI-II	0.02	.01	.10	2.17	.031	.45	.11	.07
DAS	0.08	.03	.08	2.47	.014	.22	.13	.07

Note. Alogia = Experiences of Psychotic Symptoms Scale (alogia symptoms only); SES = Spiritual Emergency Scale; BDI-II = Beck Depression Inventory-II; DAS = Templer's Death Anxiety Scale. Model 1: $F(3, 389) = 229.43$, $p = .001$; $R = .80$; $R^2 = .64$; Adj. $R^2 = .64$ ($SE = 1.80$); R^2 Change = .64. Model 2 $F(6, 383) = 3.14$, $p = .005$; $R = .81$; $R^2 = .66$; Adj. $R^2 = .65$ ($SE = 1.77$); R^2 Change = .02.

In Model 1, Alogia, SES, and BDI-II entered as predictors. This model was significant, with the adjusted R^2 value indicating 64% of the variance was explained by Alogia, SE, and Depression (for other statistics, see *Note* in Table 5).

In Model 2, Alogia, SES, and BDI-II remained. This model was also significant, $F(9, 383) = 81.09$, $p < .001$. Additionally, one EC entered: DAS (excluded were ELQ, MLQ-P, MLQ-S, IDS, and HPRS-R). MRA_{1a} shows the association between the explanatory variables and the criterion variable (EPSS-POS) was strong and significant (Multiple $R = .81$). The addition of DAS in the second step increased the adjusted R^2 value significantly by .017, increasing the variance explained to 65%. Table 5 lists the standardized regression coefficients (β) for the two steps: Alogia was the strongest predictor of EPSS-POS, followed by SES, BDI-II, and DAS. (NB: In Table 5 we only report the significant predictors.)

Psychosis (MRA_{1b}). For MRA_{1b} the full scale of the EPSS was used as the DV. The BDI-II and SES were entered in the first step of the regression, followed by ECs in the second step. Normality and linearity assumptions had not been violated. For outliers, the MD critical statistic was 26.12 for eight predictors. One case exceeded the critical value and was removed. The LOESS line was relatively flat, and the scatterplot showed no evidence of heteroscedasticity. The S-W test confirmed normality, finding a non-significant departure from normality, $W(392) = .99$, $p = .002$ (α set at .001). Independence of variables was confirmed (Tolerance > .2 for all variables).

In Model 1 of MRA_{1b}, SES and BDI-II entered as predictors. The model was significant, with the adjusted R^2 value indicating the model explained 43% of the variance in EPSS scores (for other statistics, see *Note* in Table 6).

In Model 2, BDI-II and SES entered, as well as three ECs: ELQ, IDS, and DAS (excluded were MLQ-P, MLQ-S, and HPRS-R). This model was significant, $F(8, 384) = 49.82$, $p < .001$. MRA_{1b} shows the association between the explanatory variables and the EPSS was strong and significant (Multiple $R = .71$). The addition

Table 6
MRA_{1b} Coefficients for Predictors of Psychosis (EPSS)

						Correlations		
Block	B	SE	β	*t*	*p*	Zero-Order	Partial	Part
Step 1								
SES	.28	.02	.46	11.96	< .001	.51	.52	.46
BDI-II	.13	.01	.42	10.86	< .001	.47	.48	.42
Step 2								
SES	.27	.02	.44	11.31	< .001	.51	.50	.40
BDI-II	.06	.02	.19	3.52	< .001	.47	.18	.13
IDS	.08	.03	.16	3.12	.002	.48	.16	.11
ELQ	.02	.01	.12	2.01	.045	.46	.10	.07
DAS	.12	.05	.11	2.71	.007	.23	.14	.10

Note. SES = Spiritual Emergency Scale; BDI-II = Beck Depression Inventory-II; IDS = Identity Distress Scale; ELQ = Existential Loneliness Questionnaire; DAS = Templer's Death Anxiety Scale.
Model 1: $F(2, 390) = 147.87$, $p < .001$; $R = .66$; $R^2 = .43$; Adj. $R^2 = .43$ ($SE = 2.85$), R^2 Change = .43.
Model 2: $F(6, 384) = 10.18$, $p < .001$; $R = .71$; $R^2 = .51$; Adj. $R^2 = .50$ ($SE = 2.67$); R^2 Change = .08.

of the ECs in the second step increased the adjusted R^2 value by .08, and the total variance explained to 50%. Table 6 lists the β values for the two steps: SES was the strongest predictor of EPSS, followed by BDI-II, IDS, ELQ, and DAS. (NB: In Table 6, we only report the significant predictors.) The ECs predictive from strongest to weakest, were IDS, ELQ and DAS.

Hypothesis 3: The Six ECs (Death, Isolation, Identity, Freedom, Meaning [Search for and Presence of]) predict SE, but Depression and Alogia do not predict SE:

To determine which of the explanatory variables were the strongest predictors of Spiritual Emergency (SE), MRA_2 was performed. MRA_2 had the variables EPSS-POS, Alogia and BDI-II selected for the first step of the regression, followed by ECs in the second step.

After analysing the scatterplot and LOESS lines for MRA_2 it was determined that the normality and linearity assumptions had been violated. The SES data underwent a square-root transformation as this was shown to be a valid form of transformation in previous SE research (Bronn & McIlwain, 2015, p. 359). MRA_2 was repeated with the transformed data. The assumptions of normality, linearity and heteroscedasticity were no longer violated. The critical value for the MD was 27.88 for nine predictors. Three outliers exceeded the critical value and were removed. A S-W test of the residuals confirmed the visual inspection and found a non-significant departure from normality, $W(390) = .99$, $p = .617$. Independence of variables was confirmed (Tolerance > .2 for all variables).

In Model 1 of MRA_2, EPSS-POS and BDI-II entered as predictors. This model was significant, with the adjusted R^2 value indicating 30% of the variance was explained by the EPSS-POS and BDI-II (for other statistics, see *Note* in Table 7).

