Research Article

Meaning in Life and Resilience among Teachers

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Abstract

Meaning in life is a significant resource in the resilience process, supporting the use of adaptive behaviors and enhancing the feeling of wellbeing. As such, it could be critical for teachers who encounter many stressors threatening their life quality and work productivity. This study aimed to investigate how teachers' levels of meaning in life relate to their resilience. Data were collected from 299 teachers using the Meaning in Life Questionnaire (assessing presence of and search for meaning) and the Multidimensional Teacher Resilience Scale (assessing protective factors related to motivational and professional, social, and emotional resilience). As predicted, presence of meaning had medium-sized positive correlations with the resilience factors, whereas search for meaning had low correlations with social resilience and professional-motivational resilience and no correlation with emotional resilience. Using K-means cluster analysis, teachers were grouped into three clusters according to their scores in the two meaning dimensions. The cluster of teachers reporting both high presence of and high search for meaning showed the highest scores on the resilience factors, followed by the cluster including teachers with high presence and low search. In conclusion, our results emphasized the important role of presence of meaning in strengthening resilient responses; also, searching for meaning, when combined with a high sense of meaning, relates to better use of the resilience protective factors and resources. As to the study implications, a meaning-centered approach to building resilience in teachers is suggested and discussed.

Keywords: Meaning in life, presence of meaning, resilience, search for meaning, teachers.

A common feature of all humans is their attempt to find meaning amid highly stressful life events (Frankl, 1985). A consistent research finding shows that those who have successfully managed to construct meaning for traumatic life experiences, such as cancer and loss, are better able to adapt to and cope with stressful events than those who failed to find meaning; thus, making meaningful interpretations is considered as an effective coping strategy for dealing with stressors (Schnell, 2021; Park & Baumsteir, 2016). In other words, making sense of a particular traumatic event and finding a meaningful interpretation for life experiences may act as a protective factor that enhances resilience in face of adversities. Consequently, presence of meaning can be associated with higher resilience, while absence of meaning in life could put one's resilience into jeopardy.

Although many studies have been carried out in both meaning in life and resilience, research evidence on how these two are related is lacking, especially among teachers.

Extensive empirical evidence demonstrates that, in most parts of the world, teachers face a large amount of work demands and adverse conditions which impair their well-being and quality of life and may even compel them to drop in their job (Kelchtermans, 2017; Torres, 2012). Investigating how teachers perceive meaning in their life is relevant because meaning has been identified as a fundamental aspect of resilience (Ostafin & Proulx, 2020). Specifically, meaning in life may facilitate the appropriate use of coping and stress management resources, protect teachers against

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negative feelings and empower them to cope with school-related challenges (Damásio et al., 2013). Therefore, this study focuses on investigating teachers' meaning in life in relation to their resilience; particularly, it explores how teachers' reports of their presence of meaning and search for meaning associate with their resilience scores on different protective factors.

Meaning in Life

Meaning in life reflects the subjective experience of meaningfulness in one's life. Specifically, it encompasses the extent to which individuals understand or see importance in their lives, the degree to which they have a purpose, task or dominant goal in their lives, and the degree they feel their life and experiences make sense (Heintzelman et al., 2020; Schnell, 2021). Meaning in life is considered as a key element of eudemonic well-being (alongside fulfillment of one's potential, contribution to others, etc.) and it is often placed above hedonic well-being which includes positive affect, pleasure and happiness (Ward & King, 2016).

Relevant research suggested that meaning in life is a fairly common experience and most people across a variety of life circumstances feel their lives are quite meaningful (Heintzelman et al., 2020). In general, when people are confronted with traumatic or stressful events, they effortfully attempt to construct meaning (Park & Baumeister, 2016). Study participants coming from eight different countries consented that meaning in life is an important aim and it requires effort to attain (Heintzelman et al., 2020). The sources of meaning in life are fairly similar across a number of studies with family and friends, religion, and positive affect emerging consistently at the top preference (Schnell, 2021).

Steger and his colleagues (Steger et al., 2006) distinguish two dimensions in meaning in life: (a) The presence of meaning refers to the subjective sense that one's life is meaningful; people who have found meaning comprehend themselves and the world, understand their unique fit in it, and are aware of what they want to accomplish in their lives (Steger et al., 2008). (b) Search for meaning refers to the drive, orientation, intensity and activity to find meaning, significance and purpose of one's life; it may include the desire and effort to discover meaning in life or to improve the understanding of the meaning already experienced (Heine et al., 2006).

