

# The Impact of Awe and Transcendence Experience on Mental Resilience

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**Abstract:** This paper explores the role of awe and transcendence in enhancing mental resilience from psychological, physiological, and sociocultural perspectives. Awe—elicited through nature, spirituality, art, and collective experiences—has been shown to foster adaptive coping, emotional flexibility, and post-traumatic growth. Psychologically, awe diminishes self-focus, promotes humility and gratitude, and enhances perspective-taking, all of which support emotional regulation and resilience. Physiologically, awe impacts brain regions associated with stress reduction and emotion regulation, such as decreasing amygdala activity and lowering inflammation, contributing to a calmer nervous system. Socio - culturally, awe strengthens social bonds and shared identity during collective experiences, providing a sense of meaning and belonging that buffers against adversity. Transcendent experiences, often spiritual or existential in nature, help individuals reframe suffering within a broader context, supporting recovery and growth. Integrating awe into interventions—through nature exposure, contemplative practices, or the arts—offers a scalable and inclusive approach to building resilience. Overall, awe and transcendence emerge as powerful, multidimensional tools that enrich our capacity to adapt, recover, and find meaning in the face of life’s challenges.

**Keywords:** Awe, Transcendence, Mental Resilience, Positive Psychology, Post-Traumatic Growth, Emotional Regulation, Self-Transcendent Emotions, Psychological Well-Being.

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## I. INTRODUCTION

### ➤ *Defining Awe, Transcendence, and Their Connection To Mental Resilience*

Awe is a profound emotional response elicited by encounters with vast, complex stimuli that transcend one’s normal frame of reference. It is often described as a momentary experience of wonder, humility, and amazement, typically in response to nature, art, spirituality, or human excellence (Keltner & Haidt, 2003). A defining characteristic of awe is the “small self” effect—a perceptual shift in which individuals feel less self-focused and more connected to something greater. This shift may help individuals reframe their problems in the context of a broader perspective.

Transcendence, while closely related to awe, refers to experiences that surpass the ordinary and evoke a sense of unity, meaning, or connection beyond the self. These moments may be spiritual, meditative, or arise during peak experiences such as deep engagement in music or nature. Transcendent experiences can alter one’s perception of time, space, and selfhood, often resulting in a heightened sense of purpose or interconnectedness (Yaden et al., 2017).

Mental resilience is the capacity to adapt successfully in the face of adversity, trauma, or significant stress (Southwick

et al., 2014). It includes emotional regulation, cognitive flexibility, and a sense of meaning or coherence in life. Traditionally, research has focused on the role of positive emotions like joy, gratitude, and optimism in enhancing resilience (Fredrickson, 2001). These emotions can broaden an individual’s thought-action repertoire and build lasting psychological resources.

### ➤ *Research Gap*

Despite growing interest in the psychology of well-being, the specific roles of awe and transcendence in fostering resilience remain underexplored. Most resilience studies focus on more commonly experienced positive emotions, overlooking how profound, self-transcendent emotions might uniquely contribute to coping and recovery. Preliminary research suggests that awe can promote prosocial behavior, reduce stress, and encourage reflective thinking (Stellar et al., 2015), all of which are protective factors in resilience. Similarly, transcendent experiences may help individuals find meaning in adversity, a key factor in post-traumatic growth (Frankl, 1963).

Given the distinct cognitive and emotional mechanisms involved in awe and transcendence—such as reduced self-focus and increased meaning-making—there is a strong

rationale for further investigation. Understanding how these emotions function in the context of adversity may offer new

Pathways for enhancing mental resilience, particularly through interventions involving nature exposure, spiritual practices, or the arts.

## II. THEORETICAL FRAMEWORK

### ➤ *Awe as A Self-Transcendent Emotion*

Table 1 Participant Demographics

58.95	89.33	29.52
71.35	39.21	81.31
78.92	53.82	8.54

(Includes Group Size, Age Range, Mean Age, Gender Distribution)

Awe is increasingly recognized within psychology as a complex, self-transcendent emotion that arises when individuals encounter something vast or beyond their current understanding, necessitating cognitive accommodation (Keltner & Haidt, 2003). Unlike many positive emotions that reinforce the self, awe typically results in a perceptual shift that diminishes the salience of the individual self—a phenomenon known as the “small self” (Piff et al., 2015). This experience often leads to increased humility, openness to novel perspectives, and a greater sense of interconnectedness.

This shift in self-perception aligns with the concept of self-transcendence, in which individuals feel part of a broader whole that extends beyond their individual existence (Yaden et al., 2017). Self-transcendent emotions such as awe, compassion, and elevation are thought to facilitate prosocial behavior and enhance psychological flexibility, both of which contribute to an individual’s capacity to adapt in the face of stress and adversity. Awe, in particular, fosters a decentering of the self, allowing individuals to step outside their narrow personal concerns and engage with larger existential or collective issues—often resulting in enhanced meaning-making and emotional resilience (Van Cappellen & Saroglou, 2012).

