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# Meaning in Life and Materialism as Mediators of the Relationship Between Dispositional Awe and Tourist Eudaimonic Well-Being

## Abstract

Dispositional awe has previously been positively linked to subjective well-being, directly and indirectly, through meaning in life and materialism. There hasn't been much research that considered these relationships in the context of tourist eudaimonic well-being. Hence, the main goal of the present study is to check whether dispositional awe relates to tourist eudaimonic well-being and whether meaning in life and materialism can serve as underlying mechanisms behind this relationship. Data was collected from a sample of 322 adults through self-report online questionnaires. Model 4 in PROCESS (Hayes, 2018) was used to investigate the parallel mediation effects and the direct effect hypothesized in this study. The two parallel mediators were meaning in life and materialism. The dispositional awe was modelled as a predictor, and tourist eudaimonic well-being as an outcome variable. Mediation analysis confirmed a significant, positive direct path from dispositional awe to tourist eudaimonic well-being. Bootstrap analysis indicated that meaning in life, not materialism, mediated this relationship. Based on this research, it can be concluded that those tourists who are more prone to experience awe might give their lives more meaning, promoting eudaimonic well-being during the touristic trips.

**Keywords:** dispositional awe, materialism, meaning in life, mediation, tourist eudaimonic well-being

## 1. Introduction

If you have stood in front of the Petra or observed art such as the Mona Lisa, you may have experienced an overwhelming emotion known as “awe”. But what is awe, and what types of experiences are most likely to elicit these complex feelings of awe? Are some people more prone to experiencing awe than others? What are the consequences of experiencing awe? Awe is a strong emotional response to perceptually intense stimuli (Shiota et al., 2006). Awe could be described as an overwhelming feeling evoked by stimuli that require exceptional activity in organizing, integrating, and interpreting sensory information. Some of these stimuli, which have been found to lead to awe, are scenes of natural landscape beauty, impressive works of art, sunsets, intellectual epiphany, and religious rites (Zhao et al., 2018). Travel experiences can also be a great way to experience awe because many tourist attractions revolve around the abovementioned stimuli (Wang & Lyu, 2019).

Although awe often evokes feelings of wonder, admiration, and appreciation (Zhao et al., 2018), the experience of awe can also be accompanied by fear and anxiety. For instance, when visiting dark tourist locations, such as Holocaust places or the Memorial Hall of the Victims of the Nanjing Massacre in China, tourists can simultaneously experience both awe and fear and sadness (Wang et al., 2021). However, awe is primarily considered a positive emotion (Gordon et al., 2017; Pearce et al., 2017; Stellar et al., 2017, 2018; Zhao et al., 2018).

From the personality psychology perspective, the dispositional tendency to experience positive emotions, including awe, reflects individual differences in the propensity to experience these emotions. Experiencing

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awe is associated with several positive consequences. For example, Piff et al. (2015) state that awe can act as a buffer for everyday worries, materialistic and/or other profane tendencies and encourage people to behave more prosocial. Therefore, it can be concluded that the scientific understanding of awe, which plays a significant role in promoting the positive development of society, is very important and can provide valuable insights.

Previous research has systematically demonstrated the importance of experiencing awe for subjective well-being (Rudd et al., 2012; Stellar et al., 2015). Subjective well-being<sup>1</sup> is an evaluation of one's life and is often dichotomized into cognitive and emotional components. The cognitive component is operationalized through judgments about life satisfaction, and the emotional part is through the frequency of experiencing positive and negative affect. Gordon et al. (2017) state that respondents more inclined to experience awe report higher levels of subjective well-being in an experimental situation and non-artificial conditions of everyday life.

Stellar et al. (2015) approached the relationship between awe and well-being from a biological perspective and found that those respondents who reported higher levels of awe had lower cytokine levels. Since cytokines are proteins involved in changes in noradrenergic and serotonergic neurotransmission in brain regions thought to be involved in the pathogenesis of depression (Karlović et al., 2012), lower levels of cytokines are probably more beneficial for our mental health.