In Model 2, EPSS-POS entered, but BDI-II was excluded. Additionally, four ECs entered: MLQ-P, MLQ-S, HPRS-R, and DAS (excluded were ELQ and IDS). This

Table 7
MRA_2 Coefficients for Predictors of Spiritual Emergency (SES) – Transformed

Block	B	SE	β	*t*	*p*	Correlations		
						Zero-Order	Partial	Part
Step 1								
EPSS-POS	.28	.03	.63	10.07	< .001	.54	.46	.43
BDI-II	-.01	.01	-.11	-2.31	.021	.14	-.12	-.10
Step 2								
EPSS-POS	.26	.03	.59	9.80	< .001	.54	.45	.39
HPRS-R	.04	.01	.20	4.48	< .001	.31	.22	.18
MLQ-P	.04	.01	.20	3.72	< .001	.10	.19	.15
DAS	-.06	.02	-.14	-3.18	.002	-.05	-.16	-.13
MLQ-S	.02	.01	.10	2.20	.028	.17	.11	.09

Note. EPSS-POS = Experiences of Psychotic Symptoms Scale (positive symptoms only); BDI-II = Beck Depression Inventory-II; HPRS-R = Hong's Psychological Reactance Scale Revised; MLQ-P = Meaning in Life Questionnaire (Presence of meaning); MLQ-S = Meaning in Life Questionnaire (Search for meaning); DAS = Templer's Death Anxiety Scale.
Model 1: $F(3, 387) = 56.59$, $p < .001$; $R = .55$; $R^2 = .31$; Adj. $R^2 = .30$ (SE = 1.10); R^2 Change = .31.
Model 2: $F(6, 381) = 27.01$, $p < .001$; $R = .64$; $R^2 = .40$; Adj. $R^2 = .39$ (SE = 1.03); R^2 Change = .09

model was significant, $F(9, 381) = 28.60$, $p < .001$. MRA_2 shows the association between the explanatory variables and the SES was strong and significant (Multiple $R = .64$). The addition of the ECs in the second step increased adjusted R^2 by .09, and the total variance explained to 39%. Table 7 lists the β values for the two steps: EPSS-POS was the strongest predictor of SES, followed by the HPRS-R, MLQ-P, DAS, and MLQ-S (DAS was a negative predictor, and its correlations were negative). (NB: In Table 7, we only report the significant predictors.)

Review of the Regression Analyses

A summary of significant predictors for each MRA can be found in Table 8. Alogia predicted Positive Symptoms of Psychosis (EPSS-POS) only (not SES scores). Depression predicted both measures of psychosis, but not SES scores. The SES predicted both measures of psychosis, but only EPSS-POS predicted SES scores. For the ECs, only one EC (DAS) predicted EPSS-POS. Three ECs (ELQ, IDS, & DAS) predicted scores on the full-scale measure of psychosis (EPSS), and four ECs (MLQ-P, MLQ-S, HPRS-R, & DAS) predicted SES scores. The only EC that predicted both SES scores and psychosis was DAS.

As DAS also predicted EPSS and SES scores, comparisons of respective correlations were conducted to determine whether the DAS relationships with psychosis were significantly stronger than the corresponding SE correlations. There were significant differences at the $p < .001$ level using the Fisher *r*-to-*z* transformation for correlations in the same sample with one variable in common (see Table 9; Steiger, 1980). Additionally, there were differences in the directional relationships for the six DAS correlations as DAS had positive relationships with psychosis, but negative relationships with the SE measure. These differences mean DAS relates to psychosis in a way that is unique and clearly discernible from the way it relates to SE, which is to say psychosis and SE diverge at this point.

Table 8
Significant Predictors in the Three Hierarchical MRAs

Variable	MRA Model		
	MRA_{1a} (EPSS-POS)	MRA_{1b} (EPSS)	MRA_2 (SES)
Alogia	✓	—	X
SES	✓	✓	—
BDI-II	✓	✓	X
EPSS-POS	—	—	✓
ELQ	X	✓	X
MLQ-P	X	X	✓
MLQ-S	X	X	✓
IDS	X	✓	X
HPRS-R	X	X	✓
DAS	✓	✓	✓

Note. X = non-significant; ✓ = significant; — = not applicable; Alogia = Experiences of Psychotic Symptoms Scale (alogia symptoms only); SES = Spiritual Emergency Scale; BDI-II = Beck Depression Inventory-II; EPSS-POS = Experiences of Psychotic Symptoms Scale (positive symptoms only); ELQ = Existential Loneliness Questionnaire; MLQ-P = Meaning in Life Questionnaire (Presence of meaning); MLQ-S = Meaning in Life Questionnaire (Search for meaning); IDS = Identity Distress Scale; HPRS-R = Hong's Psychological Reactance Scale Revised; DAS = Templer's Death Anxiety Scale.

Post Hoc Analysis–Demographic Variables as Predictor

As shown in Table 3, significant EPSS scoring differences were found between Age groups, Income groups, and Religions. There were also significant SES scoring differences between Age groups and Religions. It was considered worthwhile entering these demographic variables into their respective hierarchical MRAs (MRA_{1b} & MRA_2) as a third step in each, to determine their possible predictive powers. Religion had to be converted into a dummy variable ('Denomination') as it was originally a nominal variable in the database and would not be valid in an MRA. Hence, 'Denominational/Spiritual' = 1; 'Non-Denominational/Non-Spiritual' = 0.

For the repeated MRA_{1b}, in respect of outliers, the MD critical statistic is 31.26 for 11 predictors. Two cases exceeded the critical value and were removed. Age group and Income group entered, but Denomination did not enter. Models 1 and 2 were effectively the same as for the original MRA_2 (see *Note* for Table 6). The value of

Table 9
Death Anxiety (DAS) as a Predictor of Psychosis and Spiritual Emergency

Variable	Psychosis	Spiritual Emergency	*z*	*p*
DAS				
Zero-order	.22†	-.05	5.60	< .001
Partial	.13†	-.16	5.59	< .001
Semi-partial	.07†	-.13	3.36	< .001
DAS				
Zero-order	.23‡	-.05	5.69	< .001
Partial	.14‡	-.16	6.01	< .001
Semi-partial	.10‡	-.13	4.18	< .001

Note. $N = 392$; DAS = Templer's Death Anxiety Scale; † EPSS-POS = Experience of Psychotic Symptoms Scale - Positive symptoms subscale (12 items); ‡ EPSS = Experience of Psychotic Symptoms Scale - Full scale (15 items).