The presence of meaning is strongly related with a number of well-being variables, such as life satisfaction (Abu-Raiya et al., 2020), self-esteem and optimism (Steger et al., 2006), work enjoyment (Bonebright et al., 2000), lower levels of stress (Park & Baumeister, 2016; Steger et al., 2008), as well as stressor-related distress and repetitive negative thinking (Ostafin & Proulx, 2020). Also, people experiencing presence of meaning have positive interpersonal well-being outcomes, such as strong social relationships and social life satisfaction (Yu & Chang, 2018), a strong sense of autonomy, self-determination, self-acceptance, environmental mastery, and definite orientation to personal goals and purposes (García-Alandete, 2015). In a nutshell, presence of meaning seems to be an indicator of a healthy, purposeful and appreciated life (Steger et al., 2006).

Search for meaning, on the other hand, typically demonstrates low positive correlations with life satisfaction, happiness, and positive affect (Pezirkianidis et al., 2018; Steger et al., 2009) and medium to high positive correlations with depression, neuroticism, and negative affect (Steger et al., 2006) among others. In addition, some studies have found low positive correlations between search for meaning and negative well-being outcomes (Perzikianidis et al., 2018)

In certain cases, search for meaning may show higher positive correlations with indicators of subjective well-being; this occurs among those who have already found an important meaning in their lives and experience high levels of presence of meaning (Park et al., 2010). Also, in contexts with economic scarcity, social constraints (such as collectivism), socio-institutional constraints (e.g., peace threats), and ecological constraints (e.g., environmental threats), search for meaning may show stronger positive correlations with well-being indicators compared to typical contexts (Lin & Chan, 2020; To, 2016). This implies that when people are confronted with excessive resilience demands, both their prior experience of meaning and their quest for meaning are engaged to ensure their well-being. For example, people living in financially constrained contexts who actively search for ways to improve their life conditions and/or find meaning in their life experiences are more likely to endure poverty and ultimately enjoy greater well-being (To, 2016).

As it can be assumed in the light of the above, the two dimensions of meaning are regarded as distinct and

independent rather than converging (Steger et al., 2008). Typically, search for meaning is considered as a response to upsetting or stressful events and finding meaning as the desired response for adjustment or healing. Regarding their relations, it would be over-simplistic to say that the search for meaning is merely the absence of meaning, or that searching for meaning at an event excludes experiencing presence of meaning. In fact, it does not always happen that those searching for meaning feel their life as meaningless, or those having found meaning quit pursuing it as fervently as those who search but do not find meaning (Davis et al., 2000). Furthermore, Wong (2012) suggested there are two different stages of search for meaning which probably influence well-being differently: the one reflecting an exploratory process (i.e., struggling to find meaning but having not found yet) may affect well-being negatively; the other which reflects a discovery process (i.e., having gained some successful experience) may affect well-being positively.

Bearing all the above in mind, it can be assumed that various level combinations of presence of and search for meaning can manifest in the same persons (Steger et al., 2006). For example, people confronting an existential crisis caused by a stressful event inevitably search for meaning (low presence-high search). Those who have found meaning at the events may quit pursuing it further (high presence-low search). Others who continue searching for meaning may experience a transition from one satisfactory lifestyle to another (high presence-high search), such as expecting the birth of a child within a satisfying romantic relationship. Other people may experience some meaning in their life but still engage in searching for more meaning for various reasons. In such cases, searching may indicate their desire for a deeper understanding of what makes their life meaningful, or they may seek to add to their current sources of meaning or find new ones, as the elements that give meaning to a person's life fluctuate over time and context (Steger et al., 2006). The above may manifest in level combinations, such as medium presence-medium search, and high presence-medium search.

Meaning in life has been scarcely studied among teachers. Damásio et al. (2013) tested Brazilian teachers using an adaptation of the Purpose in Life Test (Crumbaugh & Maholick, 1964) and found that, on average, teachers reported a moderate to high level of meaning in life (albeit 18.6% of them reported negative scores, reflecting absence of meaning); no significant effects of demographic or work-related variables (age,

gender, type of institution and teaching level) were detected. Moreover, teachers with higher levels of meaning displayed significantly higher quality of life and psychological well-being, suggesting that meaning in life is an important indicator of positive psychological functioning for teachers. Taking into consideration the evidence showing that meaning in life is positively related to personal features -which are also protective factors of resilience- such as faith, optimism, hope and low stress and depression (e.g., Ho et al., 2010; Park & Baumeister, 2016; Schnell, 2021), Damásio et al. (2013) emphasize the role of meaning in the resilience process and argue that "the presence of meaning in life seems to optimize teachers' satisfaction with different aspects of their lives" (p.79).

