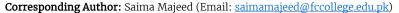
Volume 5, Issue 1 (Winter 2025)

Pages: 56-65

ISSN (Online): 2789-4428 DOI: 10.62843/jssr.v5i1.463





#### JOURNAL OF SOCIAL SCIENCES REVIEW (JSSR)

# The Association Between Spiritual Intelligence and Awe in University Students of Pakistan

Aisha Ateeg <sup>a</sup> Amena Aamir <sup>b</sup> Saima Majeed <sup>c</sup> Nazia Asif <sup>d</sup>

**Abstract:** Spiritual intelligence, a core component of spirituality, is conceptually related to awe, especially in the domain of transcendence. Awe is a self-transcendent emotion that involves the perception of vastness and a subsequent need for accommodation. Awe has been found to have several benefits for the individual self as well as social groups, making its experience of particular interest. This research investigated the association between spiritual intelligence and situational awe in 200 Pakistani university students between the ages of 18 and 25. A correlational, cross-sectional survey was carried out using The Spiritual Intelligence Self-Report Inventory (SISRI 24) and the Situational Awe Scale to test whether the variables were correlated and if age and gender influenced the experience of awe. The results revealed a significant positive association between spiritual intelligence and the experience of awe, indicating that individuals with higher levels of spiritual intelligence tended to experience awe to a greater extent. Additionally, a gender difference was observed, with women reporting higher levels of awe compared to men. No support was found for an age-based variation in situational awe. These findings contribute to the existing body of literature on spiritual intelligence, spirituality, and awe, particularly within the context of Pakistan, and have broad implications for various subfields within psychology.

Keywords: Awe, Spirituality, Spiritual Intelligence, Gender, Age

# Introduction

Awe is often considered a sacred, immense, supernatural, and sublime emotion (Stellar et al., 2017), which is a transformative and self-transcendental positive emotion that can be experienced a heightened emotional state (Keltner and Haidt, 2003) that makes people look beyond themselves. Awe is associated with social connection and is significant in collective processes like religion (Keltner & Haidt, 2003). Humans have spiritual experiences, and they have been the culmination and integration of positive emotions. Certain attributes of spiritual intelligence are theoretically related to the awe experience (Vaughan, 2002). Spiritual intelligence is linked to increased aesthetic appreciation, it decreases people's need for certainty, allowing them to tolerate, explore, and engage with existential uncertainties (Armstrong & Detweiler-Bedell, 2008). Research has also shown that awe is strongly correlated with the feeling of oneness with people, which is associated with spirituality. There is a clear association between spirituality and awe, both are self-transcendent. Therefore, an individual high in spiritual intelligence has a greater capacity to experience and integrate spiritual experiences involving awe-states.

Research on awe has been done in the past 20 years, and we know more today than we did but it remains a mystery and ambiguity. The current literature on awe has defined it in terms of the interaction between several factors that make up the emotion. In Keltner and Haidt's view (2003), awe refers to the feeling of wonder and amazement that one feels when confronted with something vast that cannot be understood using one's current frame of reference. Other definitions of awe build on this. Awe is an

<sup>&</sup>lt;sup>a</sup> Assistant Professor, Department of Psychology, Forman Christian College (A Chartered University), Lahore, Punjab, Pakistan.

<sup>&</sup>lt;sup>b</sup> BS Research Scholar, Department of Psychology, Forman Christian College (A Chartered University), Lahore, Punjab, Pakistan.

<sup>&</sup>lt;sup>c</sup> Associate Professor, Department of Psychology, Forman Christian College (A Chartered University), Lahore, Punjab, Pakistan. Email: <a href="mailto:saimamajeed@fccollege.edu.pk">saimamajeed@fccollege.edu.pk</a>

<sup>&</sup>lt;sup>d</sup> Assistant Professor, Department of Psychology, Forman Christian College (A Chartered University), Lahore, Punjab, Pakistan.

"emotional response to perceptually vast stimuli that overwhelm current mental structures yet facilitate attempts at accommodation" (Shiota et al. 2007). Piff et al. (2015) introduced the element of the "small self" and talked about how awe also involves a diminishment of the self, where the individual feels less significant in comparison to the awe-inducing stimulus. Yaden et al. (2017) constructed a 6-factor model to explain awe in the Awe Experience Scale (AWE-S), which included alterations to time, self-diminishment, connectedness, perception of vastness, physical sensations, and need for accommodation. Krenzer et al. (2020) constructed the Situational Awe Scale on a 4-factor model in which awe is conceptualized as a multidimensional construct involving the factors of connection, oppression, chills, and diminished self.

