

# The relationship between positive emotions, meaning in life, and life satisfaction: A study in adult Greek-speaking population during the COVID-19 pandemic

---

Katerina Flora<sup>1</sup>, Nikoleta Kolotourou<sup>2</sup> & Eleni Liourdi<sup>2</sup>

<sup>1</sup>University of Western Macedonia (Greece)

<sup>2</sup>University of Athens (Greece)

Correspondence katerinaflora@hotmail.com

---

Copyright. 2022. Psychreg Journal of Psychology  
Published by Psychreg Ltd  
ISSN: 2515-138X



This study examines the relationship between positive emotions, life satisfaction, and the meaning of life in a Greek-speaking adult population during a pandemic. The aim is to capture the positive characteristics of individuals in a difficult time. The participants were 919 adults (75% women) and most (81%) under 25 years of age, mostly students. Participants completed the Differential Emotions Scale (Modified Differential Emotions Scale; Fredrickson, et al., 2003), Life Meaning Questionnaire (Meaning in Life Questionnaire; Steger et al., 2006), Satisfaction With Life Scale (SWLS; Diener et al. (1985). The results showed that negative emotions are significantly negatively correlated with positive emotions, the existence of meaning, and life satisfaction. Positive emotions are significantly positively correlated with the search for and existence of meaning in life and life satisfaction while the existence of meaning in life has a significant positive correlation with the search for meaning in life and life satisfaction. Gender differences were also important, as men have more positive emotions and more meaning. Older people have more positive emotions and are more satisfied with their lives. The higher the educational level, the greater the meaning of life is recognised. The results are discussed on the basis of the pandemic conditions and the differences observed in terms of demographics.

Keywords: life meaning; life satisfaction; pandemic; negative emotion; positive emotion

Psychology, as a discipline – in the first half of the 20th century, due to important historical, practical and economic factors – focused its interest on the evaluation and treatment of mental illness, faithfully following the medical model. Gradually, the orientation of psychology shifted from the diagnosis and treatment of mental illness and their harmful effects to the study of the positive characteristics of individuals and societies (Seligman & Csikszentmihalyi, 2000). Specifically, around the 1960s, theoretical approaches and practices were developed that addressed human well-being and emphasised human resources in response to psychological disorders, which became part of the human psychology movement, also known as the Third Wave. The shift of the research interest of psychology to the study of positive emotions and the introduction of questions about finding the meaning of life, the development of individuals, and the achievement of psychological well-being was the basis for the emergence of the new field of positive psychology (Seligman & Csikszentmihalyi, 2014). Seligman has been the originator and key representative of positive psychology, who as President of the American Psychological Association (APA) in 1998 organised and brought together researchers and mental health professionals to work on building the well-being movement, now withdrawn from the traditional direction of reducing the disease (Seligman, 2019).

Although the primary and most well-known definition of positive psychology focused on the study of well-being and happiness, later this discipline has inspired research on virtue, meaning in life, gratitude, positive emotions, resilience, positive relationships, positive youth development, among others. In its short history, then, positive psychology has inspired research in most subfields of psychology, and has penetrated beyond psychology into the neurosciences, health, psychiatry, theology, and the humanities (Kim et al., 2018; Seligman, 2019).

One of the most important theories in the field of positive psychology has been the Theory of Broadening and structure of positive emotions according to which positive emotions push people to seek new ways of thinking and acting while eliminating time-established and automated behaviours. The theory is that specific positive emotions, including joy, interest, satisfaction, pride, and love; although seemingly different, have the potential to broaden thinking and action repertoire, helping to build long-term personal resources (Fredrickson, 1998).