Table 10
MRA_{1b} Revised Coefficients for Predictors of Psychosis (EPSS)

Block	B	SE	β	*t*	*p*	Correlations		
						Zero-Order	Partial	Part
Step 1								
SES	.28	.02	.46	11.92	< .001	.51	.52	.46
BDI-II	.13	.01	.42	10.76	< .001	.47	.48	.41
Step 2								
SES	.27	.02	.44	11.22	< .001	.51	.50	.40
BDI-II	.05	.02	.18	3.28	.001	.47	.17	.12
IDS	.09	.03	.18	3.44	.001	.49	.17	.12
ELQ	.02	.01	.12	2.02	.044	.46	.10	.07
DAS	.11	.05	.10	2.49	.013	.22	.13	.09
Step 3								
SES	.28	.02	.46	11.44	< .001	.51	.51	.40
BDI-II	.06	.02	.20	3.83	< .001	.47	.19	.13
Age Grp	-.60	.17	-.14	-3.48	.001	-.24	-.18	-.12
Income	-.28	.09	-.12	-3.24	.001	-.21	-.16	-.11
IDS	.06	.03	.11	2.09	.036	.49	.11	.07
DAS	.11	.05	.10	2.42	.016	.22	.12	.09

Note. SES = Spiritual Emergency Scale; BDI-II = Beck Depression Inventory-II; IDS = Identity Distress Scale; ELQ = Existential Loneliness Questionnaire; DAS = Templer's Death Anxiety Scale.
Model 1: $F(2, 388) = 146.00$, $p < .001$; $R = .66$; $R^2 = .43$; Adj. $R^2 = .43$ ($SE = 2.85$); R^2 Change = .43.
Model 2: $F(6, 382) = 10.63$, $p < .001$; $R = .72$; $R^2 = .51$; Adj. $R^2 = .50$ ($SE = 2.66$); R^2 Change = .08.
Model 3: $F(3, 379) = 7.44$, $p < .001$; $R = .73$; $R^2 = .54$; Adj. $R^2 = .53$ (SE = 2.60); R^2 Change = .03.

adjusted R^2 in Model 3 indicates 53% of the variance was explained by the addition of the Income and Age Group (see Table 10). This model was significant, $F(11, 379) = 40.17$, $p < .001$.

Step 1 and 2 predictors were as reported in Table 6. Model 3 shows the association between the explanatory variables and EPSS was strong and significant (Multiple $R = .73$; see Table 10). Table 10 also lists the β values for the three steps: In Model 3, SES was the strongest predictor of EPSS, followed by BDI-II, Age Group, Income, IDS, and DAS (Age Group and Income have negative β values). The correlations for Age Group and Income were negative. (NB: In Table 10, we only report the significant predictors.)

For the repeated MRA_2, the MD critical statistic is 29.59 for 10 predictors. Two cases exceeded the critical value and were removed. Age group and Denomination entered. Models 1 and 2 were effectively the same as for the original MRA_2 (see *Note* for Table 7). The value of adjusted R^2 in Model 3 indicates 45% of the variance was explained by the addition of the Age Group and Denomination (see Table 11). This model was significant, $F(11, 379) = 29.47$, $p < .001$.

Step 1 and 2 predictors were as reported in Table 7. Model 3 shows the association between the explanatory variables and SES was strong and significant (Multiple $R = .66$; see Table 11). Table 11 also lists the β values for the three steps: In Model 3, EPSS-POS was the strongest predictor of SES, followed by Denomination, MLQ-P, HPRS-R, DAS (which has a negative β value), and Age Grp. The correlations for DAS were negative. (NB: In Table 11, we only report the significant predictors.)

Table 11
MRA_2 Coefficients for Predictors of Spiritual Emergency (SES) – Transformed

Block	B	SE	β	*t*	*p*	Correlations		
						Zero-Order	Partial	Part
Step 1								
EPSS-POS	.28	.03	.63	10.06	< . 001	.54	.46	.43
BDI-II	-.01	.01	-.11	-2.28	.023	.15	-.12	-.10
Step 2								
EPSS-POS	.26	.03	.58	9.74	< .001	.54	.45	.39
HPRS-R	.04	.01	.20	4.54	< .001	.32	.23	.18
MLQ-P	.04	.01	.20	3.86	< .001	.09	.19	.15
DAS	-.06	.02	-.15	-3.24	.001	-.06	-.16	-.13
MLQ-S	.02	.01	.10	2.16	.032	.17	.11	.09
Step 3								
EPSS-POS	.25	.03	.56	9.75	< .001	.54	.45	.37
Denomination	.66	.12	.22	2.28	.023	.08	.12	.09
MLQ-P	.03	.01	.19	3.76	< .001	.09	.19	.14
HPRS-R	.03	.01	.18	4.27	< .001	.32	.21	.16
Age Grp	.15	.07	.10	2.28	.023	.08	.12	.09
DAS	-.04	.02	-.11	-2.48	.014	-.06	-.13	-.09

Note. EPSS-POS = Experiences of Psychotic Symptoms Scale (positive symptoms only); BDI-II = Beck Depression Inventory-II; HPRS-R = Hong's Psychological Reactance Scale Revised; MLQ-P = Meaning in Life Questionnaire (Presence of meaning); MLQ-S = Meaning in Life Questionnaire (Search for meaning); DAS = Templer's Death Anxiety Scale.
Model 1: $F(3, 387) = 55.66$, $p < .001$; $R = .55$; $R^2 = .30$; Adj. $R^2 = .30$ ($SE = 1.10$); R^2 Change = .30.
Model 2: $F(6, 381) = 10.55$, p < .001; $R = .63$; $R^2 = .40$; Adj. $R^2 = .39$ ($SE = 1.03$); R^2 Change = .10.
Model 3: $F(2, 379) = 21.09$, $p < .001$; $R = .68$; $R^2 = .46$; Adj. $R^2 = .45$ ($SE = 0.98$); R^2 Change = .06

Discussion

This study aimed to investigate two issues relating to the nature of psychosis, spiritual emergency (SE), and existential distress (ED): (a) psychosis as a coping mechanism for ED, and (b) SE as a healing mechanism for ED. The findings were of considerable interest as there was no comparable overlap in the existential concerns (ECs) as predictors of the two constructs, psychosis and SE, suggesting experiences of psychosis and SE result in manifestly different forms of ED.

The significant correlations between each of the ECs supports Hypothesis 1, and corroborates Kretschmer and Storm's (2017) findings. Presence of meaning in life (MLQ-P) was the only EC that correlated negatively with all other ECs, indicating a lack of meaning in life may tend to be associated with increases in other ECs. These results suggest that existential loneliness, identity distress, death anxiety, reactance (perceived lack of freedom), and *search for* meaning in life may all be ameliorated by the *presence* of meaning in life. This finding supports Frankl's (1959) claim that the presence of meaning in life may be paramount to existential well-being, whereas lack of meaning may likely lead to an existential vacuum that may even induce ED.