Resilience in the Teaching Profession

Teachers' resilience has been described as a quality that enables teachers to overcome personal and environmental vulnerabilities and maintain their commitment at teaching in the face of work-related challenges, pressures and demands (Brunetti, 2006; Daniilidou & Platsidou, 2018). When experiencing an adverse situation at school, resilient teachers are better able to employ efficient strategies to cope with it (Castro et al., 2010). According to Mansfield and her colleagues (Mansfield et al., 2012), teachers' resilience is a dynamic process in which their personal characteristics (such as self-esteem, anxiety, spirituality, cognitive abilities, and social skills) interact with contextual resources (such as support networks, occupational uncertainty, high pressure and workload) to define their responses when confronted with stressful events.

Mansfield et al. (2012) describe the characteristics of a resilient teacher in terms of a four-dimensional model of protective factors: (a) Professional resilience refers to the teaching skills that help the teacher overcome the adversities and challenges that arise within the school environment. The features of a teacher with professional resilience include the use of different teaching practices, the acquaintance with the students and the response to their needs, the commitment to continuing professional development and the use of coping strategies to address challenging situations in the classroom. (b) Emotional resilience refers to the emotional responses to daily teaching experiences, emotional management and coping with stress; it includes features such as the ability of teachers to manage their emotions and not take things personally, maintain a sense of humor, enjoy teaching and have a feeling of personal fulfillment. (c)

Motivational resilience includes features demonstrating teachers' motivation such as focusing on continuous improvement and learning, persistence and perseverance, deliberate career decision making and setting realistic expectations and goals. Finally, (d) social resilience includes strong interpersonal skills that facilitate the development of social support networks, such us mentoring for young teachers and successfully interacting and collaborating with colleagues, family and friends. As Mansfield et al. (2012) note, an overlap among the four dimensions is highly probable, as particular protective factors may fit in more than one dimensions; for example, teachers' commitment in continuous professional development can be ascribed to both the motivational and the professional resilience dimensions. Daniilidou et al. (2020) tested this four-dimensional model of protective resilience factors to a sample of Greek primary school teachers and concluded to a modified factor solution comprising three resilience subscales: social-professional resilience, adaptability, and motivational resilience.

Aim and Hypotheses of the Study

The literature reviewed so far provides evidence that experiencing or searching for a positive meaning to life events and situations can booster the adaptation process, thus resulting in resilient responses (Damásio & Koller, 2015). However, the relations of meaning in life to resilience have not been sufficiently studied, especially among teachers. Thus, the present study aimed to investigate how teachers' meaning in life relates to their resilience protective factors described by Mansfield et al. (2012).

To our knowledge, there is no empirical evidence focusing on the relations of the presence of and the search for meaning with resilience protective factors; their relationships can only be inferred by studies regarding resilient responses or outcomes, conducted in the general population. In addition, if the various level combinations of presence of and search for meaning are taken into consideration, research of their relation to resilience will be more meticulous and in depth. It is hoped that such findings could contribute to a better understanding of how to help teachers built their resilience in the face of their job demands and challenges; moreover, they could contribute to the enrichment of the educational programs and interventions aiming at enhancing teachers' resilience and wellbeing.

Based on prior research (e.g., Nygren et al., 2005; Sumner & Kinsella, 2020), we expected that presence of meaning would have higher positive correlations with resilience than search for meaning (Hypothesis 1). Then, we checked if teachers vary in their reports of presence of and search for meaning in a way that a taxonomy of different level combinations can be formed. Specifically, we hypothesized that four meaning combinations would emerge, describing participants of high presence-high search, high presence-low search, low presence-high search, and moderate presence-moderate search (Hypothesis 2). To comprehensively describe the profiles of teachers fitting in different meaning combinations, their personal (age, gender, marital status) and professional features (experience, teaching in general/special education, primary/secondary school) were investigated. Next, we explored how the various level combinations of meaning dimensions relate to teachers' resilience. Based on earlier studies, we assumed that (a) the combinations involving high presence of meaning would relate to higher levels of resilience compared to the combinations involving low or moderate presence, and (b) those involving higher levels of search would relate to lower levels of resilience compared to the combinations involving lower search for meaning (Hypothesis 3).

Method

Participants

Data were collected from 299 Greek primary (n = 230, 76.9%) and secondary (n = 69, 23.1%) public-school teachers, 98 males (32.8%) and 201 females (67.2%), holding full-time positions in general (*n* = 236, 78.9%) or special (*n* = 63, 21.1%) education. Participants were coming from various regions of Northern Greece. Their age ranged from 21-65 years with a mean of 41.04 years (*SD* = 11.35) and their teaching experience ranged from 1-44 years (*M* = 13.73, *SD* = 9.75). Most of the participants were partnered (married or cohabiting, *n* = 189, 63.2 %).

