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Mystical Experience Has a Stronger Relationship With Spiritual Intelligence Than With Schizotypal Personality Traits and Psychotic Symptoms

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There are two conflicting notions about mystical experience (ME) in scientific literature. Some researchers view ME as a sign of mental illness, whereas others view it as a part of one's psychospiritual growth and maturity, as well as an important turning point in life that can positively affect one's value system and influence changes in personality, behavior, emotions, and outlook on life. Conflicting notions about the nature of ME create confusion not only in society but also among professionals who encounter patients who reflect on ME. The aim of this study is to examine the relationship between ME and spiritual intelligence as a concept related to mental health, as well as to examine the relationship between ME and schizotypal personality traits and between ME and psychotic symptoms as pathological concepts in psychology. This study explores several hypotheses about the ME relationship with spiritual intelligence, schizotypal personality traits, and psychotic symptoms in one sample of 299 nonclinical Latvian women. The data were collected using four self-report questionnaires—the Mysticism Scale, the Spiritual Intelligence Survey, the Latvian Clinical Personality Inventory, and a socio-demographic data survey. The results suggest that ME has a stronger relationship with spiritual intelligence than schizotypal personality traits and psychotic symptoms. The results also indicate a relationship between spiritual intelligence and individual schizotypal personality traits, largely explained by the moderation of ME. The results of the study help remove some ambiguity and gain a clearer picture of the nature of ME.

Keywords: mystical experience, psychotic symptoms, schizotypal personality traits, schizotypy, spiritual intelligence

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The Dual Nature of Mystical Experience

Throughout recorded history, human beings have reported mystical experience (ME; Braud, 2012; James, 1902; Miller et al., 2019; Stace, 1960; Yaden et al., 2017), meaning a distinctive and powerful experience characterized by a sense of fading into unity with other people, timelessness, and ineffability, involving the dissolution of boundaries between oneself and one's surroundings (Stace, 1960; Yaden et al., 2017).

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The beginning of ME research is often traced back to 1902 and is associated with the book *The Varieties of Religious Experience* by William James. In the following decades, several notable researchers showed interest in ME, and ME as a research topic became more popular in the 1960s and 1970s (Grof, 1975; Hood, 1975; Maslow, 1968; Stace, 1960). However, a significant increase in interest in ME by researchers has been observed only since the end of the 19th century (Cardeña et al., 2017), when studying spirituality and related concepts became more relevant in psychology (Piedmont & Wilkins, 2020).

Psychology has always viewed ME in an ambiguous way (Friedman & Hartelius, 2013; Parnas & Henriksen, 2016; Yaden et al., 2017). Historically, in the Western tradition, it has mostly been perceived as pathological (Cristofori et al., 2016; Schapiro, 2018) or even discredited as a concept that belongs in psychology (Cardeña et al., 2017; Hood, 1975; Mack, 2006; Martin, 1993). ME is regarded as pathological because of its schizophreniform nature. This view historically has been expressed mainly by representatives of the psychoanalytic approach (Allman et al., 1992; Bloomfield, 1980; Freud, 1959; Friedman & Hartelius, 2013; Horton, 1974; Leuba, 1925; Mandell, 1980; Martin, 1993), but it has also been recognized by other authors, such as David Ellis—a representative of cognitive behavioral psychology (1989), and a representative of existential psychology (Allman et al., 1992).

At the same time, other authors have noted ME to be an indication of mental health and an essential part of the maturation process (Allman et al., 1992; Hood, 1975; James, 1902; Maslow, 1968; Stace, 1960). Modern research introduces an opposing view—ME may indicate positive outcomes and even an individual's psychospiritual growth (Garcia-Romeu et al., 2015; Parnas & Henriksen, 2016; Waldorf & Moyers, 2001). It is noteworthy that the ability to enter and exit higher states of consciousness is also mentioned as one of the characteristics of spiritual intelligence (King & DeCicco, 2009). Although spiritual intelligence in psychology is a positive concept that indicates an individual's psychological health, it should be mentioned that, in psychology, the dimensions of spirituality are sometimes associated with pathology, including schizotypal personality traits, especially magical thinking (Unterrainer et al., 2011; Willard & Norenzayan, 2017). Thus, the fact that one of the characteristics of spiritual intelligence is the ability to experience an altered state of consciousness, which may also include ME, is an interesting contradiction of the matter.

Studies have shown both the positive effects of ME (Garcia-Romeu et al., 2015; Heriot-Maitland et al., 2012; Parnas & Henriksen, 2016) and the clear similarity between ME and a psychotic episode (Cristofori et al., 2016; Hagen & Nixon, 2010), which is considered to be a pathological state. This allows for outlining the problems that are relevant in the practical work with individuals who have experienced ME. These contradicting notions about the nature of ME and the often contradicting results of research create confusion not only in society but also among those professionals who encounter individuals reflecting on ME. Research shows that the vast majority of professionals are unable to differentiate ME from pathology (Schapiro, 2018), and this can lead to negative consequences, such as misdiagnosis, prescription of unnecessary medication, hospitalization, and stigmatization from family and society (Garcia-Romeu et al., 2015; Moreira-Almeida & Cardeña, 2011; Schapiro, 2018). In addition, there is a risk that, by mistakenly identifying ME as a pathology, an individual may lose the potentially positive effects (Schapiro, 2018).

Since there are two conflicting notions on the nature of ME, the aim of this research is to evaluate the relationship between ME and spiritual intelligence as a positively viewed concept and between ME and schizotypal personality traits as well as psychotic symptoms viewed as a pathology. When evaluating the results of this research, it is important to take into account not only the confirmed but also the missing relationships because, in this case, not only the relationships can help to confirm existing theories but also the absence of relationships can help to reject the conflicting notions.