The significant correlations of all ECs with psychosis supported Hypothesis 1. Identity distress (IDS) had the strongest correlation with psychosis as measured on the EPSS, corroborating findings by Laddis and Dell (2012) that identity disorders

and psychosis have considerable overlap. Existential loneliness (ELQ) had the second strongest correlation with psychosis, thus supporting a similar finding by Lim and Gleeson (2014), and the correlation also lends support to Hoffman's (2007) 'social deafferentation hypothesis'. Positive correlations for psychosis with search for meaning (MLQ-S) and negative correlations with MLQ-P (presence of meaning) is consistent with interviews with psychotic patients who consistently reported that the desire for meaning is their most pressing concern (Wagner & King, 2005).

The positive correlation of reactance (HPRS-R) with psychosis supports earlier literature that shows a high level of reactance (low level of freedom) is associated with greater psychopathology (Hoge et al., 1990; Kasper et al., 1997). The positive relationship between psychosis and death anxiety (DAS), in addition to the predictive relationship that Age Group had in MRA_{1b} (Table 10) corroborates research findings by Harrop and Trower (2001), and by Burke et al. (2010), which suggest that if younger individuals have higher psychosis, it may in part tend to be due to increased death anxiety.

The SES significantly correlated with three ECs, providing partial support for Hypothesis 1. The SES had the strongest correlation with the EPSS, supporting previous research showing significant overlap between psychosis and SE (Goretzki et al., 2013; Storm & Goretzki, 2021). While the two constructs are related, the SES correlated significantly with IDS, HPRS-R, and MLQ-S only, suggesting those who experience an SE may have less ED than those who have psychosis, since we cannot make any conclusions about death anxiety, existential loneliness, and presence of meaning in relation to SE. These findings lend support to Shields's (2014) notion that psychosis and ED are related, whereas SE is less so (Grof & Grof, 1990).

In regard to results for tests on Hypothesis 2, the significant predictors of EPSS-POS (Alogia, SES and BDI-II) in Step 1 of MRA_{1a}, confirmed previous studies showing that Alogia and Depression predict psychosis, and that SE and psychosis have significant overlap (Bronn & McIlwain, 2015; Storm et al., 2017; Storm & Goretzki, 2021). In total, these predictors were able to explain 64% of the variance in EPSS-POS scores. DAS (death anxiety) was the only EC to enter the regression, doing very little to increase the explanatory power of the model (a 1% increase only). While the correlational findings described above indicate the possible presence of ED (as ECs) in those who have experienced psychosis, MRA_{1a} suggests the ECs do not generally predict positive symptoms of psychosis. As Shields's (2014) hypothesis proposed that the psyche generates alternative realities (i.e., positive symptoms) to cope with ED, this distress is not represented in the ECs, although a minor case can be made for death anxiety.

MRA_{1b} revealed similar results to MRA_{1a}, with the SES and BDI-II explaining 43% of the variance. Of note is the considerable increase in the partial (.48) and semi-partial (.42) correlations of the BDI-II in MRA_{1b} in comparison to the partial (.26) and semi-partial (.16) correlations in MRA_{1a}, suggesting a potential overlap that Depression and Alogia have for predicting psychosis (i.e., Alogia may have

considerable influence on Depression, which cannot be gauged when Alogia items are put back into the psychosis scale; the EPSS).

The addition of the IDS and ELQ in the model raised variance explained to 50%. The medium-strength zero-order correlations for IDS and ELQ support earlier links of loneliness (social isolation) and identity distress to psychosis (Laddis & Dell, 2012; Lim & Gleeson, 2014; Reininghaus et al., 2008). Interestingly, DAS had the lowest zero-order correlation in the model, but the least reduction in partial and semi-partial correlations (after SES), suggesting that death anxiety has a unique relationship to psychosis, since it is the only EC that entered both MRAs.

Regarding our findings for tests on Hypothesis 3, Alogia was not found to be a predictor of SES scores, though EPSS-POS and BDI-II explained 30% of the variance in SES scores. It was predicted that EPSS-POS would be the only predictor of SE in Step 1 of MRA_2, but BDI-II also entered, which was not thought to happen based on Bronn and McIlwain's (2015) finding that Depression (BDI-II) was not related to SE. They concluded that depression could be used to differentiate SE from psychosis. However, the predictive relationship that depression has with SE is actually opposite to its relationship with psychosis (β for BDI-II is positive in both MRA_{1a} and MRA_{1b}, but negative in MRA_2), so that the lower the BDI-II score, the more it tends to predict a high SES scores (note also the negative partial and semi-partial correlations in Model 1 of MRA_2). Besides these informative findings, DAS did not enter Model 2. These findings strengthen Bronn and McIlwain's (2015) proposal that SE is distinct from psychosis in its divergent relationship with depression and alogia.

After EPSS-POS, the two ECs, HPRS-R and MLQ-P, were the strongest predictors of SE, with DAS and MLQ-S following—a total of four ECs. The two strongest EC predictors, HPRS-R and MLQ-P, give rise to the suggestion that those experiencing SE the most, tend to report higher levels of reactance (i.e., they feel less free), but tend to report a strong presence of meaning. Low death anxiety (DAS) is associated with (and predicts) higher SES scores, the latter of which is also predicted by increased search for meaning (MLQ-S). Reduced death anxiety and higher search for meaning, which both tend to be found in those with a high level of SE, seems to coincide with Frankl's (1959) notion that meaning in life is beneficial to happiness and wellbeing. These four ECs may provide a key to the healing potential nested in the more complex construct of SE.

In summary, the MRAs confirmed that SE and psychosis are similar constructs as they were strong predictors of each other. However, the different predictors for each indicate that SE and psychosis do not entirely overlap, and may even have different outcomes in regard to psychological health. As such, our findings corroborate much of the SE literature, and strengthen the claim that SE is a distinct construct and "should be differentiated from psychopathology" (Bronn & McIlwain, 2015, p. 367).

Review of Aims

In the following review of our aims, we will discuss psychosis as a *coping* mechanism for existential distress, and then consider spiritual emergency as a *healing* mechanism for same.

Psychosis as a Coping Mechanism for Existential Distress

Identity distress, existential loneliness, and death anxiety predicted psychosis, suggesting the unhealthy psychological state may be due to increased ED (as represented in the relevant ECs). The absence of *presence of* meaning as a negative predictor for psychosis was unexpected and conflicts with the previous literature positing that a lack of meaning is a cause of psychopathology (Frankl, 1979; Larsen, 2004; Shields, 2014; Yalom, 1980). The lack of *search for* meaning as a predictor conflicts with Wagner and King's (2005) subjective patient interviews who reported that the search for meaning was their most important concern. As both the presence of meaning, and search for meaning, were strong predictors of SE, it suggests the possibility that the desire for meaning found within psychotic patients in the literature may be due to individuals being misdiagnosed with psychosis when they are instead experiencing an SE, as Bragdon (2013) posited. As higher levels of identity distress, existential loneliness, and death anxiety predicted experiences of psychosis (using the EPSS), the findings of this study indicate that ED does play a role in psychosis, and Shields' (2014) hypothesis was partially supported. If psychosis is no more than a coping mechanism, most often manifesting in positive symptoms, the three relevant predictor ECs may at least indicate possible therapeutic solutions that focus on resolving the clinically identified levels of identity distress, and/or existential loneliness, and/or death anxiety.