Research Instruments

Meaning in Life Questionnaire. The Meaning in Life Questionnaire (MLQ) - designed by Steger et al. (2006) and translated into Greek by Filippi and Stalikas (2012) - was used to measure the two dimensions of meaning in life: (a) the presence of meaning (e.g., *My life has a clear sense of purpose*) and (b) the search for meaning in one's life (e.g., *I am seeking a purpose or mission for my life*), comprising 5 items each. Respondents answer each item on a 7-point Likert-type

scale ranging from 1 (absolutely true) to 7 (absolutely untrue).

Multidimensional Teacher Resilience Scale. To measure teachers' resilience, we opted for the Multidimensional Teacher Resilience Scale (MTRS) out of the very few scales specifically designed for this population. It was developed by Mansfield and Wosnitza (2015) and translated into Greek by Daniilidou et al. (2020). It consists of 26 items which assess the four dimensions of teachers' resilience described by Mansfield et al. (2012): (a) professional resilience (6 statements, e.g., *I can quickly adapt to new situations at school*), (b) emotional resilience (4 statements, e.g., *When something goes wrong at school, I don't take it too personally*), (c) social resilience (6 statements, e.g., *When I am unsure of something, I seek help from colleagues*) and (d) motives (10 statements, e.g., *I am persistent in my work*). Participants evaluate their agreement with each item on a 5-point Likert-type scale ranging from 1 (absolutely disagree) to 5 (absolutely agree).

Procedure

Teachers were recruited for the study in two ways: (a) After permission of the school principal was granted, the questionnaires were handed out to the teachers in their schools in paper form; (b) the questionnaires were sent to the teachers via e-mail, using the Google Forms web application which ensures the anonymity of the respondents. The data were collected within two months of data collection. The ethics approval from the Ethics Committee of the University of Macedonia was waived as participants were adults and consented to their voluntarily participation in the study and publication of the results. During the data collection the anonymity of all participants was ensured.

Data Analysis

Firstly, the factorial structure of each instrument was tested with principal component analysis using the SPSS (version 22). Then, a confirmatory factor analysis was performed using the AMOS (version 19) statistical software to check the factorial validity. Based on the factor solution of each instrument, a mean variable was calculated for each factor representing the dimensions of the MLQ and the MTRS, respectively. Finally, reliability was estimated for each dimension using the Cronbach alpha index.

To check the relations of the two meaning-related dimensions with the resilience subscales (hypothesis 1), correlations among those variables were calculated. Then, cluster analysis was applied using the SPSS (version 22), to develop a taxonomy of teachers grouped according to their reports of presence of and search for meaning (hypothesis 3). Initially, as Milligan (1980) suggested, a hierarchical method was performed to assist in determining the number of clusters and the cluster centroids. The Ward density method was used based on the Euclidean distance between cases. Then, a K-means cluster analysis followed to optimize the results. This method was chosen as it is considered appropriate for research samples larger than 200 (Clatworthy et al., 2005). Also, chi square analysis and ANOVA were performed to check for individual differences among the different level combinations of teachers' meaning in relation to their personal and professional features..

Table 1. Confirmatory factor analysis of the Meaning in Life Questionnaire

Items	Factors	
	1	2
4. My life has a clear sense of purpose	0.86	
6. I have discovered a satisfying life purpose.	0.73	
1. I understand my life's meaning.	0.73	
5. I have a good sense of what makes my life meaningful.	0.67	
9. My life has no clear purpose.	0.54	
8. I am seeking a purpose or mission for my life.		0.74
10. I am searching for meaning in my life.		0.72
2. I am looking for something that makes my life feel meaningful.		0.70
3. I am always looking to find my life's purpose.		0.70
F1 – F2	0.05	
Mean	5.34	4.86
SD	1.01	1.36

Finally, to test hypothesis 3, a series of ANOVA was applied, with the group membership of teachers identified by the cluster analysis being the independent variable and their scores on the resilience subscales being the dependent variables

Results

The inner structure of the MLQ was first tested by a factor analysis with varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.82, and Bartlett's test of sphericity was significant (χ^2 (44) = 1143.93, p = .00) indicating that factor analysis is suitable for all 10 items. Two factors were revealed accounting for the 61.15% of the total variance. In that model, one item (no 7) had a cross-loading (below 0.40) on both factors, so it was removed and the analysis was run again including nine items. This model accounted for the 62.46% of the total variance and its inner structure matches that of the original scale (Steger et al., 2006) as well as its

adjustment for the Greek population (Pezirkianidis et al., 2016). At the next step, a confirmatory factor analysis was performed on the 9 items; results showed that the two-factor model fits the data very well ($\chi^2/26$ = 3.372, p < 0.000, CFI = .935, GFI = 0.942, SRMR = .067, CI90% = .069-.089, RMSEA = 0.89). The factor loading matrix is presented in Table 1. The reliability of the two subscales was very satisfactory ($\alpha_{presence}$ = 0.83 and α_{search} = 0.80).