Recent research by Zhao et al. (2019) explained some mechanisms underlying the relationship between dispositional awe and subjective well-being. Specifically, meaning in life and materialism parallelly mediated the relationship between dispositional awe and subjective well-being: higher levels of dispositional awe are associated with higher levels of meaning in life, which, in turn, are associated with higher subjective well-being. On the other hand, dispositional awe can also increase subjective well-being by decreasing materialism. Zhao et al. (2019) highlighted the need to examine these mechanisms underlying the relationship between dispositional awe and well-being when observing eudaimonic well-being. Although a valuable and exciting suggestion *per se*, it might be more beneficial to test these findings in the domain-specific aspect of eudaimonia.

## 1.1. Dispositional awe and tourist eudaimonic well-being

Many researchers (e.g., Hsieh, 2016) emphasize the importance of including domain-specificity in well-being measures. Hence, the present research aims to examine the abovementioned patterns (Zhao et al., 2019) in the tourism domain. At first, only limited attention was given to eudaimonic well-being in tourism literature, while research on subjective well-being in the tourism context has grown apace with positive psychology (Lengieza et al., 2019). However, the critique given by Filep (2014) changed the perception and direction of well-being research in the tourism domain. More specifically, Filep (2014) argued that conceptualizing happiness only as subjective well-being fails to explain meaningful holiday experiences and engagement in on-site experiences. In other words, Filep (2014) proposed that any conceptualization of tourist happiness should include eudaimonic components (which he operationalized through engagement and meaning). Hence, recently, there has been a growing body of research that links eudaimonic well-being with tourism.

The two dimensions mentioned above of well-being each have their activity preferences, and different tourism activity types would influence them in different ways: Eudaimonia is typically associated with challenging activities that demand exertion and effort, whereas hedonic is more closely related to relaxing activities that need low measures (Su et al., 2020). Sun and Gao (2022) report that eudaimonic well-being is mainly experienced in the form of volunteer, slum, or social tourism (Sun & Gao, 2022), and Smith and Diekmann (2017) note that eudaimonic tourism activities can produce long-term, transformational benefits for tourists.

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<sup>1</sup> In this article terms "subjective well-being" and "hedonic well-being" will be used interchangeably, in line with the work of Diener et al. (1999).

Nawijn and Filep (2016) define tourist eudaimonic well-being as travel experience-related happiness that offers tourists meaning and a sense of achievement and helps them fulfil personally expressed self-concordant goals. Danvers et al. (2016) report that positive emotions (such as awe), which can be evoked during travelling<sup>2</sup>, stimulate the achievement of salient life goals and can consequently facilitate eudaimonic well-being.

Therefore, it can be hypothesized that those individuals with higher dispositional awe might experience greater levels of tourist eudaimonic well-being.

H1: *Dispositional awe relates positively to tourist eudaimonic well-being.*

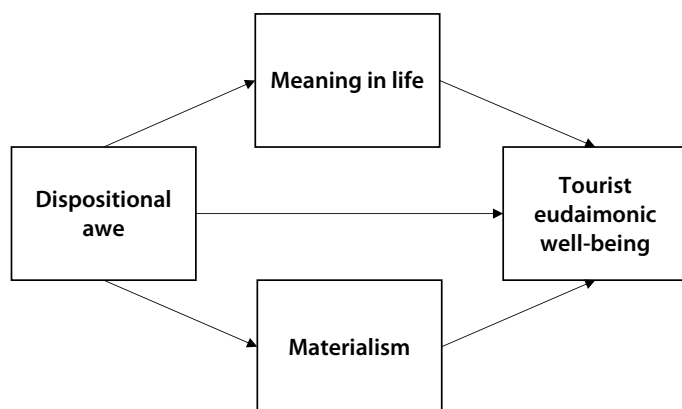
## 1.2. Meaning in life and materialism as mediators in the relationship between dispositional awe and tourist eudaimonic well-being

Rijavec et al. (2008) report that currently, within positive psychology, dominance in the theoretical approach to eudaemonia holds the Self-determination Theory by Ryan and Deci (2001). The theory proposes that when immoderate attentiveness is put on pursuing worldly goods, it can divert people from pursuing intrinsic rewards, interfering with personal integration and eudaimonic well-being. On the other hand, dating inherent goals (such as meaning in life) nourishes eudaemonia. Given the above, this research aimed to test the parallel mediation model, which connects dispositional awe and tourist eudaimonic well-being through materialism and meaning in life. The rationale for using this model was to check which of these two mediators contributes more to understanding the connection between dispositional awe and tourist eudaimonic well-being.