Spiritual Emergency as a Healing Mechanism for Existential Distress

Considering the ECs only, SE was predicted by reactance, *search for* meaning, *presence of* meaning, and death anxiety, all of which are proposed to indicate ED. Reactance at a high level (i.e., at a low level of freedom) was an EC that could be seen as inducing ED, as Dowd et al. (1994) found that it is correlated with anger, and Joubert (1990) found that happiness is negatively correlated with the construct. However, reactance is also positively correlated with increased internal locus of control, which corresponds with higher levels of independence, confidence in oneself, and better life outcomes (Brehm & Brehm, 1981). Given that higher levels of meaning predicts SE, and Depression was a negative predictor of SE in Step 1 of MRA_2, it seems more plausible that higher levels of reactance indicate increased confidence in oneself, and valuing independence rather than being indicative of anger, depression, or unhappiness. In addition to these claims, existential psychologists also agree that meaning is the greatest defence against ED (Frankl, 1979; Saunders, 1988; Yalom 1980), and we note that DAS scores tend to be low if SES scores are high, indicating another point of departure from psychosis where DAS tends to be high when EPSS is high. These ECs either have a healing role, or

they may be seen as spurs that precipitate healing, which might eventually lead to spiritual *emergence* that is a noted outcome of SE (Grof & Grof, 1990). As ED is seen as 'spiritual pain' (Cassel, 1982; Kearney, 2000; Millspaugh, 2005), the reduction in ED supports Grof and Grof's (1990) hypothesis that SE can be a psychological healing process as opposed to a coping mechanism claimed of psychosis.

Post-Hoc Analysis

In addition to these findings, our post hoc findings add demographic dimension to our MRAs. (For these analyses, see Tables 10 & 11.) Age was found to be a predictor of both EPSS scores (psychosis) and SES scores (indicating spiritual emergency; SE). However, younger participants tended to exhibit *higher* EPSS scores, whereas younger participants tended to exhibit *lower* SES scores. We note that Shields's (2014) suggestion that younger individuals are more prone to psychosis, but we might also assume that SE is predominantly a concern of older people. The negative predictive relationship that psychosis has with income may also give support for the coping mechanism hypothesis, as wealthier individuals have greater access to costly support structures that can alleviate ED, whereas income did not predict SE, further suggesting that psychosis and SE are different constructs. This assumption is firmed up by the finding that professing a religious denomination, and/or having a spiritual inclination, tends to be associated with higher SE, but they have no relevance to level of psychosis.

Practical Applications and Implications

These findings have implications for how we view psychosis diagnostically and treatment-wise. Currently, biological treatments through medication has a reported efficacy rate of 41% (Leucht et al., 2009). As SE is not currently, or at least *not sufficiently* recognised in clinical practice, this low efficacy rate could be due to many individuals with SE being misdiagnosed with psychosis and subsequently prescribed medication, when a transpersonal approach may provide alternative, more appropriate treatment options. The findings of this study support the argument that the current diagnostic criteria for psychosis is too broad and should be refined in order to address SE as a condition in its own right (Grof & Grof, 1990; Phillips et al., 2009).

Our findings have implications for how to view the relationships that psychosis has to spiritual and existential needs. Currently, spiritual and existential needs are not considered to be related to psychosis, but the findings of this study suggest that clients with SE have specific existential and spiritual concerns that could be brought to their attention as part of a recovery and treatment regime. As ED is prevalent in psychotic patients, integrating therapies that focus on alleviating ED in addition to current treatments may aid in improving health outcomes for psychotic patients. We note, therefore, that the following may be of clinical interest:

We found psychosis and SE were predicted by ED, but *in different forms* as represented in the five or six ECs. Death anxiety, identity distress, and existential loneliness predicted psychosis. Death anxiety also predicted SE (but the relationship was negative), and the other ECs are different—SE is predicted by reactance and meaning (search for, and presence of). The clinician may only have to focus on healing for one condition, or maybe both (given the potential overlap), if either is suggested. The predictor ECs could be used to demarcate the strategy, using available treatment options for the psychotic component (to deal with death anxiety, identity distress, existential loneliness), but for the SE, the clinician might follow therapeutic guidelines (or develop these) that address the reactance issue (as a perceived lack of freedom), and draw attention to (and/or foster a greater appreciation for) what the individual finds meaningful, and identify other sources of meaning, and integrate all of these.

Limitations

As all measures were self-reports and the study was completed online, this method of data collection may be a potential limitation as it allows for the possibility of inauthentic responses. This study attempted to control this limitation by including three control items (decoy questions), and participants who responded too speedily were excluded. The large sample size and parametric testing allowed for inferences to be made towards the general population, but the sample consisted primarily of first-year psychology students and individuals recruited from Facebook. Upon testing, these differences were not a factor of concern, but differences on demographic variables can sometimes be expected since student populations tend to be younger and inexperienced in a range of life areas compared to the wider populace. Also, selection bias may be a potential confound, as only individuals who were interested in the topic would have chosen to complete the study.

The three-item Alogia scale produced a low Cronbach's alpha of .58. The questionable Alogia item is "Have you ever believed that your thoughts were being interfered with in some way?" as this item produced a lower mean (.14) compared to the other two items (.42 and .47) and had lower inter-item correlations. This item did not cause psychometric problems in other studies (Bronn & McIlwain 2015; Storm & Goretzki, 2021). It seems Facebook populations differ from other populations; e.g., alphas from Bronn and McIlwain (2015) were .70 for their "student sample" (p. 359), and .78 for their "spiritual sample" (p. 360). Therefore, test results involving Alogia in this study should be treated with due caution.

Future Research

As this study was the first of its kind to examine quantitatively the relationships between psychosis, SE, and ED as represented by the 'Big Five' ECs, only further research along similar lines will validate the findings reported above. Research could also branch out into investigations of other ECs (or refinements of the 'Big Five') to determine precise relationships that existential concerns and distress have with psychosis and SE. Grof and Grof (1990) state that only individuals who are

willing to accept their life circumstances, and are open to change, may be able to experience an SE. As reactance is related to internal locus of control and predictive of SE, investigating personality characteristics such as locus of control may prove fruitful in furthering our understanding as to why some individuals experience SE, others experience psychosis, and others tend to experience both.