## **Definitions**

The general experience of meaning in life is universal and is based on an assumption that one's life is important, has orientation, coherence, and a sense of belonging (Schnell, 2009). Some definitions of meaning in life have been developed in the international literature, which share some common features. Among them, a model has been identified that highlights three distinct dimensions of meaning in life, such as meaning, deeper purpose, and coherence in life (Heintzelman & King, 2014b; Martela & Steger, 2016). Regarding the research findings of King et al. (2006), there are several ways to experience life as meaningful. In particular, it has been suggested that can be experienced as important when their value significance is recognised beyond the triviality or transience of moments, when a particular purpose emerges and when there is cohesion that transcends 'chaos'. More specifically, the importance concerns a person's feeling that his life has value and importance, the purpose refers to the existence of goals and direction in life and coherence is related to predictability and routine, which gives meaning to the person's life (King et al., 2016). According to Steger et al. (2006) the meaning of life is divided into two basic dimensions, the existence of meaning in life and the search for meaning in life (Steger et al., 2006).

Equally important in the context of positive psychology are positive emotions, which according to Seligman (2004) are classified based on their relationship to the past, present, and future. Thus, optimism, hope and confidence describe positive emotions for the future, satisfaction, joy, and peace refer to the past, while physical pleasures such as pleasure, comfort, happiness, and excitement refer to the present (as reported in Kardas et al., 2019). According to Fredrickson's (2001) theory of broadening and constructing positive emotions, it has been argued that experiencing instantaneous positive emotions serves to build personal and long-term resources, such as physical, mental, and psychosocial. The experience of positive emotions, therefore, initiates processes towards individual development and social connection, while it can also contribute to the creation of future moments of joy and good prospects (Fredrickson, 2001; Fredrickson & Joiner, 2018).

Life satisfaction has been considered as a personal process of cognitive evaluation of the individual about their life as a whole based on specific criteria (Shin & Johnson, 1978; Diener, 2000; Diener et al., 1985). In fact, life satisfaction has been judged as a key component of subjective well-being and positive functioning among young people, along with positive and negative emotions (Kardas et al., 2019; Suldo et al., 2006). In particular, both satisfaction in different areas of life, such as job satisfaction, and universal judgements about

the level of life satisfaction combined with positive and negative personal emotional manifestations are part of experiencing subjective well-being (Diener et al., 1999).

### **Purpose of positive psychology**

Positive psychology is the field that studies the way in which people are able to achieve their personal well-being in the face of the adversities of everyday life (Seligman & Csikszentmihalyi, 2000). With its emergence there has been a growing interest in scientifically studying both the meaning and purpose of life and their effects on the health and in various areas of individuals' lives (Peterson, 2006). Its goals are to highlight and enhance the human strengths and virtues that make life worthwhile and enable people and communities to prosper (Froh, 2004). Positive psychology has brought about a change in the way we view the world, such as focusing on opportunities for growth instead of sinking into problems. In fact, in contrast to the prevailing psychological research that has preoccupied the various forms of mental illness, the new field of positive psychology is aimed at highlighting the sources of human well-being, focusing on happiness and not pathology. In addition, the creation of positive qualities / concepts has been important, such as resilience as a balancing factor in limiting discrete negative effects (Kim et al., 201; Sheldon & King, 2001).

### **Connection of the study variables**

In a study by Cohn et al. (2009), it was found that people who experienced more positive emotions were more satisfied with their lives, as not only were they happier with themselves, but they could also create supportive resources to manage its challenges. of life (Cohn et al., 2009). In addition, a survey conducted in Greece during the economic crisis found a positive correlation between experiencing positive emotions and meaning in life, and a negative correlation with experiencing negative emotions, stress, depression, and consequences. of the economic crisis and the fear of impending life changes (Pezirkianidis et al., 2016). In fact, in the international literature, the existence of a more important correlation between experiencing positive emotions and life satisfaction has been recognised, compared to the absence of negative emotions (Kuppens et al., 2008).