This research seeks to test the following hypotheses:

1. There is a significant positive relationship between ME and spiritual intelligence.
2. There is a significant positive relationship between ME and individual schizotypal personality traits.
3. There is a significant positive relationship between ME and psychotic symptoms.

4. Spiritual intelligence has a significant positive relationship with individual schizotypal personality traits.
5. Spiritual intelligence has a significant positive relationship with psychotic symptoms.
6. ME is a moderator of the relationship between spiritual intelligence and schizotypal personality traits.
7. ME is a moderator of the relationship between spiritual intelligence and psychotic symptoms.

Mystical Experience and Pathological Outcomes

As previously mentioned, the perception of ME as a pathological mental condition has developed because of historical reasons and because the manifestation of ME has a significant resemblance to that of a psychotic episode (Parnas & Henriksen, 2016). Identical to ME, a psychotic episode is described as an experience in which an individual loses their sense of self and perceives synthesis with every existing thing, and it is characterized by hypersensitivity to environmental stimuli; the experience is described as sacred or as an encounter with a divine source (Hagen & Nixon, 2010). In addition, both ME and psychotic episodes may be characterized by visual and auditory hallucinations, delusions, distress, communication problems when interacting with others (Menezes & Moreira-Almeida, 2010), and professional difficulties, such as impaired work abilities caused by distress from the experience (Johnson & Friedman, 2008). In both psychotic episodes and ME, individuals tend to seek professional to help them cope with the distress from the experience (Menezes & Moreira-Almeida, 2010; Schapiro, 2018).

Simultaneously, there is a notion that ME and psychotic episodes are different mental states, and there are a number of publications that explain the differences between them (Harris et al., 2015; Moreira-Almeida & Cardeña; 2011; Parnas & Henriksen, 2016). ME is defined as an integrative psychological state, meaning that the individual has the ability (after a period of disorganization) to successfully accumulate the manifestations and cognitions from the experience and meaningfully integrate them into their daily life (Hunt et al., 2002). In contrast, a psychotic episode is defined as disintegrative, meaning that the individual does not have the ability to draw meaningful conclusions from the experience, therefore staying in a period of disorganization for a prolonged time (Hunt et al., 2002). Furthermore, it is recognized that ME encourages one's ability to see the unity of all things in the world and to find a sense of meaning, peace, and harmony, while a psychotic episode creates confusion, with a lack of positive emotions and meaning, and these episodes can be frightening and result in reduced self-care ability (Hunt et al., 2002). Additionally, during an ME episode, one is not dangerous to oneself and society, which is not always true in cases of pathological conditions (Schapiro, 2018).

So far, there are no clear guidelines for distinguishing ME from a psychotic episode, especially because studies that describe ME as a separate mental condition from a psychotic episode also sometimes indicate that ME can have negative effects (Barrett et al., 2017). For example, spontaneously experienced ME can have traumatic and even clinical consequences for some individuals (Maraldi & Krippner, 2019; Schapiro, 2018; Yaden et al., 2017), which can be increased by cultural influences (Maraldi & Krippner, 2019).

There has been substantial research on the relationship between ME and schizotypy (Evans et al., 2018; Goulding, 2005; Hunt et al., 2002; Willard & Norenzayan, 2017). Schizotypy is a pathological personality trait complex that, in more pronounced cases, may be associated with psychosis and schizophrenia (Dodell-Feder et al., 2019; Goulding, 2005; Swami et al., 2011). Schizotypy, as a personality trait complex, consists of several possible characteristics, including cognitive and perceptual dysregulation, eccentricity, withdrawal, suspiciousness, unusual beliefs and experiences like magical thinking, ideas of reference, and hallucinations (American Psychiatric Association [APA], 2013)—all mild enough not to warrant a clinical diagnosis of schizophrenia (Willard & Norenzayan, 2017).

The characteristic features of schizotypy most commonly associated with ME are magical thinking and unusual perceptual experiences, including unusual experiences and beliefs (Evans et al., 2018; Willard & Norenzayan, 2017). However, an interesting paradox should be noted. Although unusual perception and experiences are considered abnormal, research shows that they are also

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related to an individual's mental health (Lifshitz et al., 2019; McCreery & Claridge, 2002). An idea has been put forward that the belief in the supernatural depends on the needs of the believer, meaning the subjective perception of experience could be related to subjective psychological health (Goulding, 2005).

Furthermore, it is necessary to look at the similarity between ME and psychotic symptoms (Lukoff, 1985; Yaden et al., 2017), which is a concept closely related to schizotypy that manifests as delirium, hallucinations, or unusual beliefs, perceptions, and experiences (APA, 2013). Although psychotic symptoms are considered highly pathological, general population studies show that they are not always necessarily associated with mental illness. For example, auditory hallucinations or voice-hearing are associated with schizophrenia, according to the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; APA, 2013). At the same time, studies offer the view that auditory hallucinations may be a relatively common experience (Beavan, Read, & Cartwright, 2011; Bentall, 2014). A literature review from nine countries conducted by Beavan et al. (2011) showed that the prevalence rates of auditory hallucinations in the general population range from 0.6% to 84%, with an interquartile range of 3.1%–19.5% and a median of 13.2%. Similarly, a literature review conducted by Moreira-Almeida and Cardeña (2011) suggested that "psychotic and anomalous experiences are frequent in the general population and that most of them are not related to psychotic disorders." One of the original studies discussed in the review was a cross-cultural study (52 countries, 250,000 respondents) conducted by the World Health Organization (WHO). The results found a high (12.52%) prevalence of psychotic experiences in the general population, but only about 10% of the cases were related to a diagnosis of schizophrenia (Moreira-Almeida & Cardeña, 2011; Nuevo et al., 2012). Moreover, earlier research suggested that people may be able to integrate symptoms that are considered pathological without psychiatric help. For example, Hardy (1979), who collected data from 4,000 individuals who were asked to describe their ME, found that these people experience a sense of certainty, enlightenment (19%), visions (18%), a sense of purpose behind the events (11%), contact with the dead (8%), voices (7%), exaltation and ecstasy (5%), and telepathy (4%). These particular cases, alongside many other modern studies conducted in recent decades, suggest that a phenomenon that was previously considered to be a psychotic symptom is widespread, and in about 90% of cases, it is nonpathological (Cardeña et al., 2017; Hunt et al., 2002; Moreira-Almeida & Cardeña, 2011).