As SE can be psychologically healing, future research could also look at whether certain psychotic episodes may be transformed into less challenging SEs by alleviating the effects of the relevant ECs that predict those episodes. For example, as psychosis was predicted in this study by increased death anxiety and identity distress, whereas SE was not, we might expect treatment focussing on both would ameliorate the psychotic symptoms, perhaps even leading to spiritual emergence, with or without the crisis aspects. Of course, one predictor of SE (i.e., reactance indicating a threat to freedom) also needs addressing.

Summary

The findings of this study confirmed that alogia and depression can differentiate SE from psychosis. Additionally, this study found that the relationships that psychosis and SE share with ECs differentiate the two constructs. The findings suggest that although psychosis and SE overlap a great deal, each is a unique manifestation with different mental health outcomes due to divergences in ED. The client who is challenged by psychotic symptoms *and* SE can be seen as an individual engaged in the twofold task of *coping* and *healing* simultaneously. In particular, the healing aspect of SE (e.g., transformation) is evident in the pivotal role played by meaning (both 'search for' and 'presence of'). However, psychosis *and* SE are not necessarily comorbid. Consequently, further investigations into psychosis, SE, and ED are necessary as they may lead to refinements in diagnosing psychosis beyond biological criteria, possibly leading to options that improve the efficacy rates of treatment. Moreover, while SE can still be seen as a challenge, it is one that appears to embody its own treatment regime.

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). doi:10.1176/appi.books.9780890423349.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Beck, A. T., Steer, R. A., & Brown, G. (1996). *Manual for the Beck Depression Inventory–II*. The Psychological Corporation.

Berman, S. L., Montgomery, M. J., & Kurtines, W. M. (2004). The development and validation of a measure of identity distress. *Identity*, *4*(1), 1–8.

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 University Press.

Bragdon, E. (2013). *The call of spiritual emergency: From personal crisis to personal transformation*. Harper & Row.

Brandstatter, M., Baumann, U., Borasio, G. D., & Fegg, M. J. (2012). Systematic review of meaning in life assessment instruments. *Psychooncology, 21*(10), 1034–1052.
Brehm, S. S., & Brehm, J. W. (1981). *Psychological reactance: A theory of freedom and control*. Academic Press.
Bronn, G., & McIlwain, D. (2015). Assessing spiritual crises: Peeling off another layer of a seemingly endless onion. *Journal of Humanistic Psychology*, *55*(3), 346–382.
Brown, A. R., Finney, S. J., & France, M. K. (2010). Using the bifactor model to assess the dimensionality of the Hong Psychological Reactance Scale. *Educational and Psychological Measurement*, *71*(1), 170–185.
Burke, B. L., Martens, A., & Faucher, E. H. (2010). Two decades of terror management theory: A meta-analysis of mortality salience research. *Personality and Social Psychology Review*, *14*(2), 155–195.
Cashwell, C. S., & Young, J. S. (2005). *Integrating spirituality in counseling: A guide to competent practice*. American Counseling Association.
Cassel, E. J. (1982). The nature of suffering and the goals of medicine. *The New England Journal of Medicine*, *306*(11), 639–645.
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). Guilford Press.
Cooper, E. J., Rock, A. J., Harris, K. P., & Clark, G. I. (2015). The factor analytic structure and personality correlates of 'spiritual emergency'. *The Journal of Transpersonal Psychology*, *47*(2), 242–262.
Dowd, E. T., Wallbrown, F., Sanders, D., & Yesenosky, J. M. (1994). Psychological reactance and its relationship to normal personality variables. *Cognitive Therapy and Research*, *18*(6), 601–612.
Foster, G. C.; Lane, D., Scott, D., Hebl, M., Guerra, R., Osherson, D., & Zimmer, H. (2018). An introduction to psychological statistics. *Open Educational Resources Collection*. https://irl.umsl.edu/oer/4
Francis, L. J., & Wilcox, C. (1996). Prayer, church attendance, and personality revisited: A study among 16-to 19-yr.-old girls. *Psychological Reports*, *79*, 1265–1266.
Frankl, V. E. (1959). *Man's search for meaning*. Simon and Schuster.
Frankl, V. E. (1979). *The unheard cry for meaning: Psychotherapy and humanism*. Simon and Schuster.
Gaebel, W., & Zielasek, J. (2015). Focus on psychosis. *State of the art*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4421906/
Goretzki, M., Storm, L., & Thalbourne, M. A. (2014). Research note: Updating the Spiritual Emergency Scale. *The Journal of Transpersonal Psychology*, *46*(2), 240–244.
Goretzki, M., Thalbourne, M. A., & Storm, L. (2009). The questionnaire measurement of spiritual emergency. *The Journal of Transpersonal Psychology*, *41*(1), 81–97.
Goretzki, M., Thalbourne, M. A., & Storm, L. (2013). Development of a spiritual emergency scale. *The Journal of Transpersonal Psychology*, *45*(2), 105-117.
Grace-Martin, K. (2021). SPSS GLM: Choosing fixed factors and covariates. *The Analysis Factor*. https://www.theanalysisfactor.com/spss-glm-choosing-fixed-factors-and-covariates/
Grof, S. (1985). *Beyond the brain: Birth, death, and transcendence in psychotherapy*. SUNY Press.
Grof, S., & Grof, C. (1990). *The stormy search for the self. Understanding and living with spiritual emergency*. Tarcher.
Hahs-Vaughn, D. (2016). *Applied multivariate statistical concepts*. Taylor & Francis.
Harris, K. P., Rock, A. J., & Clark, G. I. (2019). Religious or spiritual problem? The clinical relevance of identifying and measuring spiritual emergency. *The Journal of Transpersonal Psychology*, *51*(1), 89–108.
Harrop, C., & Trower, P. (2001). Why does schizophrenia develop at late adolescence? *Clinical Psychology Review*, *21*(2), 241–265.

Hirsh, J. B. (2010). The weight of being: Psychological perspectives on the existential moment. *New Ideas in Psychology, 28*, 28–36.

Hoffman, R. E. (2007). A social deafferentation hypothesis for induction of active schizophrenia. *Schizophrenia Bulletin*, *33*(5), 1066–1070.

Hoge, S. K., Appelbaum, P. S., Lawlor, T., Beck, J. C., Litman, R., Greer, A., Gutheil, T. G., & Kaplan, E. (1990). A prospective, multicenter study of patients' refusal of antipsychotic medication. *Archives of General Psychiatry*, *47*(10), 949–956.