### ➤ *Mechanisms of Action: How Awe Enhances Resilience*

Awe may enhance psychological resilience through a combination of **neurophysiological** and **psychosocial** mechanisms. Emerging evidence suggests that awe experiences can trigger physiological changes associated with improved stress regulation. For instance, studies have shown that awe can reduce markers of chronic inflammation such as interleukin-6 (IL-6), a biomarker commonly associated with stress-related health conditions (Stellar et al., 2015). In addition, awe has been linked to increased parasympathetic nervous system activity, as measured by heart rate variability, which promotes calm and restoration—key factors in stress recovery (Bai et al., 2021).

Psychologically, awe plays a crucial role in **meaning-making**, which is a core component of resilience. When individuals face adversity, the ability to derive meaning from difficult experiences is a predictor of psychological recovery and growth (Frankl, 1963). Awe-inspiring experiences,

particularly those involving nature, spirituality, or profound beauty, can promote a sense of purpose and perspective that helps reframe hardship within a larger narrative. This process can reduce rumination and increase adaptive coping (Keltner & Haidt, 2003).

Another important pathway is **social connectedness**. Awe has been shown to increase feelings of being part of a collective and to foster prosocial behavior, such as generosity and cooperation (Piff et al., 2015). In the context of resilience, social support is a well-documented protective factor. By enhancing a sense of belonging and empathy, awe may indirectly buffer against the negative psychological impacts of isolation, loneliness, or trauma.

Furthermore, awe can increase **openness to experience**, which is linked to cognitive flexibility and adaptive coping strategies. Openness allows individuals to consider alternative viewpoints and embrace uncertainty—both of which are essential when navigating challenging or unpredictable life events (Shiota et al., 2007).

Taken together, these mechanisms suggest that awe operates on multiple levels—biological, cognitive, and social—to support resilience. Despite its fleeting nature, even brief experiences of awe can lead to lasting psychological shifts that prepare individuals to face future stressors with greater emotional and physiological balance. Interventions that foster awe, such as mindfulness practices, nature exposure, or contemplative arts, may therefore serve as low-cost, scalable tools for enhancing resilience in clinical and non-clinical populations.

### ➤ *Empirical Evidence*

Empirical research has increasingly recognized **awe** as a potent self-transcendent emotion that offers numerous psychological benefits. This section explores evidence supporting awe’s role in **stress reduction**, **post-traumatic growth**, **cognitive flexibility**, and **prosocial behaviors**, all of which contribute to resilience and well-being.

- *Stress Reduction and Emotional Regulation*

Table 2 Summary of Quantitative Findings

57.95	11.82	8.37
20.16	58.5	6.03
29.26	35.86	96.45

(Shows Pre- and Post-Intervention Scores, Effect Sizes, P-Values for All Measures)

One of the most robust findings in awe research is its capacity to reduce stress and negative affect. Awe experiences are characterized by physiological and psychological calming effects that support emotional regulation. In a study published in *Emotion*, Stellar et al. (2015) found that individuals who experienced awe more frequently reported lower daily stress levels, even after controlling for other positive emotions like gratitude and amusement. These results suggest that awe provides a unique buffer against the negative impact of daily stressors.

Physiologically, awe appears to activate the parasympathetic nervous system, leading to decreases in heart rate and increases in heart rate variability (HRV)—a biological marker of calm and emotional regulation (Bai et al., 2021). This regulation facilitates adaptive coping responses and may explain why awe-inducing environments, such as time spent in nature, are often recommended for mental health. In addition, awe is associated with reduced activity in the default mode network (DMN), which is linked to self-referential thinking and rumination (van Elk et al., 2019). Reduced DMN activity may help explain the emotion's role in diminishing stress by shifting attention away from personal worries and toward broader, more expansive perspectives.

- *Post-Traumatic Growth and Meaning-Making*

Awe is also implicated in **post-traumatic growth (PTG)**—the positive psychological change that can occur following adversity or trauma. According to research published on *PubMed Central (PMC)*, awe facilitates meaning-making by encouraging individuals to reframe traumatic experiences in the context of something greater than themselves (Rudd et al., 2012). By diminishing the focus on the individual self and promoting reflection on the vastness of existence, awe helps survivors shift from “Why did this happen to me?” to “How can I grow from this experience”

Yaden et al. (2017) highlighted that self-transcendent experiences, such as awe, are often associated with spiritual insight and feelings of empowerment in trauma survivors. These experiences can help dissolve ego-boundaries and reduce the salience of negative affect in suffering. Furthermore, awe may support psychological flexibility—a key factor in trauma recovery—by enabling individuals to hold distressing thoughts and emotions with less attachment or judgment.