In this research, we expect that only certain schizotypal personality traits, particularly unusual beliefs and unusual perceptions, will be related to ME, and because of similarities in descriptions, we also expect that there might be a weak relationship between psychotic symptoms and ME.

ME and Positive Outcomes

When studying ME from another point of view, it should be noted that, in recent years, many studies have shown the beneficial nature of ME. For example, ME is known to be positively associated with openness to experience (Parnas & Henriksen, 2016; Waldorf & Moyers, 2001), satisfaction with life (Polito & Stevenson, 2019), emotional stability, compassion for others and self-compassion, the ability to listen to one's body, and the perception of external stimuli (Hanley et al., 2018). ME is also known to be positively associated with schizotypal personality traits, such as creativity (MacPherson & Kelly, 2011), and negatively associated with depression, anxiety, and stress (Polito & Stevenson, 2019). Additionally, ME is related to a stronger sense of meaning in life, increased positive affect, and a deeper sense of belonging in the world (Garcia-Romeu et al., 2015). Furthermore, ME can result in a shift in values (van der Tempel, 2018; Yaden et al., 2017). The positive effects of ME can manifest themselves as notable changes in personality, beliefs, behavior, and emotions, in which the individual gains by gradually integrating internal conflicts that become relevant as a consequence of experiencing ME (Nixon, 2012).

Since one of the defining characteristics of ME is the sense of the presence of a higher, all-encompassing force (Hood, 1975; Stace, 1960), ME is often interpreted as a spiritual experience (Lifshitz et al., 2019; Moreira-Almeida, 2012; Willard & Norenzayan, 2017), and, therefore, the association between ME and different dimensions of spirituality has also been previously studied (de Castro, 2015).

Similar to ME, spirituality has long been denied as a psychology concept (Loewenthal, 2000; Piedmont & Wilkins, 2020). Spirituality

(including religion) and psychology have historically even been perceived as opposites of each other (Loewenthal, 2000). As in the case of ME, the 1902 book *The Varieties of Religious Experience* by William James is considered the beginning of spiritual research in psychology, and just like ME, spiritual research is currently experiencing a period of increased interest (Piedmont & Wilkins, 2020). In recent decades, the number of studies on the relationship between spirituality and health has grown rapidly (de Jager Meezenbroek et al., 2012; Piedmont & Wilkins, 2020). First, based on James and later on Allport's hypothesis that spirituality should be considered as part of one's personality structure (Mahasneh et al., 2015), Piedmont presented the perspective that spirituality may represent the sixth factor of personality (Piedmont, 1999), which has been supported by numerous studies (Lemos & Oñate, 2018; Mahasneh et al., 2015). Second, the latest research shows that many individuals consider spirituality an important resource for support when experiencing and fighting chronic and life-threatening illnesses (Smith, 2007; Stefanek et al., 2005). Spirituality is also associated with higher mental health indicators (Koenig, 2012; Sawatzky et al., 2005).

One of the concepts related to spirituality that has emerged in psychology in recent decades, and whose relationship with ME has so far not been studied, is spiritual intelligence. Searching for research in such scientific databases as *ScienceDirect*, *EBSCOhost*, *ProQuest*, *SAGE Publications*, *Cambridge Core*, and *Clinical Key*, only four resources have been found with both concepts mentioned (Penn et al., 2021; Brazdau, 2015; Hunt, 2007; Levasseur, 2011). It seems important to study this relationship because the definition of spiritual intelligence already includes the same characteristics as ME. As defined by King (2008), spiritual intelligence involves the mental capacities that constitute awareness as well as the ability to successfully apply nonmaterial and transcendent elements of one's existence. His theory of spiritual intelligence also includes the ability to deliberately enter and exit higher states of consciousness (King, 2008). However, King's definition implies that an individual can enter an altered state of consciousness at their own discretion, while ME can also be experienced spontaneously. To date, there are no studies that confirm King's theory.

The unifying feature of spiritual intelligence is a set of adaptive, ordinary abilities that can be developed and improved. When talking about certain features of spiritual intelligence, we can mention King's theory, in which spiritual intelligence is divided into four components: The first is critical existential thinking, which refers to an individual's capacity to critically contemplate their existence and the ability to draw conscious conclusions about it. The second is the personal production of meaning and purpose or the capacity to create and master the purpose of life as well as the individual's ability to create the meaning and purpose by themselves. The third is transcendental awareness, or the individual's ability to recognize the transcendental dimensions/patterns of reality in objects, actions, experiences, and everyday events during normal (not altered) states of consciousness. The fourth is the ability to reach higher states of consciousness, or states in which an individual's consciousness is broader than that experienced in a normal state of consciousness (King, 2008).

Spiritual intelligence is an undoubtedly positively assessed concept in psychology that is related to an individual's ability to critically reflect, be aware of and give meaning to their existence, and related skills, which is significantly related to an individual's sense of health and happiness (Amirian & Fazilat-Pour, 2016). Individuals with high spiritual intelligence are able to successfully cope with everyday difficulties and challenges (Benedikt-Montgomery, 2016), are more emotionally intelligent, have better mental health (Dash & Patnaik, 2015), have higher self-efficacy (Rahmanian et al., 2018), and are more aware of the meaning of life (Sahebalzamani et al., 2013).