Hong, S. M., & Faedda, S. (1996). Refinement of the Hong Psychological Reactance Scale. *Educational & Psychological Measurement, 56*(1), 173–182.

Howes, O. D., & Kapur, S. (2009). The dopamine hypothesis of schizophrenia: version III—the final common pathway. *Schizophrenia Bulletin*, *35*(3), 549–562.

Hunot, V., Moore, T. H. M., Caldwell, D. M., Furukawa, T. A., Davies, P., Jones, H., Honyashiki, M., Chen, P., Lewis, G., & Churchill, R. (2013). 'Third wave' cognitive and behavioural therapies versus other psychological therapies for depression. *Cochrane Database of Systematic Reviews 2013* (10). DOI: CD008704. doi:10.1002/14651858.CD008704.pub2

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

Joubert, C. E. (1990). Relationship among self-esteem, psychological reactance, and other personality variables. *Psychological Reports*, *66*(3), 1147–1151.

Jung, C. G. (1968). *The archetypes and the collective unconscious*. Princeton University Press.

Kane, B. A. (2005). *Spiritual emergency and spiritual emergence: Differentiation and interplay*. California Institute of Integral Studies.

Kasper, J. A., Hoge, S. K., Feucht-Haviar, T., Cortina, J., & Cohen, B. (1997). Prospective study of patients' refusal of antipsychotic medication under a physician discretion review procedure. *American Journal of Psychiatry*, *154*(4), 483–489.

McKay, R., & Kinsbourne, M. (2010). Confabulation, delusion, and anosognosia: Motivational factors and false claims. *Cognitive Neuropsychiatry*, *15*(1-3), 288–318.

Kearney, M., & Mount, B. (2000). Spiritual care of the dying patient. In H. Chochinov & W. Breitbart (Eds.), *Handbook of psychiatry in palliative medicine* (pp. 357–373). Oxford University Press.

Kissane, D. W. (2000). Psychospiritual and existential distress. The challenge for palliative care. *Australian Family Physician*, *29*(11), 1022–1025.

Koole, S. L., Greenberg, J., & Pyszczynski, T. (2006). Introducing science to the psychology of the soul: Experimental existential psychology. *Current Directions in Psychological Science, 15*(5), 212–216.

Kretschmer, M., & Storm, L. (2017). The relationships of the five existential concerns with depression and existential thinking. *International Journal of Existential Positive Psychology*, *7*(1), 20.

Laddis, A., & Dell, P. F. (2012). Dissociation and psychosis in dissociative identity disorder and schizophrenia. *Journal of Trauma & Dissociation*, *13*(4), 397–413.

Larsen, J. A. (2004). Finding meaning in first episode psychosis: Experience, agency, and the cultural repertoire. *Medical Anthropology Quarterly*, *18*(4), 447–471.

LeMay, K., & Wilson, K. G. (2008). Treatment of existential distress in life threatening illness: a review of manualized interventions. *Clinical Psychology Review*, *28*(3), 472–493.

Leucht, S., Arbter, D., Engel, R. R., Kissling, W., & Davis, J. M. (2009). How effective are second-generation antipsychotic drugs? A meta-analysis of placebo-controlled trials. *Molecular psychiatry*, *14*(4), 429–447.

Lim, M. H., & Gleeson, J. F. (2014). Social connectedness across the psychosis spectrum: current issues and future directions for interventions in loneliness. *Frontiers in Psychiatry*, *5*, Article 154, 1–3.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335–343.

Lukoff, D., Lu, F., & Turner, R. (1998). From spiritual emergency to spiritual problem: The transpersonal roots of the new DSM-IV category. *Journal of Humanistic Psychology*, *38(*2), 21-50. https://doi.org/10.1177/00221678980382003

Mayers, A. M., Khoo, S. T., & Svartberg, M. (2002). The Existential Loneliness Questionnaire: Background, development, and preliminary findings. *Journal of Clinical Psychology, 58*(9), 1183–1193.

McCabe, R., Skelton, J., Heath, C., Burns, T., & Priebe, S. (2002). Engagement of patients with psychosis in the consultation: conversation analytic study. Commentary: Understanding conversation. *British Medical Journal*, *325*(7373), 1148–1151.

McGorry, P. D. (1995). Psychoeducation in first-episode psychosis: a therapeutic process. *Psychiatry*, *58*(4), 313–328.

McGregor, I. (2006). Offensive defensiveness: Toward an integrative neuroscience of compensatory zeal after mortality salience, personal uncertainty, and other poignant self-threats. *Psychological Inquiry, 17*(4), 299–308.

Meehl, P. E. (1970). Nuisance variables and the ex post facto design. In M. Radner & S. Winokur (Eds.), *Minnesota studies in the philosophy of science: Vol. IV. Analyses of theories and methods of physics and psychology* (pp. 373-402). University of Minnesota Press.

Millspaugh, C. D. (2005). Assessment and response to spiritual pain: part I. *Journal of Palliative Medicine*, *8*(5), 919–923.

Moncrieff, J. (2009). A critique of the dopamine hypothesis of schizophrenia and psychosis. *Harvard Review of Psychiatry*, *17*(3), 214–225.

Moreno-Küstner, B., Martin, C., & Pastor, L. (2018). Prevalence of psychotic disorders and its association with methodological issues. A systematic review and meta-analyses. *PLos One*, *13*(4), 1–25.

Oliver, D., Reilly, T. J., Boy, O. B., Petros, N., Davies, C., Borgwardt, S. McGuire, P., & Fusar-Poli, P. (2020). What causes the onset of psychosis in individuals at clinical high risk? A meta-analysis of risk and protective factors. *Schizophrenia Bulletin*, *46*(1), 110–120.

Phares, E. J. (1976). *Locus of control in personality*. General Learning Press.

Phillips, R. E., Lukoff, D., & Stone, M. K. (2009). Integrating the spirit within psychosis: Alternative conceptualizations of psychotic disorders. *The Journal of Transpersonal Psychology*, *41*(1), 61–80.

Radua, J., Ramella-Cravaro, V., Ioannidis, J. P. A., Reichenberg, A., Phiphopthatsanee, N., Amir, T., Yenn Thoo, H., Oliver, D., Davies, C., Morgan, C., McGuire, P., Murray, R. M., & Fusar-Poli, P. (2018). What causes psychosis? An umbrella review of risk and protective factors. *World Psychiatry*, *17*(1), 49–66.