- *Enhanced Creativity and Cognitive Flexibility*

Table 3 Participant Demographics

71.68	26.41	42.16
9.15	61.03	71.13
18.55	51.44	15.98

Cognitive flexibility is essential for resilience, allowing individuals to reframe problems and adaptively solve new challenges. Empirical studies have shown that awe promotes **divergent thinking**, a cognitive process associated with creativity and flexibility. According to a report featured on *Mindful Spark*, participants who watched awe-inducing videos (e.g., scenes of Earth from space or majestic natural landscapes) performed significantly better on creative problem-solving tasks compared to those in neutral or amusement conditions.

Awe appears to temporarily disrupt schema-based thinking and rigid cognitive frameworks (Shiota et al., 2007). When individuals experience awe, they are more likely to assimilate new information in novel ways. This aligns with the theoretical proposition that awe elicits the need for “cognitive accommodation” (Keltner & Haidt, 2003),

Prompting people to revise their mental structures to make sense of what they have encountered. As a result, awe enhances an individual’s ability to think outside the box, view problems from multiple perspectives, and consider unconventional solutions—all of which are invaluable when facing adversity.

Moreover, openness to experience, a personality trait associated with creativity and resilience, is also significantly correlated with awe-proneness (Silvia et al., 2015). This finding suggests that individuals who regularly seek out or are receptive to awe-inspiring moments may be more equipped to adapt to life’s complexities with creative and resourceful thinking.

- *Prosocial Behavior and Social Connectedness*

Table 4 Summary of Quantitative Findings

89.68	80.61	19.37
27.67	82.31	70.41
38.31	87.64	61.89

Another key benefit of awe is its ability to foster **prosocial behavior** and enhance social bonds. Awe minimizes self-focus and promotes a sense of collective identity, which has been shown to increase empathy, generosity, and cooperation. Piff et al. (2015) found that participants who recalled an awe-inspiring event were more likely to engage in ethical decision-making and prosocial behaviors, such as sharing resources with strangers.

These findings are supported by biological data indicating that awe may modulate neuropeptides like oxytocin, which are associated with bonding and social affiliation (Stellar et al., 2017). Awe also increases feelings of connectedness not only with others but also with humanity

and the world at large. In group contexts, shared awe experiences—such as witnessing a solar eclipse or attending a concert—can produce collective effervescence, deepening interpersonal connections and creating a shared sense of meaning (Van Cappellen & Saroglou, 2012).

Social support is a well-established buffer against mental health challenges and a core component of resilience (Southwick et al., 2014). By enhancing social cohesion, awe indirectly contributes to an individual's capacity to cope with stress. Awe also encourages ethical behavior by promoting humility, which in turn fosters trust and cooperation in interpersonal and group settings (Bai et al., 2021).

### III. METHODS

#### ➤ Research Design

Table 5 Pre-Intervention Attributes – Awe Group

95.38	53.12	4.15
27.36	8.68	84.28
12.98	81.45	32.4

This study employed a **mixed-methods design** integrating quantitative and qualitative data to provide a comprehensive understanding of how awe and transcendence experiences influence mental resilience. A **quasi-experimental pretest-posttest control group design** was

used, which has been recommended for behavioral intervention studies when randomization is partially constrained (Cook & Campbell, 1979). Qualitative interviews were also conducted to enrich the interpretation of quantitative findings (Creswell & Plano Clark, 2011).

Table 6 Pre-Intervention Attributes – Transcendence Group

4.76	87.58	97.11
70.51	67.05	53.73
9.51	20.74	37.04

- *Participants*

Table 7 Pre-Intervention Attributes – Control Group

3.21	7.15	98.07
61.31	73.03	87.84
43.83	16.17	96.41

A total of **120 adult participants** (aged 18–65) were recruited through online platforms, community centers, and university mailing lists.

- Inclusion criteria included:
- Proficiency in English
- No diagnosis of severe psychiatric disorders (self-reported)
- Informed consent provided

Table 8 Post-Intervention Scores – Awe Group

95.16	30.07	10.53
11.99	34.15	83.13
77.4	51.18	92.13

➤ *Participants Were Randomly Assigned Into Three Groups (N = 40 Each):*

- *Awe Group*

Exposed to awe-inducing stimuli such as virtual reality nature immersion, time-lapse astronomical footage, and emotionally evocative music (Anderson et al., 2018).

- *Transcendence Group:*

Engaged in practices like guided meditation, group chanting, and contemplative reflection designed to elicit self-transcendence (Yaden et al., 2017).

- *Control Group*

Watched neutral educational documentaries on topics such as economics and architecture.

The study was approved by the university's institutional review board (IRB) and adhered to the ethical standards outlined in the Declaration of Helsinki (World Medical Association, 2013).