Spirituality is a more complex variable to define. The experience of spirituality is highly subjective making it difficult to operationalize it. King and Boyatzis (2015) describe spirituality as the human propensity "characterized by a sense of connectedness and relationality to what is beyond the self". The defining and operationalizing characteristic of spirituality then becomes the human desire for transcendence and interconnectedness (Villani et al., 2019). Skrzypińska (2021) has stated that spirituality requires an "instrument" that makes the activities associated with it possible. Spiritual intelligence is operationalized as "a set of adaptive mental capacities which contribute to the awareness, integration, and adaptive application of the nonmaterial and transcendent aspects of one's existence" (King, 2010, p. 1-2).

## Literature Review

Extensive research in positive psychology has been done on what makes life meaningful. Many hedonists believe that pleasure is our sole motivator (Moore, 2013). While Seligman et al.'s (2004) suggest that Pleasant Life amplifies positive emotions. Awe is one of the most unique emotional experiences that are transcendent and can be life-changing (Yaden et al., 2016a). Understanding of awe is still limited despite its existence and knowledge across cultures. Valdesolo et al. (2017) talked about how the epistemic emotions come together to elicit the awe experience. Awe needs accommodation that can be disorienting and confusing if not met (Keltner & Haidt, 2003).

People interpret awe under five themes, which define and diverse the awe experience. Generally, it is considered a positive emotion but can also elicit negative elements (Stellar et al., 2017). In situations of fear, fear inducing stimuli can make awe perceived as a threat or feeling of powerlessness (Gordon et al., 2017). According to research nature is one of the most powerful elicitors of awe (Cohen et al., 2010) accompanied by spiritual and religious experiences, and viewing Earth from the space known as the "overview effect". Spirituality has been found to be positively correlated with self-transcendent emotions (Van Cappellen et al., 2016).

Different studies suggest that women might experience awe differently as compared to men (Büssing et al., 2021), for some no evidence was found to support the notion of gender influences on the awe experience, but evidence is that women are more prone to physiological experiences of awe (Quesnel and Riecke, 2017). Awe experiences are found to increase with age, and have cultural influence (Razavi et al.,2016). It is also valued comparably in different countries but experienced differently (Allen, 2018).

To the question of why we feel awe, some psychologists propose that it is evolutionary, and when we experience primordial awe, we protect the cohesion of a social group (Keltner & Haidt, 2003), and awe promotes cooperation and stability within groups (Stellar et al., 2017). Another theory focuses on the need for accommodation in awe and that it allows people to adapt to new surroundings (Allen, 2018), and "seek out new and diverse experiences" (Kearns & Tyler, 2020).

Piff et al. (2015) in his research found that awe was correlated with generosity, ethical decision-making, prosocial values, and lower entitlement. Gordon et al. (2017) also found that people rated their daily well-being higher on the days they experienced awe. People with higher dispositional awe are found to have lower tendencies to hold materialistic beliefs and are more encouraged to find positive meaning in life (Zhao et al. 2019).

Positive emotions have repeatedly been correlated with markers of physical health (Stellar et al., 2015). Fredrickson (2004) states in her "broaden-and-build" theory that positive emotions extend an

individual's thought-action repertory and shape an individual's properties. When experiencing positive emotions like awe, people also experience a broader range of thoughts and actions. Several experiments were conducted, and it showed that awe increased perceived time availability, which affects people's life choices. On top of that, awe helps in building resources like knowledge, self-insight, and social connection (Stellar et al., 2017). Research has found that awe increases reported belief in God and supernatural forces, and it is negatively correlated with tolerance for uncertainty and positively correlated to agency detection (Valdesolo & Graham, 2014). In this way, awe is linked to religiosity and spirituality through an appraisal of uncertainty.

Feelings of transcendence are hypothesized to increase spirituality through basic world assumptions (Van Cappellen et al., 2013) and people endorsed increased spirituality after experiencing certain positive emotions. Van Cappellen & Saroglou (2012) investigated the role awe played in activating the behavioural intentions of religious/spiritual people and suggested that when religious and/or spiritual people experience awe, they become more likely to involve in behaviours related to religion/spirituality.

There is vast research on the connection between spirituality and awe and in a study, it was found that the participants who recalled a spiritual experience, when asked to either recall a spiritual experience or a humorous experience, reported feeling more awe than their counterparts (Preston & Shin, 2017). Though people may go about their search, experience, and practice in different ways, spirituality appears to be universal and found across space and time.

Seligman (2004) identifies spirituality and transcendence as a virtue and an integral part of the Good Life. Spirituality has been found to have a strong impact on subjective well-being and can bring meaning and purpose into people's lives, along with a multitude of other benefits (Villani, 2019). This is the reason that many people believe in and seek out spiritual experiences. Unique adaptive, cognitive abilities that allow people to be aware of, assimilate, and adapt to these spiritual experiences is spiritual intelligence (King & DeCicco, 2009).