The positive attitude toward the concept of spiritual intelligence considering the previously mentioned facts seems particularly interesting in the context of this research, especially since there are no studies on the relationship between ME and spiritual intelligence as well as because of previous studies showing that, when spiritual experience becomes significant, it is less likely to result in negative consequences (Larøi et al., 2014; Luhrmann, 2011). The theory of spiritual intelligence implies that ME could be more of a spiritual than a pathological concept. A positive association between ME and spiritual intelligence would support this perspective.

In this research, we expect that spiritual intelligence will be closely related to ME. We also expect that, because ME is a component of

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spiritual intelligence, there might be some relationship between spiritual intelligence and some schizotypal personality traits as well as between spiritual intelligence and psychotic symptoms.

Method

Participants

This study involved 377 respondents, 368 women (97.61%) and 9 men (2.39%), aged 18–69 years, with an average age of 39.45 ($SD = 11.01$). Sixty-three respondents were excluded from the study because they confirmed that they had been diagnosed with a mental illness during their lifetime, and six respondents were excluded because they showed an insufficient result on the Latvian Clinical Personality Inventory (LCPI) believability scales. Furthermore, given the disproportionate number of women and men, a decision was made to exclude all men from the study (9 respondents) by analyzing only the data provided by women. A total of 78 participants were eliminated.

The final screened sample consisted of 299 valid responses from 299 females (100%) ranging in age from 18 to 69, with an average age of 40.17 ($SD = 10.93$). Two percent of the participants had acquired a doctoral degree, 42.05% had a master's degree, 33.4% had a bachelor's degree, 21.4% had a high school diploma, and 5.7% had not yet graduated high school.

Materials

Sociodemographic Data Survey

A sociodemographic data survey was used to collect basic background information about the participants. The survey requested information about the participants' sex, age, and education. The external criterion measure was a self-reported diagnosis of mental illness during their lifetime.

The *Mysticism Scale* (Hood, 1975; Hood et al., 2001) adapted into Latvian (Bitēna & Mārtinsone, 2020a, 2020b) was used to measure ME. The Mysticism Scale is a 32-item self-report measure designed to assess prior ME. The items reflect a variety of phenomena that are associated with ME across three dimensions (Hood et al., 2001). The extrovertive dimension represents an insight that "all is one," with items such as "I have never had an experience in which all things seemed to be unified into a single whole." The introvertive dimension represents the person's internal perceptions, with items like "I have had an experience that cannot be expressed in words." The interpretation dimension is represented by subjective feelings of sacredness, with items such as "I have never had an experience that seemed holy to me." The items are scored using a 5-point Likert scale ranging from −2 (this description is definitely not true of my own experience or experiences) to +2 (this description is probably true of my own experience or experiences) and an opt-out option of "? (I cannot decide)." The scale was adapted in Latvian. The internal consistency (Cronbach's α) of the full scale was .91 in the norming sample (Hood et al., 2001), .89 in the adaptation in Latvian, and .95 in our sample.

The *Spiritual Intelligence Survey* (Bitēna et al., 2020) was used to measure spiritual intelligence. The Spiritual Intelligence Survey is a 17-item self-report measure developed in Latvian that was designed based on King's (2008) spiritual intelligence theory. The scale items measure spiritual intelligence across three domains: Critical existential thinking ($\alpha = .82$) is defined as the ability to critically contemplate the nature of existence, with items such as "I have often questioned or pondered the nature of reality." The second dimension is personal meaning production ($\alpha = .71$), which represents the ability to construct personal meaning and purpose in everything (King, 2008), and is measured by items such as "I am able to define a purpose or reason for my life." Finally, the dimension of transcendental awareness ($\alpha = .77$) is defined as the capacity to identify transcendent dimensions of the self, of others, and of the physical world during the normal, waking state of consciousness (King, 2008), with items such as "I recognize aspects of myself that are deeper than my physical body." The items are rated using a 5-point Likert scale ranging from 0 = *not at all true of me* to 4 = *completely true of me*.

The *LCPI* (Perepjolikna et al., 2020) was used to measure schizotypal personality traits and psychotic symptoms. The LCPI is a multi-item, multi-scale self-report clinical personality measure for the comprehensive assessment of an individual's mental state, including the assessment of pathological personality traits. The test consisted of 7 clinical scales, including psychotic

symptoms, 33 scales of personality traits grouped into four factors—antisociality, compulsivity, neuroticism, and schizotypy—5 functioning scales, and 5 additional scales. The test also provided an opportunity to evaluate the credibility of the given answers using eight believability scales, of which the Inconsistency Scale, Lie Scale, and Index of Socially Desirable Responses were used in this study. The test can be used to measure the characteristics of schizotypy in the two subfactors of social detachment and cognitive dysregulation, each of which includes a division into subscales. The social detachment factor subscale includes items such as "I recognize that I rarely feel any emotions," "I usually stay away from others," and "It is hard for me to maintain emotionally deep relationships with other people." The cognitive dysregulation factor subscale includes such statements as "Sometimes I see things that other people cannot see," "Sometimes everything around me seems unreal," and "I have supernatural abilities (e.g., the ability to read other people's minds or move objects using the power of thoughts)." The items are rated using a 4-point Likert scale ranging from 0 = *disagree* to 3 = *agree*. The internal consistency (Cronbach's α) of the full schizotypy scale in the norming sample was .84 (Perepjolikna et al., 2020).