To check the factorial structure of the MTRS, a factor analysis with oblimin rotation was applied. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.91, and Bartlett's test of sphericity was significant (χ^2 (325) = 3451.77, p = .00), supporting the suitability of factor analysis with all items. In the first model, seven items did not fit the factorial structure. More specifically, the factor loadings of the items 10 and 19 were very low (below 0.40) and the items 1, 2, 11, 14 and 15 cross-loaded on two or three factors (below 0.50).

Table 2. Confirmatory factor analysis of the Multidimensional Teacher Resilience Scale

	Factors		
	1	2	3
12. In my role as a teacher I set goals and work towards achieving them	0.78		
18. I am persistent in my work	0.77		
20. It's important to me that I put in effort to do my job well	0.76		
17. I like challenges in my work	0.64		
13. I have realistic expectations of myself as a teacher	0.61		
16. I enjoy learning when I am at work	0.60		
4. I reflect on my teaching and learning to make future plans	0.50		
3. I am well organized in my school work	0.50		
24. In my work I can look at a situation a number of ways to find a solution		0.72	
23. In my role as a teacher, I am a good communicator		0.64	
26. When I am at work, I can generally resolve conflicts with others		0.58	
22. I am good at building relationships in new school environments		0.58	
21. When I am unsure of something, I seek help from colleagues		0.49	
25. At work I can view situations from other people's perspectives		0.46	
9. I am generally optimistic at school			0.80
8. I balance my role as a teacher with other dimensions in my life			0.70
7. When I feel upset or angry at school, I can manage to stay calm			0.62
6. After reflection, I can usually find the funny side of challenging school situations			0.48
5. When something goes wrong at school, I don't take it too personally			0.33
F1 - F2	0.76**		
F1 – F3	0.60**		
F2 – F3	0.68**		
Mean	4.31	4.06	3.70
SD	0.48	0.51	0.62

Note. ** p < .001

After removing these items, the analysis was repeated on 19 items. A three-factor solution was revealed accounting for the 51.02% of the total variance. Then, this factorial solution was checked via a confirmatory factor analysis. After allowing the residuals between items 2-6, 5-7, 9-10 and 15-17 to correlate (Barret, 2007), the model fit the data well, confirming the three-factor solution ($\chi^2/142 = 2.151$, $p < 0.000$, $CFI = .925$, $GFI = 0.905$, $SRMR = .055$, $CI90\% = .053-.072$, $RMSEA = 0.62$). The factor loading matrix for the final solution is presented in Table 2.

The factorial structure of the MTRS in the current study partially matched the inner structure of the original scale (Mansfield & Wosnitza, 2015). Specifically, items from two factors of the original scale (motives and professional resilience) are now incorporated into one factor, *motivational and professional resilience* (8 items); this factor refers to the features that help teachers maintain their motivation and commitment at teaching in terms of focusing on continuous improvement and learning; it also refers to professional skills that help them overcome the adversities and challenges. The remaining two factors correspond to those of the original scale. The second factor, *social resilience* (6 items), refers to the interaction between teachers and their colleagues and/or their ability to form new relationships and facilitate the development of social support networks in the school environment. The third factor, *emotional resilience* (5 items), describes the personal features that help teachers maintain their emotional stability and cope with stress when facing difficult situations at school. The reliability of the three subscales was found satisfactory ($\alpha_{motivational\ \&\ professional\ resilience} = 0.80$, $\alpha_{social\ resilience} = 0.77$, $\alpha_{emotional\ resilience} = 0.73$).

Mean scores of the presence of and search for meaning subscales were 5.34 ($SD = 1.01$) and 4.86 ($SD = 1.36$), respectively. Scores were fairly above the midpoint of the scale (3.5). Regarding the resilience subscales, mean scores were 4.31 ($SD = 0.46$) for the motivational and professional resilience, 3.70 ($SD = 0.62$) for the emotional resilience, and 4.06 ($SD = 0.51$) for the social resilience. These scores were also fairly above the midpoint of the scale (2.5). The shape of the distributions approximated normality and scores were variable, as demonstrated by their standard deviations.