Spiritual intelligence allows individuals to cultivate their spiritual resources and develop their spirituality. Spiritual intelligence relies on "mental abilities are distinct from behavioural traits and experiences". These states include cosmic consciousness and oneness and are reached through an individual's voluntary actions like meditation (King and DeCicco, 2009). Spiritual intelligence and its components are adaptive and can be associated with well-being and psychological health (Vaughan, 2002). Ellermann and Reed (2001) have found that TA and its associated feelings of interconnectedness are positively correlated with mental health and inversely correlated with depression in older adults. King et al. (2012) discovered a demonstrable link between spiritual intelligence and emotional intelligence, with PMP and TA showing the strongest correlation with emotional intelligence. Another study found that the PMP component was negatively correlated with neuroticism, while TA was found to predict well-being. King and DeCicco (2009) also found that TA was associated with life satisfaction. Kalantar kousheh et al. (2014) found a relationship between spiritual intelligence and life satisfaction.

Literature in Pakistan related to spiritual intelligence also shows a positive direction toward religiosity and life satisfaction (Munawar & Tariq, 2018), and greater psychological well-being (Siddiqui and Khan, 2018). Spiritual intelligence also plays a significant role in promoting positive mental health conditions and reducing negative psychological states, it was found that spiritual intelligence is related to positive coping strategies which further enhance emotional regulation and reduce anxiety (Moeini et al.,2019a,b).

## Rationale

The rationale for conducting this study was that it expanded the literature on spiritual intelligence and awe as individual constructs, and concerning each other, and how they relate to other constructs in psychology. Few studies were conducted in Pakistan, so it was necessary to see if the Western conceptualization remained valid in Pakistani culture. And it was possible to discover differences in spiritual intelligence and experiences of awe based on the collectivist culture intertwined with religious values. The study explored individuals' experiences of the positive, self-transcendent emotion of awe, and whether being high in spiritual intelligence made people experience awe differently.

## Hypotheses

- 1. People higher in spiritual intelligence experience awe to a greater degree.
- 2. There is a significant age-based variation in the awe experience.
- 3. Men and women experience awe differently.

## Materials and Methods

This cross-sectional study has a correlational research design, which quantitatively investigated the association between spiritual intelligence and awe using a self-report questionnaire and explored whether there was a significant age or gender-based variation in experiences of awe. This study was conducted on the target population of Pakistani university students between the ages of 18 and 25. A sample of 200 men and women was collected using nonprobability, convenient sampling from the Forman Christian College University (FCCU) campus. The exclusionary criteria for partaking in the research were age and years of schooling (minimum A levels/Intermediate completion). The final sample for this study consisted of 200 Pakistani university students between the ages of 18 and 25 (M = 21.28, SD = 1.61), of which 51 (25.5%) were men and 149 (74.5%) were women. Analysis and interpretation of the responses collected are represented in Table 1. 189 (94.5%) participants were students at Forman Christian College University (FCCU) and the remainder were students at other universities in Lahore.197 participants were undergraduate students while three were graduate students.

**Table 1**Sociodemographic Characteristics of Participants

Variable	n	(%)	M(SD)
Age			21.28 (1.61)
Gender			
Male	51	25.5	
Female	149	74.5	
Religious Affiliation			
Muslim	176	88	
Christian	16	8	
Agnostic	4	1.5	
Atheist	4	1.5	
Self-reported Religiosity			
Not at all religious	16	8	
Moderately religious	158	79	
Very religious	24	12	
Other	2	1	
Self-reported Spirituality			
Not at all spiritual	30	15	
Moderately spiritual	131	65.5	
Very spiritual	33	16.5	
Other	6	3	

In terms of religious affiliation, there were 176 (88%) Muslims, 16 (8%) Christians, three (1.5%) Agnostics, three (1.5%) Atheists, one (0.5%) Irreligious, and one (0.5%) reported Other. The participants also self-reported their religiosity and spirituality with 16 (8%) considering themselves not at all religious, 158 (79%) moderately religious, 24 (12%) very religious, and 2 (1%) responding with 'other'. As for self-reported spirituality, 30 (15%) participants reported being not at all spiritual, 131 (65.5%) reported being moderately spiritual, 33 (16.5%) reported being very religious, and 6 (3%) reported being other.