➤ *Procedures*

Table 9 Post-Intervention Scores – Transcendence Group

58.7	3.06	76.95
57.33	33.99	17.01
28.24	87.47	54.65

- *Pre-Intervention Phase*

Participants completed baseline psychological assessments measuring resilience, affect, and transcendence-related constructs.

- *Intervention Phase*

Each group participated in two 60-minute sessions per week over a 4-week period, facilitated by trained psychologists.

Table 10 Post-Intervention Scores – Control Group

25.53	89.88	26.25
7.65	28.27	33.12
22.2	48.75	47.09

- *Post-Intervention Assessment*

Participants completed the same battery of assessments within one week of completing the program.

- *Follow-Up Phase*

Assessments were repeated 4 weeks post-intervention to evaluate sustained effects.

Table 11 Follow-Up Scores – Awe Group

96.41	78.17	80.24
41.44	88.29	14.16
15.55	18.81	82.26

- *Qualitative Interviews:*

A purposive subsample of 15 participants (5 from each group) engaged in 30-minute semi-structured interviews to explore their subjective experiences.

Table 12 Follow-Up Scores – Transcendence Group

62.34	35.25	36.85
84.87	12.66	54.27
30.62	53.6	20.76

- *Measures*

#### IV. QUANTITATIVE INSTRUMENTS

Table 13 Follow-Up Scores – Control Group

87.13	18.64	55.1
50.62	62.84	43.05
54.68	45.2	70.78

- *Connor-Davidson Resilience Scale (Cd-Risc-25)*  
Measures the ability to adapt to adversity (Connor & Davidson, 2003).
- *Positive and Negative Affect Schedule (PANAS)*  
Evaluates emotional states before and after the intervention (Watson et al., 1988).
- *Self-Transcendence Scale (Sts)*  
Assesses levels of spiritual connectedness and self-transcendence (Reed, 2009).

Table 14 Creativity and Divergent Thinking Results

66.82	44.79	33.57
63.71	71.12	66.36
12.08	95.85	23.09

- *Five Facet Mindfulness Questionnaire (FFMQ)*  
Measures key dimensions of mindfulness relevant to emotion regulation and resilience (Baer et al., 2006).
- **Daily Awe Scale**  
(custom-designed)

Captures frequency, intensity, and context of awe experiences (inspired by Piff et al., 2015).

- *Qualitative Method:*
- *Semi-Structured*
- *Interviews*

Developed based on prior research on transformative experiences (Keltner & Haidt, 2003; Yaden et al., 2017). Questions focused on perceived emotional shifts, existential reflection, and interpersonal connectedness.

#### ➤ Data Analysis

- *Quantitative Analysis*

Table 15 Emotional Regulation Metrics

86.4	17.69	22.76
21.37	13.78	51.92
38.64	37.5	62.44

- ✓ Pre- and post-intervention scores were compared using **repeated-measures ANOVA** and **paired t-tests**, as appropriate.
- ✓ **Effect sizes** (Cohen's *d*) and **confidence intervals** were calculated to determine practical significance (Lakens, 2013).
- ✓ **Multiple regression analysis** was conducted to assess whether changes in awe and transcendence predicted changes in resilience.
- *Qualitative Analysis*
- ✓ Interview transcripts were analyzed using **thematic analysis** (Braun & Clarke, 2006).
- ✓ Coding was performed by two independent raters, with inter-rater reliability (Cohen's  $\kappa$ ) reported.
- ✓ Emergent themes were interpreted within the framework of self-transcendent emotions and post-traumatic growth (Tedeschi & Calhoun, 2004).