Correlations among the above variables were calculated and presented in Table 3. As predicted, presence of meaning had medium-sized positive correlations with the resilience subscales, whereas search for meaning had low correlations with social resilience and professional-motivational resilience and no correlation with emotional resilience.

In testing for hypothesis 2, hierarchical cluster analysis was applied on the two meaning-related dimensions indicated that solutions of three or four clusters were more likely. Subsequently, a K-means cluster analysis was performed. The results of two solutions were tested, involving three and four clusters respectively. Since, there is no objective method by which the "correct" number of clusters can be automatically determined (e.g., by applying some mathematical criterion), it is suggested the determination of the number of clusters to be based on the following decisions: a) reasonable distance between cluster centroids, b) fairly equivalent number of participants in each cluster, and c) statistically significant differences between the predictor variables as indicated by one-way analysis of variance (Sideridis & Tsorbatzoudis, 2003).

Given the above criteria, the preferred solution was the one with three clusters as this produced the most plausible to interpretation results. As shown in Table 4, the final cluster centroids were quite "far" apart.

Table 3. Correlations between the meaning in life and the resilience subscales

	Presence of meaning	Search for meaning	Motivational and professional resilience	Social resilience
Search for meaning	0.012			
Motivational and professional resilience	0.452**	0.123*		
Social resilience	0.375**	0.200**	0.601**	
Emotional resilience	0.412**	0.025	0.426**	0.416**

Note: ** $p < .01$, * $p < .05$

Table 4. Final cluster centers (means) and ANOVA

	Clusters			F (2, 296)
	HP - LS	HP - HS	MP - MS	
Presence of meaning	5.76	5.95	4.48	117.26*
Search for meaning	3.36	6.15	4.99	294.11*

Note. *p* <.001. HP-LS: High Presence of meaning– Low Search for meaning; HP-HS = High Presence of meaning – High Search for meaning; MP-MS = Medium Presence of meaning - Medium Search for meaning

All the participants were classified in one of the three clusters and there was a fair number of members in each cluster. Finally, the ANOVA of the clusters indicated that all predictor variables were statistically significant; that is, the members among the three clusters differed significantly across both their presence of and search for meaning scores. A concise description of the three clusters is as follows.

Cluster 1 (N=91) includes teachers who reported high presence of meaning and low search for meaning (HP-LS). *Cluster 2* (N=113) incorporates those reporting high presence of and high search for meaning (HP-HS). *Cluster 3* (N=95) includes teachers reporting moderate scores of both presence of and search for meaning (MP-MS). This taxonomy of clearly distinct combinations largely confirms hypothesis 2 which predicted four analogous clusters of meaning scores; the part of the hypothesis not confirmed relates to the prediction of a cluster grouping teachers with low presence of and high search for meaning; this cluster did not clearly emerge because not enough teachers reported low scores on presence of meaning.

Chi square analysis showed no significant differences of cluster membership across gender, marital status of the teachers, or their working in general/special or in primary/secondary education.

ANOVA revealed a significant difference in their age [$F(2, 294) = 7.24$, $p = 0.001$] and years of teaching experience [$F(2, 296) = 3.24$, $p = 0.041$]; specifically, post hoc analysis showed that teachers reporting high presence of and low search for meaning (cluster 1) tend to be older ($M = 43.94$, $SD = 9.08$) and more experienced ($M = 15.15$, $SD = 11.6$) than those reporting medium levels of both meaning dimensions (cluster 3) ($M_{age} = 38.08$, $SD = 9.17$, $M_{exp} = 11.93$, $SD = 9.57$).

To test whether teachers of different meaning combinations differentiate in their resilience scores, ANOVA was applied. Results showed that the members of the HP-HS cluster outscored the members of the other two clusters, and the members of the HP-LS cluster outscored those of the MP-MS cluster (see Table 5). In other words, it was found that the teachers reporting higher scores in all of the resilience protective factors are those experiencing both high presence of and high search for meaning. This finding was not predicted by our research hypothesis. Instead, the finding that teachers experiencing high presence and low search reported higher resilience scores than those experiencing moderate levels in both meaning in life dimensions confirmed hypothesis 3.

Table 5. Means (and standard deviations) of the resilience subscales by the teachers of the three meaning-related clusters

Resilience subscales	Clusters			*F* (2, 296)
	HP-LS	HP-HS	MP-MS	
Motivational and professional resilience	4.34a (0.44)	4.50a (0.41)	4.11a (0.50)	19.50*
Emotional resilience	3.79a (0.54)	3.86bc (0.54)	3.50ac (0.69)	10.46*
Social resilience	4.03a (0.52)	4.29ac (0.45)	3.89bc (0.48)	17.74*

Note. *p* = .001. HP-LS: High Presence of meaning– Low Search for meaning; HP-HS = High Presence of meaning – High Search for meaning; MP-MS = Medium Presence of meaning - Medium Search for meaning. Different lower-case letters (a, b, c) indicate statistically significant differences among groups (*p* < .05).