H2: *The relationship between dispositional awe and tourist eudaimonic well-being will be mediated<sup>3</sup> by the meaning of life. Specifically, people with higher dispositional awe will report a higher purpose in life, resulting in higher levels of tourist eudaimonic well-being.*

H3: *The relationship between dispositional awe and tourist eudaimonic well-being will be mediated by materialism. Specifically, respondents with higher dispositional awe will report lower levels of materialism, resulting in higher levels of tourist eudaimonic well-being.*

**Figure 1**  
*The hypothesized research model*



<sup>2</sup> See Wang & Lyu (2019) for more.

<sup>3</sup> The terms “full mediation” and “partial mediation” were abandoned in this research based on Hayes' (2018) suggestion. See Introduction to mediation, moderation, and conditional process analysis (p.119) for more.

## 2. Method

### 2.1. Participants and sampling

Data was collected via an online questionnaire using the Google Forms tool. The introductory part of the questionnaire informed respondents about the scope and aim of the study, the voluntary character of their participation, and the confidentiality of the data. The invitation to participate in the survey was sent primarily through social media. 322 Croatian adults participated in the study, of which 278 (86.34%) were female and 44 (13.66%) were male. The average age of participants was 32.38 years ( $SD = 11.67$ ), with an age range from 18 to 83 years. Among the 322 participants, 97 (30.1%) of them had a high school degree or below, 73 (22.7%) had a bachelor's degree, 109 (33.85%) had a graduate degree, 14 (4.3%) had a specialist graduate professional degree, 15 had a postgraduate degree (4.7%), and 13 had a doctoral degree (4%). Concerning socioeconomic status (SES), 219 (68%) of the participants reported an average SES, 77 (23.9%) above middle SES, and 26 (8.1%) below average SES. Since the COVID-19 outbreak in Croatia (March 16th, 2020) till the date participants filled in the survey (March 2022), the average number of touristic trips the participants embarked on was 2.9 ( $SD=3.01$ ). 107 (33.5%) participants are employed or have been used in the tourism sector, and 212 (66.5%) reported that they have never worked there.

### 2.2. Instruments

#### 2.2.1. *Dispositional awe*

Dispositional awe was measured by the Dispositional awe subscale from the Positive Emotion Scale (DPES, Shiota et al., 2006). The DPES is a trait measure incorporating seven subscales (contentment, joy, pride, love, amusement, love, and awe) that measure one's dispositional propensity to experience positive emotions regarding others in their everyday lives. The awe subscale of the DPES is a 6-item questionnaire that measures a dispositional tendency to feel awe regarding the world (e.g., "I often feel awe"). Respondents report their level of agreement with each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An average score is calculated for combining all six items, giving a possible range of results from 1 to 7. Higher scores indicate higher levels of dispositional awe. The Cronbach's alpha coefficient in the present research was 0.76, which showed an acceptable level of reliability (according to Hulin et al., 2001).

#### 2.2.2. *Tourist eudaimonic well-being*

Tourist eudaimonic well-being was assessed via the Tourism Wellbeing Scale (Garcês et al., 2020). The instrument aims to evaluate eudaimonic well-being in a tourism setting. The instrument was built from several positive psychology variables: well-being, creativity, optimism, and spirituality. It contains eight items regarding respondents' evaluation of their general touristic experiences that can lead to eudaimonic well-being (e.g., "I experienced a connection/relationship with something higher than myself."). Respondents indicate the degree of (dis)agreement with each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). An average score is calculated for combining all eight items, giving a possible range of results from 1 to 7. Higher scores indicate higher levels of tourist eudaimonic well-being. The Cronbach's alpha coefficient in the present research was 0.85, which revealed a good level of reliability (according to Hulin et al., 2001).