The LCPI scale of psychotic symptoms was used to measure psychotic symptoms such as delusions, hallucinations, and disorganized speech, thought, or behavior. The scale includes items such as "There seems to be an outside force controlling my body." The internal consistency (Cronbach's α) of the full psychotic symptoms scale in the norming sample was .97 (Perepjolikna et al., 2020).

Procedure

Data Collection

The participants were selected from a Latvian population, recruited through social media and email communication. The post inviting individuals who recognized the characteristics of ME to participate in the study was a paid publication (sponsored content paid out of the author's personal resources). The participants received no compensation for their participation in the study. Participation in the study was voluntary. All the participants were required to be 18 years of age or older and to be able to consent to and complete the study protocol in Latvian. The survey consisted of nearly 400 items presented in the online tool Google Sheets. The participants were directed to the multiple survey pages after reading the informed consent text and agreeing to participate.

Recruitment

A total of 377 respondents applied for the survey and answered all the items on the scale, with an average completion time of 30–40 min.

Screening

Of the total 377 individuals who had shared their experiences, those who met the criteria—being at least 18 years old and not reporting being diagnosed with mental illness during their lifetime—were selected for the analysis.

Validation

When evaluating the gathered data, in the last stage, we decided to only analyze the data submitted by women because only nine men (2.39%) had responded to the invitation to participate in the study. A final sample of 299 respondents was obtained.

Statistical Approach

The data were analyzed using IBM SPSS Version 23.0. As the empirical distribution was not normal, the Spearman's correlation coefficient was used to calculate the correlations between the variables. Two-tailed tests of significance were used throughout, and all of the relationships examined in this study were statistically significant.

Linear regression analysis and multiple regression analysis were conducted to assess the strength of the relationships between ME, spiritual intelligence, schizotypal personality traits, and psychotic symptoms.

A moderation analysis using PROCESS v3.5 by Andrew F. Hayes was performed to determine whether ME could be an influencing factor in spiritual intelligence in relation to concepts of pathology—schizotypal personality traits and psychotic symptoms.

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Results

Relationships of ME With Spiritual Intelligence, Schizotypal Personality Traits, and Psychotic Symptoms

Before performing a regression analysis, a correlation analysis was performed. Several statistically significant relationships were identified. First, ME was positively correlated with the overall indicator of spiritual intelligence ($r_s = .66$, $p < .001$) as well as its factors ($r_s = .46–.63$, $p < .001$; see correlation matrix in Table 1). Second, there was no significant correlation between ME and the overall indicator of schizotypy ($r_s = .17, p = .003$). However, the results showed that there was a weak but significant positive correlation between ME and schizotypy subfactor cognitive dysregulation ($r_s = .33$, $p < .001$)—mostly because of two cognitive dysregulation subscales, unusual beliefs, which had a moderate positive correlation with ME ($r_s = .41, p < .001$), and unusual perceptions, which had a weak positive correlation with ME ($r_s = .37$, $p < .001$). There was also a weak positive correlation between ME and the cognitive dysregulation subscales of dissociation proneness ($r_s = .21$, $p < .001$) and eccentricity ($r_s = .20, p < .001$). Third, the correlation analysis showed a weak positive correlation between the ME overall indicator and psychotic symptoms ($r_s = .29$, $p < .001$).

Based on the correlations found in this study, regression analysis was used to learn more about the relationships between the variables. The linear regression analysis results, shown in Table 2, indicated that spiritual intelligence explained 66% of the variance in ME ($\beta = .66, p < .001$), unusual beliefs accounted for 42% of the ME variance ($\beta = .42$, $p < .001$), unusual perceptions accounted for 38% of the ME variance ($\beta = .38$, $p < .001$), and psychotic symptoms accounted for 25% of the ME variance ($\beta = .25$, $p < .001$).

The linear regression model allows us to predict the value of a single variable based on the value of another variable, but it does not give any information about how multiple outcomes are connected comparing one to another. Therefore, we decided to conduct multiple regression analysis. The multiple regression equation (Table 3) shows that, controlling for the other three variables in the equation, spiritual intelligence accounted for 58% of the variance in ME ($p < .001$), unusual beliefs accounted for 9% of the ME variance ($p < .001$), unusual perceptions accounted for 14% of the ME variance ($p < .001$), and psychotic symptoms accounted for 4% of the ME variance ($p < .001$).

Relationship of Spiritual Intelligence With Schizotypy and Psychotic Symptoms

Before conducting a moderation analysis to determine whether ME was related to spiritual intelligence in relation to schizotypal personality traits and symptoms of psychotic symptoms, it was necessary to perform a correlation analysis to determine whether there was an association between spiritual intelligence and schizotypal personality traits and between spiritual intelligence and psychotic symptoms.

Interestingly, the data showed almost the same correlations between spiritual intelligence and schizotypy as between ME and schizotypy. Therefore, the data showed no significant correlation between the overall indicator of spiritual intelligence and the overall indicator of schizotypy ($r_s = .10$, $p = .079$). However, the results showed a weak positive correlation between spiritual intelligence and cognitive dysregulation ($r_s = .25$, $p < .001$), also because of the two cognitive dysregulation subscales of unusual beliefs ($r_s = .39$, $p < .001$) and unusual perceptions ($r_s = .28$, $p < .001$).

Contrary to the hypothesis, further analysis shows that there was no significant correlation between the spiritual intelligence overall indicator and psychotic symptoms ($r_s = .19, p = .001$), but there was a weak positive correlation between psychotic symptoms and the spiritual intelligence scales of critical existential thinking ($r_s = .20$, $p < .001$) and transcendental awareness ($r_s = .21$, $p < .001$).

Since the hypothesis that spiritual intelligence is associated with certain schizotypal personality traits (unusual beliefs and unusual perceptions) was confirmed, we conducted a moderation analysis to test the next research hypothesis—whether this association is affected by ME as a spiritual intelligence component. The analysis was performed with mean-centered variables.