Discussion

The present study provides insights into the Research in resilience has identified a number of protective factors that facilitate positive adaptation outcomes in adverse situations, with meaning in life being among the most important ones (e.g., Kim et al., 2005). The present research is one of the very few studies in international literature exploring meaning in life in relation to resilience among teachers.

According to our findings, on average, the Greek teachers participating in the study reported they have a fairly high presence of meaning in their life; their search for meaning scores were also quite high, although lower than their scores on presence. Similar to the former finding, in the only relevant study, as far as we know, Damásio et al. (2013) found that Brazilian teachers also experienced quite high levels of meaning. Also, the scores on the two meaning subscales reported by the teachers in the current study were comparable to those found by Pezirkianidis et al. (2016) in a sample of over 6,000 Greek adults.

As predicted, correlations of the resilience subscales with the presence of meaning were positive and higher than the correlations with the search for meaning. This implies that teachers experiencing meaning in life are more likely to exhibit high resilience protective factors than those who are searching for meaning. On the other hand, teachers fervently searching for meaning are less likely to report high social resilience, and motivational and professional resilience than the former, but their emotional resilience remains unrelated. In other words, when the meaning subscales are studied independently, presence of meaning seems to relate more strongly with resilience than search for meaning does. In fact, the picture must be more complicated than a one-to one relationship, since people may experience various level combinations of the meaning subscales at the same period of time (Steger et al., 2006).

Therefore, using cluster analysis, teachers were grouped into three clusters according to their scores in the two meaning-related subscales: those reporting high presence and low search, those reporting high presence and high search, and those reporting moderate scores on both subscales. According to the literature, meaning in life can be both experienced and quested, as well as discovered and created (Heine et al., 2006; Schnell, 2021). It is probable that these processes are experienced at different (close or not) times within a person, instead of representing different conceptualizations of meaning in life across people (Heintzelman et al., 2020; Wong, 2012). The various level combinations of meaning portrayed by the three clusters are fully consistent to the above. The only unexpected finding was the lack of a cluster combining low presence and high search; consistent to prior studies, the vast majority of our sample reported they experience moderate to high presence of meaning in their lives.

Regarding individual differences, the teachers of the three clusters differed only in relation to their age and teaching experience; specifically, the older and more experienced teachers tended to group into the cluster of high presence of and low search for meaning. In a similar vein, prior studies have found that, with proceeding age, search for meaning tends to decrease whereas a sense of meaning in life is stabilized (Damásio & Koller, 2015; Steger et al., 2009).

Interestingly enough, the cluster of teachers reporting the highest scores on the resilience protective factors was the one including teachers experiencing both high presence and high search, followed by the cluster including teachers with high presence and low search. The first conclusion one can draw is that people with a high sense of meaning in life tend to report high resilience protective factors scores, regardless of their search for meaning experience. Combined with evidence from prior studies indicating that people who live meaningful lives tend to be more appreciative of various aspects of their self (Steger et al., 2006), life (Abu-Raiya et al., 2020) and work (Bonebright et al., 2000), report higher mental health indicators (Park & Baumeister, 2016) and enjoy more rewarding social relationships (Yu & Chang, 2018), the aforementioned finding emphasizes the important role of presence of meaning in strengthening resilient responses (Damásio & Koller, 2015; Nygren et al., 2005; Sumner & Kinsella, 2020). Adding to the relative research, our study shows that people with a high sense of meaning in life not only exhibit higher subjective well-being but also higher levels of resilience protective factors.

Secondly, people who, although they experience high presence of meaning, are still zealously searching for meaning exhibit the highest resilience scores. In fact, it seems that people engage in a fervent quest for meaning not only when they face adversities or they have their needs frustrated (Baumeister, 1991), but even when they live in typical life conditions with no major risks or stressful events (Steger et al., 2006). As Frankl (1985) has put it, the search for meaning is a never-ceasing motivation. Every time a person reaches a life

goal, new ambitions tend to emerge, constantly motivating him/her to seek out for new achievements and new meanings for the existence. The teachers who participated in our study seem to fit to this pattern; as a group, they were not experiencing a major crisis at that time (e.g., as a result of a financial, cultural or environmental threat) other than the daily stressors of their personal and work lives. Still, they were engaged in searching for more meaning possibly in order to enhance the sense of meaning they had already found or explore alternative sources of meaning in their lives (Park et al., 2010; Schnell, 2021).