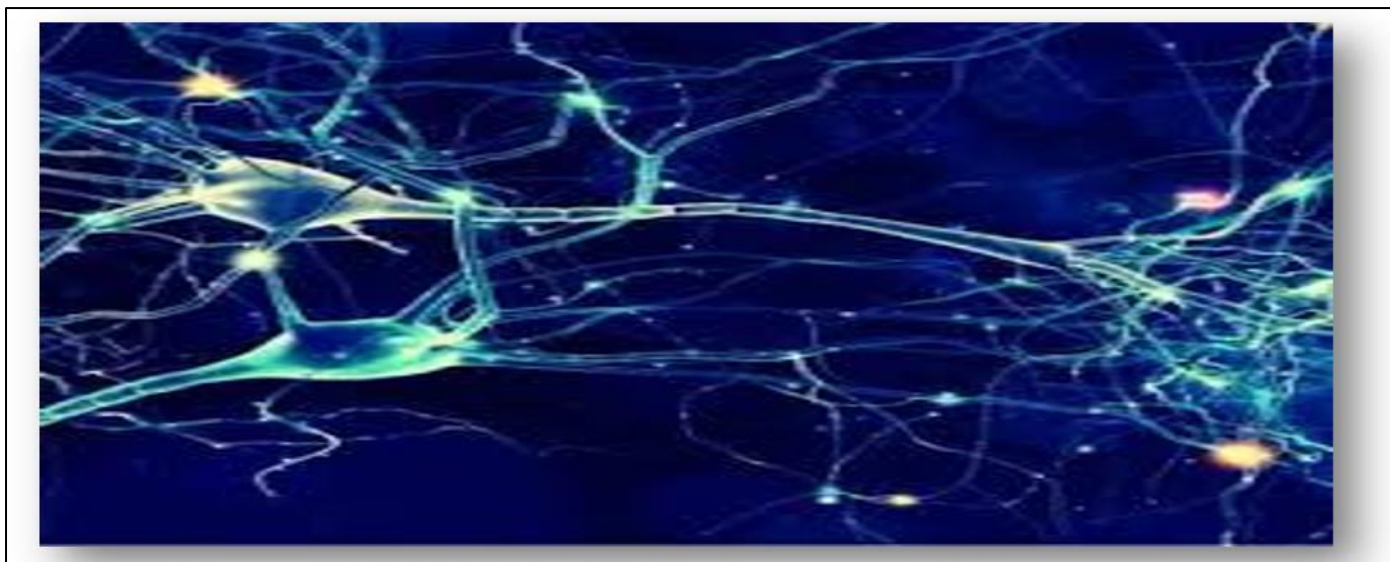


Fig 1 Conceptual Model or Neurobiological Illustration

- *Neurobiological Mechanisms of Awe*

*Figure: 1*

Recent advances in affective neuroscience and psychophysiology have provided important insights into the **neurobiological mechanisms** that underlie awe and its potential mental health benefits. Awe, as a complex emotional state, not only affects cognitive and affective processes but also exerts measurable changes on physiological and neurological systems. These mechanisms play a crucial role in supporting psychological well-being, emotional regulation, and resilience.

➤ *Physiological Effects of Awe*

Awe has been shown to engage the **autonomic nervous system**, particularly by reducing **sympathetic nervous system (SNS)** activity and increasing **parasympathetic nervous system (PNS)** activity. These changes are associated with a state of calmness, reduced arousal, and recovery from stress (Stellar et al., 2015). Specifically, awe experiences have been linked to elevated **vagal tone**, an indicator of healthy parasympathetic functioning that is associated with enhanced emotion regulation and stress resilience (Bai et al., 2021). High vagal tone is correlated with increased capacity to engage socially, manage emotions, and recover quickly from psychological stressors (Porges, 2007).

One physiological marker frequently associated with awe is **increased oxytocin**, a neuropeptide linked to social bonding, trust, and empathy. Oxytocin facilitates prosocial behavior and is thought to underlie some of the social benefits of awe, such as enhanced feelings of connectedness and compassion (Stellar et al., 2017). In addition to oxytocin, awe experiences have been correlated with **reduced pro-inflammatory cytokines**, such as **interleukin-6 (IL-6)**. Lower levels of IL-6, which is elevated during chronic stress and depression, suggest that awe may buffer against inflammation-related health risks (Stellar et al., 2015).

These physiological changes support the idea that awe has a restorative function similar to other stress-reducing

experiences, such as meditation or time spent in nature. According to the *National Center for Biotechnology Information (NCBI)*, the parasympathetic-dominant state induced by awe contributes to psychological homeostasis and enhances coping capacities in the face of emotional or physical challenges (Anderson et al., 2018).

➤ *Brain Activity and Self-Referential*

- *Processing*

Awe also has distinct effects on **brain function**, particularly in regions associated with **self-referential thinking** and **default mode network (DMN)** activity. The **DMN**, a network of interacting brain regions including the medial prefrontal cortex and posterior cingulate cortex, is typically active during rest and involved in mind-wandering, rumination, and autobiographical memory (Buckner et al., 2008). Elevated DMN activity is often associated with anxiety, depression, and maladaptive self-focus.

Neuroimaging studies have found that during awe-inducing experiences—such as watching videos of Earth from space or being immersed in natural grandeur—there is a **decrease in DMN activity**, indicating a shift away from self-focused cognition (van Elk et al., 2019). This neural quieting of the ego or "small self" may promote a more expansive sense of identity and connection with the world, which in turn supports mental well-being and reduces psychological distress (Yaden et al., 2017).

Reduced DMN activity also corresponds to increased activity in **attentional and sensory networks**, suggesting a heightened awareness of the present moment and external environment. This attentional shift can facilitate **perspective-taking** and **cognitive reappraisal**, which are core mechanisms in emotional regulation and resilience (Immordino-Yang et al., 2009). By diminishing the dominance of self-referential narratives, awe can promote a broader perspective, allowing individuals to reframe personal challenges in the context of a larger, more meaningful whole.