Further statistical tests revealed that in a model where spiritual intelligence was a dependent variable, unusual beliefs was an independent

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Table 1

Spearman's Correlations Coefficient Among Mystical Experience, Schizotypal Personality Traits, Psychotic Symptoms, and Spiritual Intelligence Measures

Measures	1	1.1	1.2	1.3	2	2.1	2.1.1	2.1.2	2.1.3	2.2	2.2.1	2.2.2	2.2.3	2.2.4	2.2.5	2.2.6	3	4	4.1	4.2	4.3
1. Mystical experience	1	—																			
1.1. Introvertive	.92**	1	—																		
1.2. Extrovertive	.90**	.76**	1	—																	
1.3. Interpretation	.94**	.80**	.81**	1	—																
2. Schizotypy	.17**	.15**	.16**	.16**	1	—															
2.1. Social detachment	−.04	−.04	−.05	−.04	.72**	1	—														
2.1.1. Restricted affectivity	−.01	.01	−.04	−.02	.46**	.70**	1	—													
2.1.2. Social withdrawal	−.06	−.05	−.07	−.06	.48**	.68**	.20**	1	—												
2.1.3. Close relationship avoidance	−.03	−.05	−.01	−.02	.60**	.70**	.34**	.21**	1	—											
2.2. Cognitive dysregulation	.33**	.30**	.30**	.31**	.91**	.45**	.27**	.32**	.38**	1	—										
2.2.1. Unusual perceptions	.34**	.36**	.33**	.35**	.60**	.26**	.17**	.19**	.20**	.70**	1	—									
2.2.2. Dissociation proneness	.21**	.23**	.20**	.18**	.67**	.39**	.26**	.29**	.26**	.72**	.39**	1	—								
2.2.3. Eccentricity	.20**	.17**	.18**	.20**	.72**	.40**	.21**	.31**	.36**	.78**	.37**	.48**	1	—							
2.2.4. Suspiciousness	−.10	−.12*	−.08	−.09	.67**	.41**	.19**	.30**	.41**	.59**	.31**	.40**	.40**	1	—						
2.2.5. Unusual beliefs	.40**	.34**	.38**	.40**	.55**	.17**	.17**	.01	.20**	.69**	.58**	.31**	.36**	.21**	1	—					
2.2.6. Self-harm	−.04	−.03	−.04	−.03	.27**	.17**	.04	.17**	.15*	.25**	.11	.31**	.23**	.28**	−.05	1	—				
3. Psychotic symptoms	.29**	.26**	.26**	.27**	.59**	.30**	.28**	.14*	.24**	.62**	.56**	.51**	.34**	.41**	.53**	.15**	1	—			
4. Spiritual intelligence	.66**	.57**	.59**	.67**	.10	−.10	−.03	−.07	−.14*	.25**	.28**	.15**	.13*	−.11	.39**	−.07	.19**	1	—		
4.1. Critical existential thinking	.59**	.53**	.53**	.59**	.14*	−.06	−.01	−.03	−.12*	.27**	.29**	.22**	.16**	−.08	.35**	−.03	.20**	.94**	1	—	
4.2. Personal meaning production	.46**	.36**	.43**	.48**	−.06	−.14*	−.05	−.17**	−.13*	.06	.13*	−.05	.01	−.13*	.23**	−.14*	.07	.77**	.60**	1	—
4.3. Transcendental awareness	.63**	.55**	.55**	.64**	.15**	−.08	−.01	−.07	−.10	.30**	.36**	.18**	.16**	−.10	.44**	−.10	21**	.92**	.84**	.61**	1

Note. $N = 299$.
$^{*}p < .05$. $^{**}p < .01$.

Table 2
Linear Regression Analysis Results Among Mystical Experience, Schizotypal Personality Traits, Psychotic Symptoms, and Spiritual Intelligence Measures

Measures	Unstandardized coefficients *B*	Unstandardized coefficients *SE*	Standardized coefficients β	*p*<	*F*	R^2
Mystical experience and spiritual intelligence					229.22**	.43
Constant	−2.08	.17		.001		
Spiritual intelligence	.88	.06	.66**	.001		
Mystical experience and unusual beliefs					64.52**	.18
Constant	−1.62	.09		.057		
Unusual beliefs	0.06	.01	.42**	.001		
Mystical experience and unusual perceptions					49.49**	.14
Constant	0.01	.07		.937		
Unusual perceptions	.008	.01	.38**	.001		
Mystical experience and psychotic symptoms					20.39**	.06
Constant	1.87	.07		.007		
Psychotic symptoms	.09	.02	.25**	.001		

Note. $N = 299$. Dependent variable: mystical experience.
** $p < .01$.

variable, and ME was the moderator, the result was statistically significant ($p < .001$). $R^2 = .46$, meaning that the model explained 46% of the correlation between spiritual intelligence and unusual beliefs, and ME was a statistically significant moderator ($p < .001$). In a model in which spiritual intelligence was the dependent variable, unusual perception was the independent variable, and ME was the moderator, the result was statistically significant ($p < .001$). $R^2 = .44$, which meant that the model explained 44% of the correlation between spiritual intelligence and unusual perceptions, and ME was a statistically significant moderator ($p < .001$).

Finally, because the initial hypothesis about the relationship between spiritual intelligence and psychotic symptoms was not confirmed, there was no need to test a moderation model in which spiritual intelligence was a dependent variable and psychotic symptoms were an independent variable.