#### 2.2.3. *Meaning in life*

Meaning in life was measured using the Croatian version of the Purpose of Life Test (Crumbaugh & Maholick, 1964), developed by Vulić-Prtorić and Bubalo (2006). The Croatian version of the scale is called the Meaning of Life Scale, and it consists of 23 affirmations that examine the emotional and cognitive aspects of meaning in life (emotional aspect: "My life is full of exciting events"; cognitive aspect: "I haven't found

any purpose in life”). Respondents rate their level of agreement with each item on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score is calculated as the sum of responses of all items, giving the possible range of results from 23 to 115. Higher scores indicate higher levels of meaning in life. The Cronbach’s alpha coefficient in the present research was 0.92, which showed an excellent level of reliability (according to Hulin et al., 2001).

#### 2.2.4. Materialism

A short version of The Material Values Scale (Richins, 2004) was used to assess materialism. In doing so, the Croatian translation given by Kaliterna Lipovčan et al. (2015) was used. The scale consists of 9 statements that measure three materialistic dimensions: "success" (the acquisition and possession of goods as a criterion of success), "centrality" (the acquisition and possession of materials as central life preoccupations), and "happiness in possession," (the acquisition and possession of goods as a necessary element for happiness). Respondents assess their level of (dis)agreement with each of 9 statements on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score for each dimension can be determined as the average response result on all items that make up a given dimension. The total scale score is calculated as the sum of the responses on all scale items. The range of results is between 9 and 45, and the higher the score on the scale indicates the greater expression of materialism. Only the total materialism score was used in the present research, and the Cronbach’s alpha coefficient was 0.83, which revealed a good level of reliability (according to Hulin et al., 2001).

### 3. Analytical procedure

To investigate the parallel mediation effects and the direct effect hypothesized in the current study, Model 4 in PROCESS was used. The two parallel mediators were meaning in life and materialism. The dispositional awe was modeled as a predictor, and tourist eudaimonic well-being as an outcome variable. THE PROCESS macro for SPSS was developed by Hayes (2018), and it is used for moderation, mediation, and conditional process analyses. The statistical procedure under which proposed model parameters are estimated is based on OLS regression (Hayes, 2018). Hayes (2018) states that although any program that can conduct OLS regression analysis can be used to estimate the parameters of most of the mediation/moderation models, almost no other program can generate bootstrap confidence intervals for products of parameters, a method used in this research for inference in parallel mediation analysis. More specifically, the significance of indirect effects was tested using the percentile bootstrap method. The original sample of size 322 respondents was treated as a small-scale representation of the population originally sampled. The process of estimating the indirect effects of  $a_1b_1$  and  $a_2b_2$  in the bootstrap samples was repeated 5,000 times. The 95% confidence interval was applied, so the lower and upper bounds of the interval were defined as the bootstrap values of  $a_1b_1$  and  $a_2b_2$  that define the 2.5th and 97.5th percentiles in the distribution of 5,000 values of  $a_1b_1$  and  $a_2b_2$ . If the value of zero isn’t in this interval, it was assumed that the estimated value in the data enables the dismissal of the null hypothesis that the indirect effect index equals zero.

### 4. Results

The Cronbach’s alpha coefficients and means of study variables were like the ones obtained by previous studies<sup>4</sup>. Shapiro-Wilk tests revealed the non-normal distribution of all variables, but the indexes of skewness and kurtosis did not disclose a violation of normality<sup>2</sup>.

Table 1 shows the bivariate Pearson correlations between all variables included in the study.

<sup>4</sup> See more in Appendix.

## 4.1. Correlations

**Table 1**  
Bivariate correlations among variables, N=322

	Materialism	Tourist eudaimonic well-being	Dispositional awe	Meaning in life
Materialism	—			
Tourist eudaimonic well-being	0.008	—		
Dispositional awe	-0.085	0.430***	—	
Meaning in life	-0.176**	0.355***	0.420***	—

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Interestingly, zero-order correlations between the core variables did not follow entirely the hypothesized pattern (dispositional awe and materialism were not significantly correlated, and materialism and tourist eudaimonic well-being likewise.)