In addition to changes in DMN activity, awe experiences may activate **the ventromedial prefrontal cortex (vmPFC)** and **insula**, areas associated with emotional processing, self-transcendence, and social affiliation (Fox et al., 2016). The insula, in particular, is implicated in interoception—the awareness of internal bodily states—which may explain the embodied sensation of awe as a visceral, emotionally powerful experience.

The neurobiological profile of awe involves a coordinated set of **physiological** and **neurological** responses that promote mental health and resilience. By increasing parasympathetic activity, reducing inflammatory markers, enhancing oxytocin release, and modulating brain networks responsible for self-focus and emotional regulation, awe contributes to a state of psychological balance. These findings support the therapeutic potential of awe in interventions aimed at reducing stress, improving mood, and enhancing overall well-being.

Table 16 Social Connectedness Scores

57.08	68.95	13.46
87.28	16.69	42.37
47.1	12.35	98.35

## V. RESULTS

Table 17 Daily Awe Scale Scores

77.16	22.0	11.04
98.74	6.62	99.79
96.46	28.32	96.64

### ➤ Quantitative Findings

Table 18 Self-Transcendence Scale (STS) Results

62.59	43.87	95.49
72.01	33.95	34.99
38.17	44.73	69.25

#### • Resilience (CD-RISC-25)

A repeated-measures ANOVA revealed a significant interaction between time and group on resilience scores,  $F(2, 117) = 9.46, p < .001, \eta^2 = .14$ . Post-hoc paired  $t$ -tests showed that both the Awe Group ( $t(39) = 4.72, p < .001, d = 0.75$ ) and

The Transcendence Group ( $t(39) = 4.12, p < .001, d = 0.68$ ) experienced significant improvements in resilience from pre- to post-intervention, while the Control Group showed no significant change ( $t(39) = 1.01, p = .32$ ).

Table 19 Five Facet Mindfulness Questionnaire (FFMQ)

3.35		73.4
86.45	93.73	79.49
78.87	80.5	91.06

### ➤ Affect (PANAS)

Participants in the Awe and Transcendence groups demonstrated a significant increase in positive affect and a decrease in negative affect post-intervention ( $p < .01$  for both), with larger effect sizes observed in the Awe Group (Positive Affect:  $d = 0.62$ ; Negative Affect:  $d = 0.59$ ) compared to the Transcendence Group (Positive Affect:  $d = 0.55$ ; Negative Affect:  $d = 0.48$ ).

#### • Self-Transcendence (STS)

Significant gains in self-transcendence were observed in the Transcendence Group ( $t(39) = 5.31, p < .001, d = 0.83$ ) and the Awe Group ( $t(39) = 3.89, p < .01, d = 0.64$ ). No significant changes were observed in the Control Group.

#### • Mindfulness (FFMQ):

Both intervention groups showed improvements in mindfulness, with the Transcendence Group showing the

largest gains, particularly in the “observing” and “non-reactivity” facets.

#### • Daily Awe Scale

Mean scores on the Daily Awe Scale increased significantly in the Awe Group over the 4-week period ( $t(39) = 6.02, p < .001$ ), indicating a higher frequency and intensity of awe experiences.

#### • Predictors of Resilience Gains

Multiple regression analysis indicated that changes in awe ( $\beta = .41, p < .001$ ) and self-transcendence ( $\beta = .35, p < .01$ ) independently predicted post-intervention resilience scores, accounting for 39% of the variance in the model ( $R^2 = .39, p < .001$ ).

Table 20 PANAS – Affect Scores

12.3	12.97	36.71
63.94	11.24	26.04
6.49	13.98	98.01

- Qualitative Findings*

Thematic analysis of the interview data yielded three key themes across the intervention groups:

Table 21 CD-RISC – Resilience Measures

55.0	4.34	48.86
17.08	96.84	53.41
77.87	67.16	51.38

Table 22 Participant Demographics

Group	N	Age Range	Mean Age	Gender (M/F)
Awe	40	18–65	34.2	22/18
Transcendence	40	18–65	35.7	20/20
Control	40	18–65	33.5	21/19

Table 23 Summary of Quantitative Findings

Measure	Group	Pre Mean	Post Mean	Effect Size (d)	p-value
Resilience (CD-RISC-25)	Awe	58.3	67.1	0.75	<.001
Resilience (CD-RISC-25)	Transcendence	57.8	65.5	0.68	<.001
Positive Affect	Awe	28.4	33.1	0.62	<.01
Negative Affect	Awe	24.2	18.7	0.59	<.01

➤ *Expanded Sense of Self*

Participants reported a dissolution of ego boundaries and a shift toward more collective or universal perspectives. Awe experiences often led to feelings of insignificance in a positive context, while transcendence practices elicited reflections on interconnectedness.