Discussion

This study examined the concept of ME, which in previous research has been associated with two conflicting psychological notions—psychopathology and/or spiritual growth. In this research, ME was examined in relation to

Table 3
Multiple Regression Analysis Results Among Mystical Experience, Schizotypal Personality Traits, Psychotic Symptoms, and Spiritual Intelligence Measures

Moel	Unstandardized coefficients *B*	Unstandardized coefficients *SE*	Standardized coefficients β	*t*	*p*<	95% CI Lower bound	95% CI Upper bound	*F*	R^2
Constant	−2.06	.16		−12.60		−2.38	−1.74	67.61	0.47
Spiritual intelligence	.77	.06	.58**	12.49	.001	.65	.89		
Unusual beliefs	.01	.01	.09**	1.55	.001	−.01	.03		
Unusual perceptions	.03	.01	.14**	2.35	.001	.01	.05		
Psychotic symptoms	.01	.02	.04**	.68	.001	−.02	.05		

Note. $N = 299$. Dependent variable: mystical experience.
** $p < .01$.

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spiritual intelligence as a positively perceived set of mental abilities and in relation to schizotypal personality traits and psychotic symptoms as pathology. All of the measures were conducted on one sample of 299 Latvian nonclinical women.

The first hypothesis, that there is a significant positive relationship between ME and spiritual intelligence, was supported by our findings. Although to date, no dedicated research had been conducted to determine the correlation between ME and spiritual intelligence, the confirmation of the hypothesis was not surprising. The results of our study supported the growing trend in recent years of viewing ME as a spiritual phenomenon (Harris et al., 2015; Moreira-Almeida & Cardeña, 2011), often perceived and interpreted as a spiritual experience (Garcia-Romeu et al., 2015), and were consistent with previous research on the relationship between ME and spiritual dimensions (Campbell, 2009; Willard & Norenzayan, 2017). For example, a study on the relationship between ME and spiritual practices was conducted by de Castro (2015). His regression analysis showed that, out of the spiritual practices, meditation significantly predicted ME ($\beta = .20, p < .001$) compared to prayer ($\beta = .13$, $p < .01$) and yoga ($\beta = .03$, $p < .05$). Moreover, a study conducted by Yaden et al. (2017) revealed that ME was associated with increased interest in spirituality after the experience ($r = .20, p < .05$); in contrast, increased interest in religion was not confirmed ($r = .03, p < .05$). The results of this study suggest that the components of spiritual intelligence could include not only conscious entry into altered states of consciousness, as defined by King (2008), but also the spontaneous experience of ME.

Hypothesis 2, that there is a significant positive relationship between ME and individual schizotypal personality trait*s*, was also supported by our findings. Prior to the correlation analysis, it was concluded that ME was not significantly associated with all of the measured schizotypal personality traits, but it was with a few. As expected, the closest associations were with unusual beliefs and unusual perceptions. The results were consistent with a study by Evans et al. (2018) in which ME showed a positive moderately strong association with magical ideation ($r = .62$) and perceptual aberration ($r = .51$).

However, when evaluating the discovered relationships, it should be taken into account that ME itself is defined as an altered state of consciousness, in which an individual's perception differs from an ordinary state of consciousness, and the individual experiences sensations (such as altered sense of time and space) that differ from what is considered the norm (Hood, 1975).

Since there is a lot of discussion in the scientific literature about ME's relationship between schizotypal personality traits, it is noteworthy that this research showed no significant correlation between ME and such schizotypy subfactors as social detachment, which includes restricted affectivity, social withdrawal, and close relationship avoidance, and no significant correlation between ME such schizotypy subfactors as cognitive dysregulation, including suspiciousness and self-harm.

The fact that the results of the study did not show a significant relationship between ME and the overall indicator of schizotypy allowed us to conclude that ME cannot unambiguously be considered a schizotypal personality trait, thus disproving the hypothesis that ME is a schizophreniform disorder (Nelson et al., 2014; Persinger, 1983; Saver & Rabin, 1997; Unterrainer et al., 2011).

It should be mentioned that the results of this study clearly showed where ME and schizotypal personality traits overlap, and as a result, it became clearer why ME is often considered pathological in psychology. The results of the study also clearly showed which of the schizotypal personality traits were not common among individuals who had experienced ME. These findings contribute to solving the topical problem posed by authors such as Schapiro (2018) and Moreira-Almeida and Cardeña (2011) regarding how to distinguish ME from pathology. The results of this study provide an opportunity for professionals to assess in more detail and depth the condition of an individual who shows ME or schizotypal personality traits.

The third hypothesis, that there is a significant positive relationship between ME and psychotic symptoms, was supported, although the relationship between the variables was weak. To an extent, the results were consistent with previous data suggesting that ME can also have negative consequences (Barrett et al., 2017). However, both the weak correlation and the relatively small proportion of the explained variance suggested that ME cannot be unambiguously regarded as a psychotic symptom, and thus, the historical view of ME as a highly pathological experience was

not supported (Allman et al., 1992; Bloomfield, 1980; Michal et al., 2011; Simeon et al., 2000).

When drawing conclusions from the results of correlation and regression analyses, it should be noted that there is no consensus in the scientific literature on the directions of causation between variables. For example, Kerns et al. (2014) proposed that, in the context of pathology, a causal relationship can exist in both directions. ME may trigger psychopathology, and psychopathology may trigger ME (Cardeña et al., 2017; Kerns et al., 2014).