An informed consent form was included at the beginning of the questionnaire which included all relevant information about the nature and purpose of the study and the rights of the research participant. The questionnaire comprised of section to collect demographic data. Participants were shown a video of 5:24 minutes, including a montage of nature scenes (Projectyose, 2014), to elicit awe before they filled out

the measure of situational awe. To assess participants' spiritual intelligence, The Spiritual Intelligence Self-Report Inventory (SISRI-24) by King (2008) was used. The SISRI-24 is a self-report measure with four factors/subscales, which are Critical Existential Thinking (CET), Personal Meaning Production (PMP), Transcendental Awareness (TA), and Conscious State Expansion (CSE). The instrument had a total of 24 items, and all the items in this scale were rated on a 5-point Likert scale from 0 to 4. The SISRI-24 had good internal consistency with a Cronbach's Alpha value of .92 (CET = .78; PMP = .78; TA = .87; CSE = .91), and test-retest reliability on the scale was .89 (King, 2008). To assess participants' experience of induced situational awe, the Situational Awe Scale (SAS) by Krenzer et al. (2020) was used, which is a 15-item selfreport scale with four subscales, which are Connection, Oppression, Chills, and Diminished Self. Participants responded to the items on a 7-point Likert scale ranging from 0 (not at all) to 6 (very much). The SAS had good internal consistency with a Cronbach's Alpha value of .84 (Connection = .83, Oppression = .82, Chills = .78, Diminished Self = .65). Inter-scale correlations between SAS and the Small-Self Scale (Piff et al., 2015) and DPES (Shiota et al., 2007) were statistically significant at the p < 0.01 level (.37 and .23 for each scale respectively), showing good convergent validity. The scores for the scales (both summated rating scales) were found out by summing the item responses after accounting for any reverse coded items. Higher scores on the SISRI-24 indicated higher spiritual intelligence and higher scores on the SAS indicated greater experiences of situational awe.

**Table 2**Descriptive Statistics for Spiritual Intelligence

,	,				
Variable	Range	M	SD	α	M (item)
Total SISRI	0-96	59.17	14.57	.89	2.47
CET	0-28	17.57	5.46	.75	2.51
PMP	0-20	12.55	4.36	.81	2.51
TA	0-28	18.35	4.98	.75	2.62
CSE	0-20	9.47	4.48	.83	1.89

**Table 3**Descriptive Statistics for Situational Awe

Variable	Range	M	SD	α	M (item)				
Total SAS	0-90	38.04	16.02	.86	2.54				
Connection	0-24	11.73	6.38	.87	2.93				
Oppression	0-24	4.55	4.84	.76	1.14				
Chills	0-24	9.50	7.02	.86	2.38				
Diminished Self	0-18	12.27	4.33	.68	4.09				

## Procedure

The study was reviewed by the Ethics Review Committee (ERC) to ensure ethical soundness. Permission to collect data was sought from the Board of Studies (BOS) and the Institutional Review Board (IRB). A questionnaire was designed with the informed consent form, demographics form, and both measures. The participants were recruited in person through convenient sampling and asked to fill the questionnaire in a secluded room to minimize extraneous variables. The study was conducted in small groups of four to six people to conserve resources. The instructions for filling out the SISRI-24 scale were written right before the scale in the questionnaire. After completing the measure for spiritual intelligence, participants were then shown the video to elicit awe. After that participants were asked to answer a question regarding the content of the video to ensure that they had paid attention to it. The manipulation check ensured that only participants who paid attention to and understood the awe-inducing video were included in the analysis. However, only 99 (49.5%) participants answered this correctly during this study. Therefore, it was decided to disregard the manipulation check and include all cases in the analysis.

# **Ethical Considerations**

Data collection began after obtaining ERC, BOS, and IRB approval. Permission to use the SAS was taken from the author prior to use. All necessary steps and precautions were taken to protect the rights of the research participants. Signed informed consent was obtained beforehand, and no deception was involved in the study.

The identification of the participants was kept confidential, and no personal details were obtained. All data collected from the study was not shared with anyone and was stored as encrypted files in a password-protected laptop. No violation of the APA ethical guidelines for human research occurred during the study.

## **Pilot Study**

A pilot study with 30 participants was conducted using the same sampling technique and procedure as for this preliminary study. No changes were suggested or made to the study.

#### Results

To find the results a test of normality was conducted to ensure the appropriateness of subsequent inferential analysis.

## **Assessing for Normality**

The Kolmogorov-Smirnov test of normality conducted on spiritual intelligence and situational awe showed a normal distribution in the scores of both variables. Both the spiritual intelligence (D (200) = .072, p = .013) and situational awe (D (200) = .065, p = .038) scores did not statistically deviate from a normal distribution. Therefore, parametric correlation tests such as Pearson's product-moment correlation coefficient and independent samples t-test were conducted.

**Table 4** *Kolmogorov–Smirnov Normality Test: Spiritual Intelligence and Situational Awe* 

Variable	Statistics	df	Sig.
Total SAS	0.65	200	.038
Total SISRI-24	0.72	200	.013

**Table 5**Correlations for Self-reported Religiosity, Self-reported Spirituality, Spiritual Intelligence, and Situational Awe (N=200)

Variable	М	SD	1	2	3	4
Self-reported Religiosity	2.02	0.49	_	.22**	.04	.03
Self-reported Spirituality	1.96	0.66		_	.38**	.12
Spiritual Intelligence	59.17	14.57			_	.31**
Situational Awe	38.04	16.02				_

<sup>\*\*</sup>p <.01

A moderate positive correlation between spiritual intelligence and situational awe [r = .31, n = 200, p < 0.01], was found. There was a moderate, positive correlation [r = .22, n = 200, p < 0.01], between self-reported religiosity and spirituality was explored. There was a moderate, positive correlation [r = .38, n = 200, p < 0.01], between self-reported spirituality and spiritual intelligence was also found.