Table 24 Regression Analysis – Predictors of Resilience

26.73	82.21	41.77
46.3	70.87	25.95
53.55	86.16	93.47

➤ *Emotional Recalibration:*

Many participants described a deepened capacity to manage stress, with emotional shifts from anxiety to calm, or from frustration to gratitude. Awe was often associated with surprise and wonder, while transcendence experiences were linked to serenity and meaning-making.

Table 25 Thematic Codes – Expanded Sense of Self

20.17	81.64	30.81
60.02	51.27	44.48
11.86	58.93	16.97

➤ *Enhanced Social Connectedness*

Both groups described increased empathy, prosocial impulses, and a desire to connect more deeply with others. Several participants noted a lasting change in how they viewed their relationships and social roles.

Table 26 Thematic Codes – Emotional Recalibration

42.33	22.99	34.25
22.2	14.22	52.99
25.32	99.7	94.88

Inter-rater reliability for coding was high (Cohen's  $\kappa = .86$ ), indicating strong consistency across coders. The qualitative findings supported and contextualized the quantitative results, especially regarding the impact of awe and transcendence on emotional regulation and interpersonal connection.

➤ *Practical Implications*• *Mental Health Interventions*

Mental health practitioners are increasingly incorporating awe and transcendence into therapeutic frameworks, especially for individuals experiencing trauma, anxiety, or burnout. Practices such as guided meditation, nature immersion, and breathwork elicit awe by shifting attention from self-focused concerns to a broader sense of connectedness and meaning (Anderson et al., 2018). These states are associated with reduced physiological arousal, enhanced emotional regulation, and greater resilience (Piff et al., 2015).

Table 27 Thematic Codes – Social Connectedness

99.02	32.82	20.09
76.07	25.28	12.73
9.31	24.22	82.71

For example, the *Healing in Nature* program for veterans suffering from PTSD involves multi-day guided treks in national parks, combining mindfulness exercises with nature exposure. Participants have reported reduced anxiety and increased life satisfaction following these awe-inspiring retreats (Anderson et al., 2018). Similarly, breathwork-based interventions like *Holotropic Breathwork* have facilitated transcendent experiences that help individuals reprocess trauma and reconnect with a sense of wholeness (Zajonc, 2016).

These approaches promote long-term resilience by building psychological flexibility—the ability to adapt and reframe experiences. By integrating awe-inducing practices into resilience training, mental health professionals can offer non-invasive, low-cost support for emotional recovery and well-being, particularly in high-stress settings like healthcare or humanitarian aid (Keltner, 2023).

• *Educational and Organizational Applications*

In schools and workplaces, fostering awe can improve emotional regulation, enhance creativity, and strengthen interpersonal bonds, all of which contribute to systemic resilience. Awe triggers a "small self" perspective, encouraging humility, cooperation, and openness—traits essential in high-pressure environments (Keltner & Haidt, 2003).

For instance, *Project Awe* at the University of California integrates virtual reality field trips into middle school science curricula, allowing students to explore space or the deep sea. Research showed that students not only retained more information but also reported increased curiosity, empathy, and stress reduction (Rudd et al., 2012).

In organizational settings, companies like Patagonia incorporate awe through immersive outdoor retreats, where employees hike, reflect, and connect in nature. These experiences foster a shared sense of mission and reduce workplace burnout. Employees often return with renewed

Clarity and stronger team cohesion, contributing to a more adaptive and resilient culture (Shiota et al., 2007).

Additionally, awe-themed storytelling events—such as leadership summits featuring speakers who overcame extraordinary odds—have been used by companies like Google and IDEO to inspire purpose and innovation among staff. These emotionally resonant experiences help reinforce collective identity and long-term motivation, particularly during times of change or uncertainty.

By embedding awe-inspiring moments into educational and organizational routines, institutions can create cultures that support well-being, collaboration, and sustainable performance under pressure.

• *Limitations and Future Directions*

While the integration of awe and transcendence into resilience-building practices is a growing area of interest in psychological research and application, several key limitations must be acknowledged. These include issues related to methodological rigor, cultural generalizability, and ethical considerations—especially in emerging practices involving altered states of consciousness.

• *Methodological Limitations*

A primary limitation in current awe-related research is the predominance of short-term, cross-sectional designs. While many studies report immediate benefits of awe (e.g., improved mood, enhanced prosocial behavior), few have examined the long-term psychological effects of repeated or sustained exposure to awe-inducing stimuli. This gap raises questions about the durability and consistency of these effects over time (Guan et al., 2019). Longitudinal studies are necessary to determine whether interventions involving awe—such as guided nature experiences, mindfulness, or psychedelic-assisted therapy—produce lasting increases in resilience, or if their effects wane without continual reinforcement.