In terms of having meaning in life, it seems to be a situation in which people feel connected to something higher than them (Peterson et al., 2005). In particular, international research on the existence and search for meaning in life has shown that the search for meaning in life in people who give meaning to life is positively associated with well-being, which is described as greater satisfaction with life, to a greater degree. happiness and lower rates of depression. In contrast, the absence of meaning in life seems to make the search for meaning difficult, making it a difficult process, as it requires a broader perspective on life (Park et al., 2010; Yek et al., 2017).

Still, lower levels of emotional distress have been associated with higher levels of life satisfaction and joy (Seo et al., 2018). High life satisfaction, finally, has been positively associated with the search for meaning, provided there is a high sense of mental resilience in individuals. Thus, the protective role of mental resilience in reducing the negative effects of the search for meaning in life becomes apparent (Lau et al., 2018).

### **The field of positive psychology in the period of the COVID-19 pandemic**

The COVID-19 pandemic has been an unusual and unpredictable condition worldwide, leading to a series of dangerous, often uncontrollable and dynamic events. The world community has been confronted with feelings of fear, uncertainty and anxiety, having to deal with issues such as health, death, unemployment, financial insecurity and the wider economic crisis. At the same time, however, in the midst of the pandemic, more extreme forms of human response to the challenges of COVID-19 may occur and panic reactions, destructive thoughts and predictions, and irrational actions may develop. Thus, a series of studies have been conducted that have studied the role of positive psychology in promoting and preventing mental well-being during the pandemic. In fact, research in the field of positive psychology has taken on the role of exploring the ways in which people maintain and enhance their mental health (Waters et al., 2021).

An online study at the onset of the rising pandemic attempted to examine the relationship between variables of basic hope, meaning of life, life satisfaction, and beliefs about the order and positivity of the social world with the emotional and cognitive responses of individuals to the COVID-19 pandemic. It turned out, therefore, that the relationship of the above variables functions as a regulatory factor against stress and the development of dysfunctional thoughts and decision-making methods, in the context of an unpredictable threat (Trzebinski et al., 2020). In addition, a recent study by Israelashvili (2021) found that during a

pandemic, people who experience high levels of positive emotions also report a higher level of resilience, while people who experience high levels of negative emotions do not show high resilience. Still, life satisfaction in the pandemic period seemed to be significantly predicted by meaning in life and hope (Karataş et al., 2021).

In conclusion, the integration of the main components of positive psychology, such as meaning, self-compassion, courage, gratitude, positive emotions, interpersonal relationships, and the creation of high-quality connections, has been shown to help maintain mental health, reduce of psychological disorders and the enhancement of psychological resources and skills in the midst of the COVID-19 pandemic (Waters et al., 2021).

### Research hypotheses

- (a) Experiencing positive emotions, having meaning in life and life satisfaction will be positively related.
- (b) Experiencing negative emotions, having meaning in life and life satisfaction will be negatively related.
- (c) The existence of meaning in life will be negatively related to the search for meaning in life.
- (d) Gender will differentiate the experience of negative and positive emotions of the participants.
- (e) Age and level of education will differentiate the existence of meaning in the life of the participants and their satisfaction with life.
- (f) Experiencing positive, the absence of negative emotions, the existence of meaning in life will predict life satisfaction.

## METHODOLOGY

### Participants

A total of 919 adults participated in this research, of which 74.7% ( $N = 687$ ) were women and 24% ( $N = 221$ ) were men. More specifically, 81.1% ( $N = 745$ ) of the participants were between 18 and 25 years of age, 6.8% ( $N = 63$ ) were between 26 and 35 years old, participants between 36 and 45 years were 5.3% ( $N = 49$ ), while 6.2% ( $N = 57$ ) were over 46 years old.

Regarding the educational level, most of the participants with a percentage of 71.4% ( $N = 654$ ) were students of higher education institutions (universities). 10.7% ( $N = 98$ ) of the participants were university graduates, 7.7% ( $N = 71$ ) had completed primary and secondary education and 5.2% ( $N = 48$ ) were students in post-secondary education institutes. Finally, 4.9% ( $N = 45$ ) held a postgraduate or doctoral degree.