**Table 6**Correlations for Age, Situational Awe, and Spiritual Intelligence (N=200)

	, ,	J	,			
Variable	n	M	SD	1	2	3
Age	200	21.28	1.61	_	.07	.08
Situational Awe	200	38.04	16.02		_	.31**
Spiritual Intelligence	200	59.17	14.57			_
**p <.01						

The relationship between age and situational awe, and awe and spiritual intelligence was investigated using Pearson product-moment correlation coefficient. The correlation between the two variables in both analyses was not statistically significant at the 0.01 level..

**Table 7**Gender-Based Comparison of Situational Awe and Spiritual Intelligence Scores (N=200)

Variable	Men		Women		t (198)	р	η²
	M	SD	M	SD			
Spiritual Intelligence	60.76	14.32	58.62	14.66	.91	.37	.004
Situational Awe	32.33	14.10	40.00	16.21	-3.01	.003	.044

An independent–sample t–test was conducted to compare the spiritual intelligence scores for both genders. There was no significant difference in scores for men (M = 60.76, SD = 14.32) and women [M = 58.62, SD = 14.66; t(198) = .91, p = .37]. The magnitude of the differences in the means was negligible (eta squared = .004, 95% CI: -2.52 to 6.81) (Pallant, 2010).

#### Discussion

This research investigated the association between spiritual intelligence and situational awe using a sample of 200 university students in Pakistan aged 18 to 25. Given the Pakistani culture and the majority of Muslims, the participants of this study viewed the variables of spiritual intelligence and awe through a religious lens, which might have influenced their responses. The participants achieved moderately high scores on the SISRI-24 (59.17 out of a maximum of 96) and its subscales. The results found a significant correlation between self-reported spirituality and spiritual intelligence, but not between self-reported religiosity and spiritual intelligence. Additionally, there was also a significant correlation between self-reported religiosity and self-reported spirituality, which might be because of Pakistanis' unique relationship with spirituality.

The highest scores on the SISRI-24 were observed on the Transcendental Awareness (TA) subscale (mean score of 2.62 on a 5-point Likert scale), indicating that participants felt aware of a metaphysical reality beyond their own, which might suggest openness to experiences that go beyond material world. This alignment may be influenced by the Sufi tradition prevalent in the subcontinent (Saeed et al., 2021). Research has found that transcendental awareness predicts well-being and life satisfaction, and it is positively correlated with mental health while being negatively correlated with depression (Ellermann & Reed, 2001; King & DeCicco, 2009; Sood et al., 2012). The lowest scores (mean score of 1.89 on a 5-point Likert scale) on The Spiritual Intelligence Self-Report Inventory (SISRI-24) were obtained on the Conscious State Expansion (CSE) subscale, suggesting that participants had less confidence in their ability to expand their consciousness and attain a higher spiritual state (Ahangar & Khan, 2015). Such participants may have encountered challenges in conceptualizing a heightened state of consciousness, or individuals often associate spirituality with religiosity.

While factors such as personal meaning production and transcendental awareness are closely connected to religiosity, usually through a relationship with a higher power, conscious state expansion is distinct and exclusive to spiritual intelligence. This distinction may shed light on why participants exhibited comparable mean scores on the Critical Existential Thinking (CET), Personal Meaning Production (PMP), and Transcendental Awareness (TA) subscales, but notably lower scores on the Conscious State Expansion (CSE) subscale.

The participants of this study recorded low levels of situational awe (38.04 out of 40 maximum 90) on the SAS. Higher scores on the SAS were expected due to the population assumed to be high in religiosity and spirituality. But it may be different because of several reasons including cultural influences, the video shown might not have resonated with the participants' cultural experiences and preferences, and the possibility of scale not being validated in the Pakistani context. Participants also scored low on the subscales of the Situational Awe Scale (SAS). However, the exception was the Diminished Self subscale, on which participants reported high scores (mean score of 4.09 on a 7-point Likert scale).

On the other hand, mean scores (1.14 on a 7-point Likert scale) on the Oppression subscale of the Situational Awe Scale were exceptionally low and indicated that participants did not feel tense, oppressed, or suffocated after watching the awe-inspiring video. Gordon et al. (2017) found that participants mentioned experiences of threat-based awe less than a quarter of the time when discussing their encounters with intense awe. Consequently, it can be argued that the theme of threat-based awe was not prominent in the awe experiences reported by this sample.