The fourth hypothesis, that spiritual intelligence has a significant positive relationship with individual schizotypal personality traits, was also supported. As in the case of the second hypothesis, it was concluded that spiritual intelligence is not related to all of the measured schizotypal personality traits but only to unusual beliefs and unusual perceptions. As expected, the correlation was more closely related to the schizotypal personality traits correlated with ME, and the results were consistent with those of other authors. Among them, Unterrainer et al. (2011) discovered a weak positive correlation between overall mental well-being and magical thinking as a schizotypal personality trait ($r = .20$, $p < .05$). In contrast, Willard and Norenzayan (2017), who studied the link between schizotypal personality disorders and individuals' attitudes toward spirituality/religion, discovered through a regression analysis that individuals who had an religious upbringing but later began to call themselves spiritual but not religious showed a significantly higher prognosis of schizotypal personality traits ($\beta = .41$, $p < .05$). In particular, these individuals scored higher on the unusual perception, misconceptions, and magical thinking scales, indicating more frequent spiritual but not religious experiences, such as hallucinations, among these individuals (Willard & Norenzayan, 2017).

Our sixth hypothesis, that ME is a moderator of the relationship between spiritual intelligence and schizotypal personality traits, was also supported. ME moderated the relationship between the spiritual intelligence and schizotypal personality traits (unusual beliefs and unusual perceptions). The model explained 46% of the variance in unusual beliefs and 44% of the variance in unusual perceptions. The results showed that the correlation between spiritual intelligence and schizotypal personality traits was largely determined by the presence of ME as a component of spiritual intelligence.

Finally, the fifth and seventh hypotheses (that spiritual intelligence has a significant positive relationship with psychotic symptoms and that ME is a moderator of the relationship between spiritual intelligence and psychotic symptoms) were not supported. No significant correlation was found between spiritual intelligence and psychotic symptoms. Owing to this lack of correlation, the hypothesis was rejected without further analysis. This finding supports the idea of spiritual intelligence as a positively evaluated concept—even in cases where spiritual intelligence involves experiencing an altered state of consciousness such as ME. It can be inferred that ME is probably more of a spiritual than a pathological phenomenon.

Conclusion

In conclusion, the results of this study support the view that ME is a spiritual rather than a pathological phenomenon. This study does not answer the question of whether ME and a psychotic episodes are different experiences or the same experience with different consequences. However, the results clearly indicate that measuring the relationship between ME and variables from both opposing notions in one sample supports the theory that ME is associated more with mental health and less with mental illness.

It is important to note that ME has some similarities with the religious and spiritual problems listed in *DSM-5* (V62.89 [Z65.8]) as "distressing experiences that involve loss or questioning of faith, problems associated with conversion to a new faith, or questioning of spiritual values that may not necessarily be related to an organized church or religious institution" (APA, 2013), and only research in the last decade has shown that distressing religious and spiritual experiences may not always be pathological problems, but they may also be overwhelming crises of psychospiritual growth. Therefore, we believe that this study can not only contribute to creating guidelines for distinguishing a pathological experience from ME but also may help to develop a typology for spiritual problems as separate from religious problems (Lukoff et al., 2011).

Referring to the problem mentioned in the introduction of this study about the difficulties

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of differentiating ME from pathology, it would be advisable for professionals to become acquainted with the results of this study because they eliminate some uncertainty about the nature of ME and may help avoid the misdiagnosis and mistreatment of individuals who are experiencing a spiritual crisis.

The existence and absence of relationships, predictions, and moderations identified in this research provide an opportunity to assess the nature of ME more thoroughly in specific cases. Therefore, the practical results of the research can also be considered significant.

Limitations

Several limitations exist in this study. First, all the data were self-reported, which might have affected the objectivity of the respondent's answers. In this context, a positive factor is the existence of LCPI believability scales, which allowed for eliminating from the study those participants who provided misleading information. Another limitation related to the measurements is that the LCPI and Spiritual Intelligence Survey scales are relatively new. Second, our data did not indicate which of the respondents had experienced spontaneous ME and which had deliberately initiated it. Consequently, it was not possible to draw conclusions regarding whether the relationships between the variables were the same for different causes of ME. Third, the results of the study were adapted to the more responsive group of respondents, women, and therefore, conclusions can be drawn only about one gender. Fourth, the Mysticism Scale includes statements that touch on deep existential themes, and the corresponding text in the scale may be difficult for respondents to understand, especially because they were originally intended to be used in another cultural environment. Fifth, the study does not provide information on the influence of an individual's personality, culture, religion, education, or other social factors on their ME perception.

Future Research

Further research themes can be proposed. First, it is necessary to conduct studies with measurements that are tested and proven over time. Second, it might be possible to evaluate ME more fully by evaluating each type of experience separately—if possible, categorizing the cause of ME (spontaneous, deliberately induced by meditation or psychoactive substances, etc.). Third, it is recommended to include data provided by men. Fourth, owing to the deeply existential nature of ME and the significant uncertainties about the differences between ME and pathological states and about the individual's ability to adapt back to life after the ME, it is necessary to conduct qualitative research on individuals' perception, interpretation, and integration of ME, paying extra attention to the individual's personality, cultural context, and prior awareness and knowledge about ME. Previous qualitative studies (Garcia-Romeu et al., 2015; Mc Cann & Davis, 2020) have mainly focused on the nature of the ME, the individual's feelings before and during the ME, and the short-term and long-term consequences of ME. However, there is still some unclarity about how exactly an individual experiences the integration process of ME. It seems obvious to assume that different factors of the social environment as well as prior knowledge and personality differences may affect one's ability to integrate ME into daily life. Qualitative research is especially needed because some authors have concluded that the impact on a person's mental health after experiencing spontaneous ME partially depends on the way the individual interprets the experience (Heriot-Maitland et al., 2012). Even more, qualitative research is needed to increase the capacity to distinguish a psychological illness from ME (McCann & Davis, 2018). Therefore, both quantitative and qualitative research are needed to better understand the nuances of the fine line between pathological states and ME as well as the integration process of ME. Knowledge about the ME integration process may be helpful for individuals' long-term ability to learn from ME and to meaningfully integrate it into their lives. Finally, further research is needed to determine the relationship between ME and other pathologically and positively evaluated concepts in psychology.

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