## 4.2. Testing the parallel mediation model

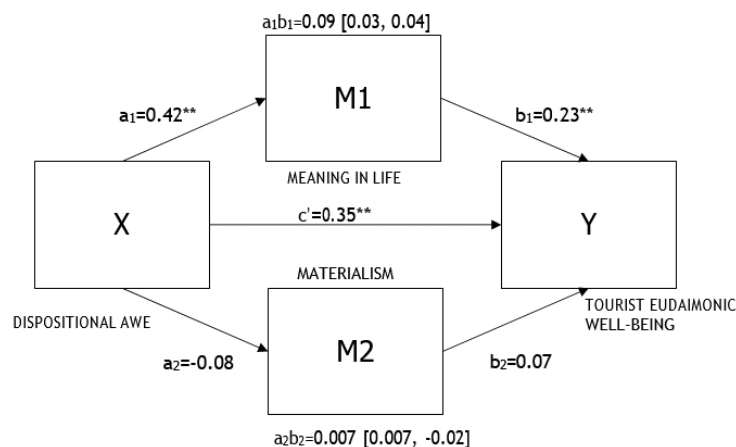
Using the total option in PROCESS generated a moderately high, positive overall effect ( $c = 0.44$ ;  $p < .0001$ ). Very little of the variance in materialism is explained by dispositional awe (Table 2). Still, about 18% of the variance in meaning in life is defined by dispositional awe, and about a third of the variance in tourist eudaimonic well-being is accounted for by both proposed mediators and dispositional awe (Table 2). The direct effect also proved to be moderately high and statistically significant ( $c' = .35$ ;  $p < .0001$ ), suggesting a positive correlation between dispositional awe and tourist eudaimonic well-being under the control of meaning in life and materialism. Thus, hypothesis 1 was verified. The individual coefficients revealed the following results (see more in Table 2): dispositional awe did not relate significantly to subsequent materialism ( $a_2 = -0.08$ ,  $p = .13$ ). Contrary to that, and as expected, dispositional awe did have a positive effect on meaning in life ( $a_1 = 0.42$ ,  $p < .001$ ). Meaning in life, in turn, related positively to tourist eudaimonic well-being ( $b_1 = 0.23$ ,  $p < .001$ ), which was also in accordance with expectations. Materialism did not relate significantly to tourist eudaimonic well-being ( $b_2 = 0.07$ ,  $p = .13$ ). Congruent with this pattern of findings, materialism did not mediate the effect of dispositional awe on tourist eudaimonic well-being ( $a_2b_2 = 0.007$ , 95% CI [0.007, -0.02]), thus rejecting the H3. However, the indirect effect of dispositional awe on tourist eudaimonic well-being through meaning in life was significant and in the expected direction ( $a_1b_1 = 0.09$ , 95% CI [0.03, 0.04]): Two respondents that differ by one unit on dispositional awe are estimated to vary by 0.09 units in their tourist eudaimonic well-being through meaning in life, with those with higher dispositional awe having higher tourist eudaimonic well-being (because the indirect effect is positive), while controlling for the materialism. Since the H3 has been rejected, it was unnecessary to check whether there was a statistically significant difference between these two indirect effects.

**Table 2**  
Regression coefficients, standard errors, and model summary information

Antecedent	Consequent											
	M1 Meaning in life			M2 Materialism			Y Tourist eudaimonic well-being					
	Coeff.	SE	p	Coeff.	SE	p	Coeff.	SE	p			
X (DE)	a1	0.42	0.77	<.00011	a2	-0.8	0.04	.13	c'	0.35	0.05	<.0001
M1 (Meaning in life)	-	-	-	-	-	-	-	-	b1	0.23	0.04	<.0001
M2 (Materialism)	-	-	-	-	-	-	-	-	b2	0.07	0.07	.13
		R <sup>2</sup> = .18 F(1, 320) = 68.44 p < .0001				R <sup>2</sup> = .033 F(1, 320) = 0.007 p = .13				R <sup>2</sup> = .23 F(3, 318) = 31.28 P < .0001		

Note. Regression coefficients, standard errors, and model summary information for the proposed parallel multiple mediator model are depicted in Figure 1.