The study results displayed a moderate, positive association between spiritual intelligence and experiences of awe. In this sample, participants with higher levels of spiritual intelligence exhibited significantly greater levels of situational awe, which indicated a relationship between spiritual intelligence

and dispositional awe (Bonner, 2015). The current study extends those findings by establishing a positive association between spiritual intelligence and situational awe.

The results showed that not only are spiritual intelligence and feelings of interconnectedness linked to the awe experience, but to the factors of connection, chills, and self-diminishment as well. Findings highlight that individuals who are already religious and/or spiritual tend to exhibit even stronger religious and/or spiritual behaviours after experiencing awe. The reciprocal relationship between spirituality and awe has the potential to cultivate a sense of unity among group members, especially pertinent in the collectivist culture of Pakistan. This aligns with the literature, which posits that awe promotes group cooperation and stability (Stellar et al., 2017). In a university setting it can develop social cohesion and support, which will result in overall positive outcomes for the students.

There was no significant age-based variation observed in the awe experience of the sample. This finding diverges from previous studies that consistently reported age-related differences, with older individuals exhibiting higher levels of awe compared to younger individuals (Büssing, 2021). The lack of age-based variation in the present study may be attributed to the age range of the sample. According to the results, women scored significantly higher than men on the Situational Awe Scale (SAS). Some previous studies found a clear gender difference in the awe experience, while others did not (Büssing, 2021; Büssing et al., 2021; Quesnel & Riecke, 2017). The findings of this study corroborated the literature that had found a difference in the awe scores of men and women. However, this gender difference was not replicated in the spiritual intelligence scores, with men and women having similar mean scores.

The gender difference in situational awe scores holds significant implications for our understanding of the awe construct and raises important questions for future research. It provides an opportunity to explore whether gender differences in the effects of awe are specific to certain societies with strict gender roles, such as Pakistan, or if they transcend cultural contexts.

# **Implications**

The study fills the current research gap and validates the variables from a Pakistani perspective. The study helps add an important dimension to the explanations and understanding of the variables and could lead to the development of culture–specific scales. The gender difference found in this research emphasizes the subjective nature of awe which is crucial when designing interventions. Based on these gender differences, insights can be gained into the underlying psychological and emotional processes involved in the awe experience. This study could be added to the literature on the topic and help gain a new perspective on how we view these constructs and integrate it into people's lives, to make them more fulfilling, promote positive psychological outcomes, personal growth, and a deeper understanding of the human experience. Furthermore, the implications of this study extend to various disciplines, including health psychology, positive psychology, clinical psychology, cognitive science, philosophy, and sociology.

## Conclusion

In the beginning, Henryk Skolimowski mused that awe and spirituality began as one; both have flowed from and with each other ever since man first encountered the sublime wonders of the natural world. This study explored the association between these two related constructs of spiritual intelligence and the self-transcendent emotion of awe. Findings revealed that individuals with higher levels of spiritual intelligence tended to score higher on measures of situational awe. The study uncovered the influence of factors on the experience of awe, shedding light on the effect of individual characteristics on the awe experience. The implications of this study highlight the important role of awe and spirituality in fostering a sense of interconnectedness and contributing to people's psychological well-being. Future research should aim to replicate and expand upon these findings using diverse samples and rigorous methodologies so that we can deepen our understanding of the awe-spirituality relationship, explore its cultural and contextual variations, and harness its potential for promoting holistic well-being and fostering a harmonious connection between individuals and their environment.