Regarding their place of residence, 76.8% of the total sample ( $N = 707$ ) lived in a city with more than 10,000 inhabitants, 10.4% ( $N = 96$ ) in a town and 12.1% ( $N = 111$ ) lived in a village.

### Measures

Initially, participants were asked to complete a questionnaire with their demographics, such as gender, age, place of residence and educational level.

The Differential Emotions Scale (Differential Emotions Scale-Modified; Fredrickson et al., 2003) was also given. The scale assesses the degree of emotion in adults. It is a five-point Likert scale, consisting of two factors: positive and negative emotions. The scale indicates the degree of experience of emotions in the last two weeks. The Cronbach was  $\alpha = 0.894$  ( $MO = 39.46$ ;  $TA = 9.1$ ) for positive emotions and  $\alpha = 0.774$  for negative emotions ( $MO = 18.11$ ;  $TA = 5.54$ ). All reliability indicators are acceptable.

In addition, the Life Meaning Questionnaire (Meaning in Life Questionnaire; Steger et al., 2006) was given. It is a seven-point Likert scale, consisting of 10 sentences, which are distinguished in the factor of presence and the *search for meaning*. The reliability indices of the individual scales were  $\alpha = 0.836$  ( $MO = 23.61$ ;  $TA = 6.27$ ) for the *existence of meaning* and  $\alpha = 0.835$  ( $MO = 25.25$ ;  $TA = 6.43$ ) for the *search for meaning*, proving that reliability is good.

Finally, the Satisfaction With Life Scale (SWLS; Diener et al., 1985; Pavot & Diener, 2008) was administered to measure life satisfaction. The scale consists of five questions, which are graded on a seven-point Likert scale and evaluate the overall life satisfaction in the present. The reliability index was found to be equal to  $\alpha = 0.824$  ( $MO = 22.62$   $TA = 6.02$ ), which indicates that the reliability of the scale is good.

### Data collection

The questionnaires were delivered over a period of two months, from November to December 2020. The questionnaires were completed through the Google Forms. The participation of the individuals was voluntary and there was the assurance of the participants for the preservation of their anonymity.

### Statistical analysis

Descriptive statistics were used for the descriptive analysis of the data, while preliminary checks were made for the statistical conditions of the parametric statistical controls. Then, using inductive statistics, an attempt was made to determine the relationships of the variables. The correlations of the variables were also checked using the Pearson *r* index and the differences from the *t*-test analyses of independent samples and the one-way analysis (one-way ANOVA) were sought, while for the predictive relationships the multiple regression analysis was used. SPSS 20 program was used for statistical analyses.

## RESULTS

### Correlations

From the pairwise correlations of the variables studied (Table 1), we observe that negative emotions are significantly negatively correlated with positive emotions, the presence of meaning in life and life satisfaction. In addition, the statistically significant positive relationship between positive emotions and the search for and presence of meaning, as well as with life satisfaction, emerged. The presence of meaning in life was found to have a significantly positive correlation with the search for meaning in life, but also a significantly strong positive relationship with life satisfaction.

Table 1  
 Correlation of variables

	Negative emotions ( <i>r</i> )	Positive emotions ( <i>r</i> )	Search for meaning of life ( <i>r</i> )	Presence of meaning of life ( <i>r</i> )	Life satisfaction ( <i>r</i> )
Negative emotions	1	-.155**	.064	-.224**	-.272**
Positive emotions		1	.133**	.417**	.519**
Search for meaning of life			1	.147**	.044
Presence of meaning of life				1	.495**
Life satisfaction					1

\*\**p* < .001

### Differences in gender, age, and educational level of the participants

A *t*-test of independent samples was performed to investigate the differences in gender with the variables under study. The results showed significant differences between men and women in terms of positive emotions ( $t(890) = 2,453, p < 0.05$ ). Men seemed to experience more positive emotions than women ( $M = 40.77$  and  $M = 39.03$ ). Regarding negative emotions, there were also significant differences between the two categories ( $t(324.05) = -2,241, p < 0.05$ ). Men seemed to experience fewer negative emotions than women ( $M = 17.31$  and  $M = 18.35$ ). Finally, statistically significant differences between the two sexes were found regarding the presence of meaning in life ( $t(893) = 2,232; p < 0.05$ ). Men seemed to recognise to a greater extent the presence of meaning in their lives in comparison to women ( $M = 24.46$  and  $M = 23.37$ ).