Reininghaus, U. A., Morgan, C., Simpson, J., Dazzan, P., Morgan, K., Doody, G. A., Bhugra, D., Leff, J., Jones, P., Murray, R., Fearon, P., & Craig, T. K. J. (2008). Unemployment, social isolation, achievement-expectation mismatch and psychosis: findings from the Æsop Study. *Social Psychiatry and Psychiatric Epidemiology*, *43*(9), 743751.

Roe, D., & Davidson, L. (2005). Self and narrative in schizophrenia: Time to author a new story. *Medical Humanities, 31*, 89–94.

Roman, R. E., & Lester, D. (1999). Religiosity and mental health. *Psychological Reports*, *83*(2), 1088.

Templer, D. I. (1970). The construction and validation of a Death Anxiety Scale. *The Journal of General Pscyhology*, *82*(2), 165–177.

Thorne, F. C. (1973). The existential study: A measure of existential status. *Journal of Clinical Psychology*, *29*, 387–392.

Tost, H., Alam, T., & Meyer-Lindenberg, A. (2010). Dopamine and psychosis: theory, pathomechanisms and intermediate phenotypes. *Neuroscience & Biobehavioral Reviews*, *34*(5), 689–700.
Saunders, D. C. (1988). Spiritual pain. *Journal of Palliative Care*, *4*(3), 29–32.
Shields, G. S. (2014). Psychosis as a mechanism for coping with existential distress. *Existential Analysis*, *25*(1), 142–159.
Smith, C. P. (1992). Reliability issues. *Motivation and Personality: Handbook of Thematic Content Analysis*, 126–139.
Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80–93.
Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, *87*, 245–251.
Steinberg, M. (1994). *Handbook for the assessment of dissociation: A clinical guide*. American Psychiatric Publishing.
Storm, L., Drinkwater, K., & Jinks, A. L. (2017). A question of belief: An analysis of item content in paranormal belief questionnaires. *Journal of Scientific Exploration*, *31*(2), 187–230.
Storm, L., & Goretzki, M. (2021). The psychology and parapsychology of spiritual emergency. *Journal of Scientific Exploration*, *35*(1), 40–68.
Wagner, L. C., & King, M. (2005). Existential needs of people with psychotic disorders in Porto Alegre, Brazil. *The British Journal of Psychiatry*, *186*(2), 141–145.
Weems, C. F., Costa, N. M., Dehon, C., & Berman, S. L. (2004). Paul Tillich's theory of existential anxiety: A preliminary conceptual and empirical examination. *Anxiety, Stress & Coping*, *17*(4), 383–399.
Williams, P. (2011). *A multiple-case study exploring personal paradigm shifts throughout the psychotic process from onset to full recovery* [Unpublished doctoral dissertation, Saybrook University].
Van Meer, R., McCabe, R., & Priebe, S. (2003). Engaging patients with psychosis in consultations: to listen or not to listen. *British Medical Journal*, *326*(7388), 549–550.
Viggiano, D. B., & Krippner, S. (2010). The Grofs' model of spiritual emergency in retrospect: Has it stood the test of time? *International Journal of Transpersonal Studies*, *29*(1), 118–127.
Yalom, I. (1980). *Existential psychotherapy*. Basic Books.
Yip, K. S. (2004). The importance of subjective psychotic experiences: Implications on psychiatric rehabilitation of people with schizophrenia. *Psychiatric Rehabilitation Journal*, *28*(1), 48–54.

Appendix

The Spiritual Emergency Scale

Introduction: 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.

Instructions: Circle 'Yes' or 'No' for each item. Raw score is total count of 'Yes' answers.

1.	Have you ever lost your sense of reference as your outer and inner worlds dissolved?	Yes / No
2.	Have you ever experienced the spontaneous production of complex visual geometrical images or chants inside your head?	Yes / No

3.	Have you ever heard voices, music or the repetition of mantras, without knowing where they're coming from?	Yes / No
4.	Have you ever experienced intense sensations of energy and/or heat streaming along your spine?	Yes / No
5.	Have you ever experienced the spontaneous desire to create rituals?	Yes / No
6.	Have you ever undertaken a powerful inner experience that involved a journey into another world?	Yes / No
7.	Have you ever had the ability to move into and out of non-ordinary states of consciousness at will?	Yes / No
8.	Have you ever developed a deep change in consciousness during which you lost contact with everyday reality?	Yes / No
9.	Have you ever experienced insights and/or visions, in which you received secret or sacred teachings and healing powers to take back to the "ordinary" world?	Yes / No
10.	Have you ever experienced an increased connection with animals and plants and the elemental forces of nature?	Yes / No
11.	Have you ever had the experience of dealing with something that has a divine nature and is radically different from your ordinary perception of the everyday world?	Yes / No
12.	Have you ever experienced the sense of becoming one with humanity, nature, the creative energy of the universe and/or God?	Yes / No
13.	Have you ever spontaneously attained profound insights into the nature of reality?	Yes / No
14.	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?	Yes / No
15.	Have you ever experienced going beyond your normal understanding of time and space and entered a timeless realm where these categories no longer apply?	Yes / No
16.	Have you ever been aware of the presence of spiritual entities?	Yes / No
17.	Have you ever spontaneously received accurate information about things in the past, present or future, by extra-sensory means?	Yes / No
18.	Have you ever spontaneously gained a greater understanding of the cosmos?	Yes / No
19.	Have you ever spontaneously lost your sense of identity?	Yes / No
20.	Have you ever been able to see auras around people, animals, plants or other living things?	Yes / No
21.	Have you ever experienced a greater awareness of the interconnectedness of all things?	Yes / No
22.	Have you ever been overwhelmed by powerful emotions and physical sensations, concerning yourself and others in various circumstances and historical settings?	Yes / No
23.	Have you ever experienced living what seemed to be another life, in another time and place, in great detail?	Yes / No
24.	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 had no previous exposure to?	Yes / No
25.	Have you ever had the need to fight off or try to control the actions of a negative being or entity?	Yes / No
26.	Have you ever experienced rich connections with mythological symbols from ancient history?	Yes / No
27.	Have you ever felt that you were in the centre of huge events that had cosmic relevance and were important for the future of the world?	Yes / No
28.	Have you ever experienced a visionary state taking you back through your own history and that of mankind to creation?	Yes / No
29.	Have you ever been aware of a cosmic battle being played out between the forces of good and evil or light and darkness?	Yes / No
30.	Have you ever experienced the destruction of an old sense of identity followed by rebirth and a renewed purpose for living?	Yes / No

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NOTE: This study is based on the first author's Honours thesis, which was supervised by the second author.