#### References

- Ahangar, M. M., & Khan, M. A. (2015). Gender differences on spiritual intelligence among university students. *International Journal of Research in Management & Social Science*, 3(II), 117–121.
- Allen, S. (2018). The science of awe. Greater Good Science: John Templeton Foundation, 58-69.
- Armstrong, T., & Detweiler-Bedell, B. (2008). Beauty as an emotion: The exhilarating prospect of mastering a challenging world. *Review of General Psychology: Journal of Division 1, of the American Psychological Association*, 12(4), 305–329. https://doi.org/10.1037/a0012558
- Bonner, E. (2015). Exploring dispositional awe and its relationship with spiritual intelligence: Measuring dispositional awe as a multidimensional construct. Unpublished. <a href="https://doi.org/10.13140/RG.2.1.1271.6406">https://doi.org/10.13140/RG.2.1.1271.6406</a>
- Büssing, A. (2021). Wondering awe as a perceptive aspect of spirituality and its relation to indicators of wellbeing: Frequency of perception and underlying triggers. *Frontiers in Psychology*, 12, 738770. <a href="https://doi.org/10.3389/fpsyg.2021.738770">https://doi.org/10.3389/fpsyg.2021.738770</a>
- Büssing, A., Rodrigues Recchia, D., Dienberg, T., Surzykiewicz, J., & Baumann, K. (2021). Awe/gratitude as an experiential aspect of Spirituality and its association to perceived positive changes during the COVID-19 pandemic. *Frontiers in Psychiatry*, 12, 642716. https://doi.org/10.3389/fpsyt.2021.642716
- Cohen, A. B., Gruber, J., & Keltner, D. (2010). Comparing spiritual transformations and experiences of profound beauty. *Psychology of Religion and Spirituality*, 2(3), 127–135. <a href="https://doi.org/10.1037/a0019126">https://doi.org/10.1037/a0019126</a>
- Ellermann, C. R., & Reed, P. G. (2001). Self-transcendence and depression in middle-age adults. *Western Journal of Nursing Research*, 23(7), 698–713. https://doi.org/10.1177/01939450122045492
- Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 359(1449), 1367–1378. <a href="https://doi.org/10.1098/rstb.2004.1512">https://doi.org/10.1098/rstb.2004.1512</a>
- Gordon, A. M., Stellar, J. E., Anderson, C. L., McNeil, G. D., Loew, D., & Keltner, D. (2017). The dark side of the sublime: Distinguishing a threat-based variant of awe. *Journal of Personality and Social Psychology*, 113(2), 310–328. https://doi.org/10.1037/pspp0000120
- Kalantarkousheh, S. M., Nickamal, N., Amanollahi, Z., & Dehghani, E. (2014). Spiritual intelligence and life satisfaction among married and unmarried females. *Open Journal of Social Sciences*, 02(08), 172–177. https://doi.org/10.4236/jss.2014.28024
- Kearns, P. O., & Tyler, J. M. (2022). Examining the relationship between awe, spirituality, and religiosity. *Psychology of Religion and Spirituality*, 14(4), 436–444. <a href="https://doi.org/10.1037/reloo00365">https://doi.org/10.1037/reloo00365</a>
- Keltner, D., & Haidt, J. (2003). Approaching awe, a moral, spiritual, and aesthetic emotion. *Cognition & Emotion*, 17(2), 297–314. https://doi.org/10.1080/02699930302297
- King, D. (2010). Personal meaning production as a component of spiritual intelligence. *International Journal of Existential Psychology & Psychotherapy.* 3(1), 1–5.
- King, D. B., & DeCicco, T. L. (2017). Spiritual Intelligence Self-Report Inventory [Data set]. In *PsycTESTS Dataset*. American Psychological Association (APA). https://doi.org/1037/t58722-000
- King, P. E., & Boyatzis, C. J. (2015). Religious and spiritual development. In *Handbook of Child Psychology and Developmental Science* (pp. 1–48). Wiley. <a href="https://doi.org/10.1002/9781118963418.childpsy323">https://doi.org/10.1002/9781118963418.childpsy323</a>
- King, P. E., and Boyatzis, C. (2015). "Religious and spiritual development" in Handbook Of
- Krenzer, W. L. D., Krogh-Jespersen, S., Greenslit, J., Price, C. A., & Quinn, K. A. (2020). Assessing the experience of awe: Validating the Situational Awe Scale. In *PsyArXiv*. <a href="https://doi.org/10.31234/osf.io/dsvtn">https://doi.org/10.31234/osf.io/dsvtn</a>
- Moeini, B., Sharifirad, G., Akbari, M. E., & Heydari, Z. (2019). The effect of spiritual intelligence training on anxiety and coping strategies in nursing students. *Journal of Education and Health Promotion*, 8, 186.
- Moeini, S., Talepasand, S., & Mehrinezhad, S. A. (2019b). The effect of spiritual intelligence training on anxiety, stress, and emotional regulation of students. *Journal of Religion and Health*, 58(1), 61–75.
- Moore, A. (2013). Hedonism. Stanford Encyclopedia of Philosophy.
- Munawar, K., & Tariq, O. (2018). Exploring relationship between spiritual intelligence, religiosity and life satisfaction among elderly Pakistani Muslims. *Journal of Religion and Health*, *57*(3), 781–795. <a href="https://doi.org/10.1007/s10943-017-0360-x">https://doi.org/10.1007/s10943-017-0360-x</a>

- Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., & Keltner, D. (2015). Awe, the small self, and prosocial behavior. *Journal of Personality and Social Psychology*, 108(6), 883–899. https://doi.org/10.1037/pspi0000018
- Projectyose. (2014, February 28). Yosemite HD II [Video]. YouTube. https://youtu.be/ZwzY10 hB5Y.
- Quesnel, D., & Riecke, B. E. (2017). Awestruck: Natural interaction with virtual reality on eliciting awe. 2017 *IEEE Symposium on 3D User Interfaces* (3DUI), 205–206. https://doi.org/10.1109/3DUI.2017.7893343.
- Razavi, P., Zhang, J. W., Hekiert, D., Yoo, S. H., & Howell, R. T. (2016). Cross-cultural similarities and differences in the experience of awe. *Emotion (Washington, D.C.)*, 16(8), 1097–1101. https://doi.org/10.1037/emo0000225
- Saeed, B., Hasan, S. S., & Ajmal, M. A. (2021). Psychological impacts of Sufism in 21st century in Pakistan. *Journal of Humanities*, *Social and Management Sciences (JHSMS*), 2(1), 38–49. https://doi.org/10.47264/idea.jhsms/2.1.4
- Seligman, M. E. P., Parks, A. C., & Steen, T. (2004). A balanced psychology and a full life. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 359(1449), 1379–1381. https://doi.org/10.1098/rstb.2004.1513
- Shiota, M. N., Keltner, D., & Mossman, A. (2007). The nature of awe: Elicitors, appraisals, and effects on self-concept. *Cognition and Emotion*, 21(5), 944–963. https://doi.org/10.1080/02699930600923668
- Siddiqui, S., & Khan, S. (2018). Spiritual intelligence and psychological well-being among nursing students. *Journal of Religion and Health*, 57(5), 1754–1764. https://doi.org/10.1007/s12144-023-04717-8
- Skrzypińska, K. (2021). Does spiritual intelligence (SI) exist? A theoretical investigation of a tool useful for finding the meaning of life. *Journal of Religion and Health.* 60, 500–516. https://doi.org/10.1007/s10943-020-01005-8
- Sood, S., Bakhshi, A., & Gupta, R. (2012). Relationship between personality traits, spiritual intelligence and well being in university students. *Journal of Education and Practice*, 3, 55–59.
- Stellar, J. E., John-Henderson, N., Anderson, C. L., Gordon, A. M., McNeil, G. D., & Keltner, D. (2015). Positive affect and markers of inflammation: discrete positive emotions predict lower levels of inflammatory cytokines. *Emotion (Washington, D.C.)*, 15(2), 129–133. <a href="https://doi.org/10.1037/emo0000033">https://doi.org/10.1037/emo00000033</a>
- Valdesolo, P., & Graham, J. (2014). Awe, uncertainty, and agency detection. *Psychological Science*, 25(1), 170–178. https://doi.org/10.1177/0956797613501884
- Valdesolo, P., Shtulman, A., & Baron, A. S. (2017). Science is awe-some: the emotional antecedents of science learning. *Emotion Review*, 9(3), 215–221. <a href="https://doi.org/10.1177/1754073916673212">https://doi.org/10.1177/1754073916673212</a>
- Van Cappellen, P., & Saroglou, V. (2012). Awe activates religious and spiritual feelings and behavioral intentions. *Psychology of Religion and Spirituality*. 4. 223–236. https://doi.org/10.1037/a0025986.
- Van Cappellen, P., Saroglou, V., Iweins, C., Piovesana, M., & Fredrickson, B. L. (2013). Self transcendent positive emotions increase spirituality through basic world assumptions. *Cognition & Emotion*, 27(8), 1378–1394. https://doi.org/10.1080/02699931.2013.787395
- Van Cappellen, P., Toth-Gauthier, M., Saroglou, V., & Fredrickson, B. L. (2016). Religion and well being: The mediating role of positive emotions. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 17(2), 485–505. https://doi.org/10.1007/s10902-014-9605-5
- Vaughan, F. (2002). What is spiritual intelligence? *Journal of Humanistic Psychology*, 42(2), 16–33. https://doi.org/10.1177/0022167802422003
- Villani, D., Sorgente, A., Iannello, P., & Antonietti, A. (2019). The role of spirituality and religiosity in subjective well-being of individuals with different religious status. *Frontiers in Psychology*, 10, 1525. <a href="https://doi.org/10.3389/fpsyg.2019.01525">https://doi.org/10.3389/fpsyg.2019.01525</a>
- Yaden, D. B., Haidt, J., Hood, R. W., Jr, Vago, D. R., & Newberg, A. B. (2017). The varieties of self transcendent experience. *Review of General Psychology*, 21(2), 143–160. https://doi.org/10.1037/gpr0000102
- Yaden, D. B., Iwry, J., & Newberg, A. B. (2016). Neuroscience and religion: Surveying the field. In N. K. Clements (Ed.), Religion: Mental Religion: Part of the Macmillan Interdisciplinary Handbooks: Religion series (pp. 277–299).
- Zhao, H., Zhang, H., Xu, Y., He, W., & Lu, J. (2019). Why are people high in dispositional awe happier? The roles of meaning in life and materialism. *Frontiers in Psychology*, 10, 1208. <a href="https://doi.org/10.3389/fpsyg.2019.01208">https://doi.org/10.3389/fpsyg.2019.01208</a>