**Figure 2**  
A statistical diagram of the parallel multiple mediator model



## 5. Discussion

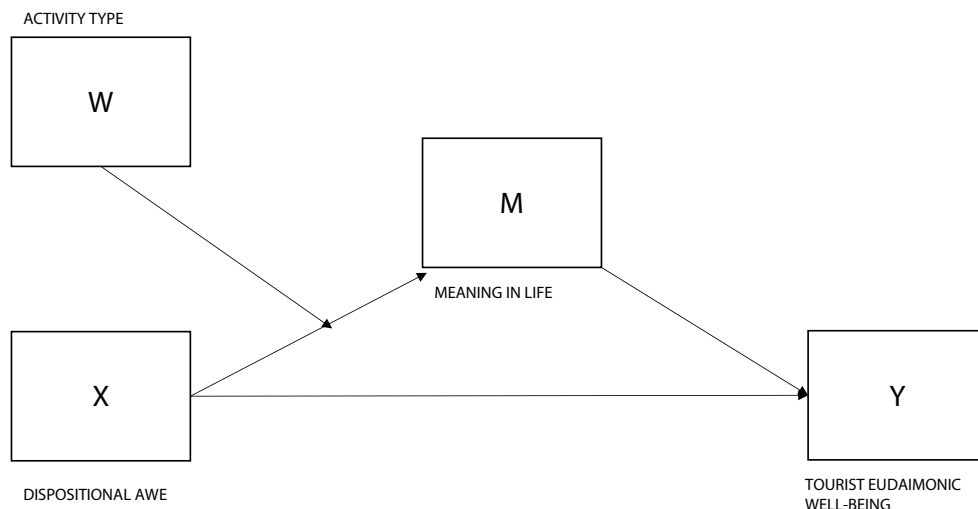
The present research aimed to explain the mechanisms underlying the relationship between dispositional awe and tourist eudaimonic well-being through the basics of Self-determination theory (Ryan & Deci, 2001). The first hypothesis supported the finding that dispositional awe is positively correlated with tourist eudaimonic well-being. This result concurs that positive emotions can facilitate eudaimonic well-being (Danvers et al., 2016).

The results provided partial support for the proposed double-mediation model. The significant, positive indirect effect of dispositional awe on tourist eudaimonic well-being through meaning in life stems from the following results: dispositional awe has a positive impact on the importance of life (Table 2) and meaning in life has a positive effect on tourist eudaimonic well-being (Table 2). Both results were verified in numerous previous studies, but only regarding general well-being (e.g., Zhao & Zhang, 2023; Seaton & Beaumont, 2015; Steger, 2012) and usually the state-based experience of awe. For instance, several studies by Laura King have systematically linked meaning in life with positive state affect in general (e.g., Halusic & King, 2013; King et al., 2006). There is an intuitive rationale to believe that the experience of meaning enhances a person's positive feelings. However, the results of King's studies lead to the conclusion that positive affect also amplifies the experience of meaning in life since she and her colleagues experimentally tested a direct causal relationship between positive emotion induction and subsequent self-reported meaning participants gave to their lives. King et al. (2006, according to Danvers et al., 2016) provided two main explanations behind this causal relationship. Firstly, positive affect frees people from mundane worries and transposes their focus to more comprehensive issues, thus allowing them to recognize the fundamental meaning beyond their experiences. Secondly, positive affect facilitates cognitive response biases in judgments of purpose in life. More recent studies of the relationship between positive affect and meaning in life clearly distinguish different positive emotions (e.g., Griskevicius et al., 2010) and Danvers et al. (2016) suggest that the feeling of awe is significant for meaning in life. The emotion of awe helps people develop a consistent idiosyncratic context that unites both temporal and circumstantial personal experience, thus linking self to something bigger and consequently placing more meaning into one's life.