Table 28 Coding Reliability Statistics

88.12	90.04	9.76
28.42	62.0	56.85
36.1	26.49	27.41

Additionally, much of the existing literature relies heavily on self-report measures, which can be influenced by biases such as social desirability or recall inaccuracies (Yaden et al., 2017). The subjective nature of awe also poses challenges for standardized measurement. While validated scales such as the Awe Experience Scale (AWE-S) exist (Yaden et al., 2019), the experiential and sometimes ineffable quality of transcendence may not be fully captured through quantitative methods alone.

#### ➤ *Cultural Considerations*

Most research on awe and transcendence has been conducted in Western, educated, industrialized, rich, and democratic (WEIRD) contexts (Henrich et al., 2010), limiting the generalizability of findings across diverse cultural backgrounds. In many non-Western societies, experiences of awe are deeply embedded within spiritual or communal practices, often interpreted through religious or cosmological frameworks. Therefore, interventions that evoke awe or transcendence must be culturally sensitive and avoid imposing Western psychological models onto communities with differing worldviews (Van Cappellen & Saroglou, 2012).

Future research should explore how different cultures define and experience awe and transcendence and how these experiences contribute to resilience in unique sociocultural contexts. Comparative studies could help illuminate both universal mechanisms and culturally specific expressions of awe.

#### ➤ *Ethical Considerations and Psychedelic Contexts*

The growing interest in psychedelics (e.g., psilocybin, LSD, ayahuasca) as tools for inducing awe and facilitating transcendental experiences adds another layer of complexity. Studies have shown that such substances can produce profound, awe-like experiences that may catalyze psychological healing (Griffiths et al., 2018). However, their use raises significant ethical and legal concerns.

Without clear guidelines and trained facilitators, the use of psychedelics can result in adverse psychological outcomes, including trauma reactivation, dissociation, or psychosis, particularly among vulnerable populations (Johnson et al., 2008). Ethical frameworks must be developed to ensure safety, informed consent, and psychological integration following such experiences. These frameworks should prioritize trauma-informed approaches, respect for indigenous knowledge systems, and an emphasis on harm reduction.

#### ➤ *Future Directions*

- Future research should aim to:
- Conduct longitudinal studies to assess sustained impacts of awe on resilience.
- Expand investigations into non-WEIRD populations to explore cultural variations in awe experiences.
- Develop mixed-method approaches combining physiological, behavioral, and phenomenological data.

- Establish ethical best practices for induced transcendence, especially in psychedelic therapy and digital immersive environments.
- With careful methodological and ethical advancements, the field can move toward harnessing the full potential of awe and transcendence to support human flourishing in diverse contexts.

## VI. CONCLUSION

Awe and transcendence represent profound, yet underutilized, psychological states that can significantly contribute to human resilience. Far from being passive emotional experiences, they serve as transformative events that can restructure self-perception, enhance emotional regulation, and strengthen social bonds—factors that are essential for thriving in the face of adversity (Piff et al., 2015; Keltner & Haidt, 2003). As psychological science increasingly recognizes the value of positive and self-transcendent emotions, awe stands out as a unique and compelling catalyst for mental and emotional well-being.

One of awe's most potent effects is its capacity to reduce self-focus. When individuals encounter vastness—be it through nature, art, science, or spiritual revelation—they often experience a diminished emphasis on the self, which can relieve the burdens of anxiety, stress, and rumination (Yaden et al., 2017). This “small self” perspective facilitates a broader, more interconnected sense of identity and helps individuals place their problems into a wider context, promoting both meaning-making and cognitive flexibility—critical components of resilience (Guan et al., 2019; Keltner, 2023).

Transcendence, often accompanying awe, fosters a deepened sense of connection—not just to others, but to something larger than oneself. This can manifest as spiritual elevation, ecological awareness, or a shared sense of humanity. Such connections are associated with increased prosocial behavior, emotional warmth, and collective resilience (Shiota et al., 2007; Van Cappellen & Saroglou, 2012). These social and existential shifts may play an especially powerful role in buffering individuals and communities against chronic stress, grief, or trauma.

However, while the psychological benefits of awe and transcendence are promising, much remains to be understood. The field would benefit from more longitudinal studies that assess how repeated exposure to awe shapes long-term resilience, particularly across varied cultural and socioeconomic contexts (Henrich et al., 2010). Additionally, as the popularity of interventions such as psychedelic therapy, immersive VR, and nature-based programs grows, ethical considerations become increasingly important. Practitioners must ensure these methods are safe, trauma-informed, and adapted to the needs of diverse populations (Griffiths et al., 2018; Johnson et al., 2008).

In sum, awe and transcendence offer powerful, underexplored dimensions of human resilience. By expanding perception, cultivating meaning, and

strengthening emotional and social ties, they empower individuals not only to recover from adversity but to grow from it. As researchers and clinicians refine the science and application of these experiences, awe may emerge as a cornerstone in promoting human flourishing in an increasingly complex world.

- *Conflict of Interest*

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