According to researchers like Steger et al. (2008) and Wong (2012), search for meaning seems to have a dual nature or approach arising from different underlying motivations or processes in people and thus having different correlations depending on those motivations or processes. The one may involve a more exploratory process while the other may reflect a discovery processes (Wong, 2012); the one may correlate with more anxiety, rumination and unhappiness, while the other with higher levels of curiosity, receptiveness, exploration, and flow (Steger et al., 2008). Our results show that, that when combined with a high sense of meaning, this dual nature of searching for meaning relates to better use of the resilience protective factors and resources.

It is interesting to note that the higher numbered cluster was the one including teachers with both high presence of and high search for meaning in their lives, suggesting that not only the sense of meaning but also the quest of meaning are fairly common experiences for many people, and not only when they face stressful events but also when they live in typical life conditions (Heintzelman et al., 2020). The teachers who reported experiencing moderate levels of both presence of and search for meaning showed the lowest scores on the resilience protective factors.

In conclusion, our results are in line the findings of Damásio et al. (2013) and highlight the role of meaning in life as an important indicator of positive psychological functioning. Meaning in life is a central resource in the resilience process, supporting the use of adaptive behaviors and enhancing the feeling of wellbeing. Meaning in life by itself does not regulate behavior, but guides individuals to overcome job-related stressful events more easily through the use of their resilience protective factors and resources, making

decisions that are in accordance with an organized personal value system (Damásio et al., 2013).

Educational Implications, Limitations of the Study, and Future Research

Internationally, the teaching profession encounters a number of pressures, stressors, and adversities threatening teachers' life quality and work productivity (Harmsen et al., 2018; Skaalvik & Skaalvik, 2015). Considering the role of meaning in life as an important resource for building resilience among teachers, raising teachers' awareness about existential and self-transcendence issues can be a powerful tool to empower them in their professional role (Damásio et al., 2013). Such a meaning-centered approach to building resilience (Wong & Wong, 2012) should instigate educational interventions for teachers focusing on discovering what really matters in life, reinforcing the "will to meaning" (Frankl, 1985), and identifying concrete and realistic goals consistent with one's life purpose which transcend self-interest. In this vein, the ongoing quest for meaning can be encouraged, not as an endless endeavor but as a means to enrich a meaningful life. According to Wong and Wong (2012), a meaning-centered approach to building resilience would foster the internal adaptation (i.e., promoting teachers' positive psychological well-being) rather than the external adaptation (i.e., meeting the social, educational, and occupational expectations of their profession) of teachers. Although the two kinds of adaptation complement each other, "the internal orientation seems more adaptive because it focuses on psychological processes rather than situational factors" (p. 587). Hence, a meaning-centered approach to building resilience appears as a promising parameter to the good adaptation of teachers.

Our findings, however, should be considered with caution as it was a cross-sectional study. Future empirical studies should obtain longitudinal data to determine the valence and direction of the links between meaning in life and resilience. Limitations also concern the data collection method and the instruments that have been used. Response bias is a commonly discussed issue in behavioral research, when self-report tools are used (Brutus et al., 2013). The questionnaires were distributed mainly electronically, and, thus, there is a considerable probability that only highly motivated teachers participated in the study. In addition, the factorial structure of the MTRS scale used to assess teachers' resilience did not match the inner structure of the original scale proposed by Mansfield and Wosnitza

(2015). Previous studies using the instrument in Greek teachers have also highlighted this issue (e.g., Daniilidou et al., 2020). Future research could address which factors could be most affectively be combined to adequately capture the protective factors of resilience.

Overall, the results of the present study revealed that, among teachers, the presence of meaning seems to be the most crucial element for the resilience process; furthermore, they led to the assumption the search for meaning may moderate their relationship. Future research is needed to test a model in which search would moderate the relationship of presence of meaning to resilience.

Compliance with Ethical Standards

Ethical Standards

All study procedures involving human participants followed institutional and/or national research committee ethical standards and the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The ethics approval from the Ethics Committee of the University of Macedonia was waived as participants were adults and participated voluntarily in the study.

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Conflicts of Interest/Competing Interests

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Consent to Participate and Consent for Publication

The sample consented (a) to participate in the study voluntarily and (b) to the publication of the results. During the data collection the anonymity of the participants was insured. Data information is anonymized and the submission does not include images that may identify the person.

Data

The data that support the findings of this study are available from the corresponding author, [M.P], upon reasonable request. All data and materials as well as software application support their published claims and comply with field standards.

Material and/or Code Availability

No new software application or custom code is described in the manuscript.

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