Meaning in life is a construct highly regarded in the context of eudaimonic well-being. For instance, Steger et al. (2008) compared the levels of meaning in life in respondents with either more hedonic or eudaimonic experiences in their daily diary entries. They reported that engagement in eudaimonic affairs was more strongly connected to feeling that life is meaningful. In their cross-sectional study, Huta & Ryan (2010) also found that eudaimonic pursuits related more to meaning in life (than hedonic pursuits). The present research provided

support for these effects when trait-based awe is considered (dispositional awe) and in a touristic setting: It seems that people with higher dispositional awe interpret their lives in a more meaningful way, which in turn leads them to feel more significant levels of eudaimonia when embarking on a touristic trip. Further to Steger et al. (2008) and Huta and Ryan (2010) studies, it would be interesting to examine whether this mediation effect of meaning in life is higher for tourists that engage in such activities that reflect eudaimonia (for instance, Henderson and Knight (2012) report that activities that present some kind of challenge for tourists, or ones in which they need to put effort in, give tourists more eudaimonia). That's why future research could examine the proposed moderated mediation model depicted in Figure 3.

**Figure 3**  
*Proposed moderated mediation model to be tested in future research*



Contrary to previous research (e.g., Wang et al., 2017; Zhao et al., 2019), materialism does not mediate the relationship between dispositional awe and tourist eudaimonic well-being. Also, the individual coefficients for this proposed mediation turned insignificant (Table 2). The hypothesized negative association between dispositional awe and materialism stems from the intrinsic-extrinsic contradiction these constructs propose: awe is a positive emotion that leads to decreased self-centered attention, and materialism extends the self (Gornik-Durose, 2021). However, this effect may only be temporary.

In other words, maybe awe “erases” the effect of materialism only when it is imminently induced. In future research, it would be interesting to compare the results of dispositional awe and “imminently induced” awe in predicting materialism levels. Regarding the second individual coefficient, Gornik-Durose (2021) reports that each dimension of materialism is distinctively connected to general well-being: possession-defined happiness is the strongest predictor of well-being, while centrality is not associated with well-being. Since present research only considered prevailing materialism, future research could examine each materialistic component separately in the context of touristic well-being.

## 6. Conclusion

Previous research has found that state awe could predict well-being; however, no other study has focused on the direct and indirect effects of trait awe (dispositional awe) on the tourist's eudaimonic well-being. Notably, experiencing eudaimonic well-being on touristic trips leads to place attachment, which influences tourists' revisiting intentions (Vada et al., 2019). That's why it is essential to find factors that nourish tourist eudaimonic well-being in the context of the tourism industry. Based on this research, it has been shown that those



tourists who are more prone to experience awe might give their lives more meaning, promoting eudaimonic well-being during tourist trips. Since no existing research depicts the relationship between state-based and trait-based awe, especially in a tourism setting, it would be beneficial to test whether state-based awe experiences also contribute to tourist eudaimonic well-being. Since dispositional tendencies to experience awe might vary across cultures, it would also be interesting to examine which cultures are more prone to experience awe than others in a tourism setting.

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## Appendix

### Descriptive statistics, Cronbach alpha coefficients and Shapiro-Wilk test for all study variables

	Materialism	Tourist eudaimonic well-being	Dispositional awe	Meaning in life
M	23.28	5.04	4.63	85.3
SD	7.04	1.12	1.10	16.6
W	0.985**	0.970**	0.982**	0.923**
α	0.83	0.85	0.76	0.93

Note. W – Shapiro-Wilk test for normality testing; α – Cronbach's alpha coefficient; M-mean, SD-standard deviation. Shiota (2006) reports the Cronbach's alpha coefficient of 0.78 for Dispositional awe; Vulić-Prtorić and Bubalo (2006) report Cronbach's alpha coefficient of 0.89 for Meaning in life; Dević (2015) reports the Cronbach's alpha coefficient of 0.77 for Materialism; Graces et al. (2020) report Cronbach's alpha coefficient of 0.87 for Tourist eudaimonic well-being. The means of some study variables were also comparable to the means reported in similar research: Zhao et al. (2019) reported a mean of 4.37 for the measure of Dispositional awe, Vulić-Prtorić and Bubalo (2006) reported a mean of 86.2 for the Meaning in life. The mean scores for the Materialism 9-item scale while Tourist eudaimonic well-being could not be found. Skewness indices ranged from 0.24 to -1.21; kurtosis indices ranged from -0.08 to 2.31, which is in accordance with Kline's (2005) normality criteria.

\*\* p < .01.

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