Table 2  
 Mean values and standard deviations between genders

	Men		Women		<i>t</i> ( <i>df</i> )	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Positive emotions	40.77	9.61	39.03	8.90	890 (2.453)	.014
Negative emotions	17.31	6.01	18.35	5.36	324.05 (-2.24)	.026

Presence of meaning of life	24.46	6.59	23.37	6.17	893 (2.232)	.026
Search for meaning of life	25.24	6.50	25.27	6.42	897 (-.066)	.947
Life satisfaction	22.78	5.75	22.59	6.09	893 (.405)	.686

The results of the analysis of variance showed statistically significant  $F$  values for negative emotions, life satisfaction, and the presence of meaning in life. Negative emotions appeared to vary significantly with the age of the participants [ $F(3,896) = 3,166, p < 0.05$ ]. From comparisons of the variances in couples of the mean values made with the Bonferroni test, it was found that people aged 18–25 years ( $M = 18.25, SD = 5.47$ ) differ significantly from individuals over 46 years ( $M = 15.93, SD = 5.21$ ), who experience significantly fewer negative emotions. In addition, life satisfaction varied significantly with the age of the participants [ $F(3,897) = 4,913, p < 0.05$ ]. From comparisons of the variances in couples of average values it was found that people aged 18–25 years ( $M = 22.36, SD = 5.99$ ) differ experience much less life satisfaction compared to individuals over 46 years ( $M = 25.1, SD = 5.27$ ).

Table 3  
 Mean values and standard deviations between age groups

	18–25		26–35		36–45		Up to 46	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Positive emotions	39.12	9.15	41.97	7.87	41.51	10.20	39.58	8.17
Negative emotions	18.25	5.47	18.10	5.91	18.45	6.10	15.93	5.21
Presence of meaning of life	22.87	6.11	25.11	7.38	24.31	7.32	22.91	7.84
Search of meaning of life	25.49	6.13	25.11	7.38	24.31	7.32	22.91	7.84
Life satisfaction	22.36	5.99	22.51	6.50	24.35	5.99	25.10	5.27

Table 4  
 Mean values and standard deviations between educational levels

	Primary/Secondary education		Post-secondary education		University student		University graduate	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Postive emotions	38.500	10.63	40.10	10.33	39.14	8.90	39.799	8.81
Negative emotions	16.90	5.95	18.10	5.27	18.27	5.50	17.80	5.58
Presence of meaning of life	24.01	6.94	23.08	5.66	23.02	6.10	26.14	6.66
Search of meaning of life	24.53	6.02	52.90	6.80	25.60	6.01	23.74	8.10
Life satisfaction	21.94	7.10	21.11	6.21	22.64	5.72	22.99	6.64

### Hierarchical multiple regression

The statistically significant predictor variables of the hierarchical multiple regression model were found to explain 39% of the total variance of the 'life satisfaction' variable. More specifically, Table 5 shows that the only variables that contribute to the prediction of life satisfaction are positive emotions ( $\beta = 0.241, t = 12,120, p < 0.05$ ) ( $\beta = 0.364$ ), the presence of meaning in life ( $\beta = 0.299, t = 9.813, p < 0.05$ ) ( $\beta = 0.311$ ), negative emotions ( $\beta = -, 172, t = -5.610, p < 0.05$ ) ( $\beta = -0.158$ ) and sex of participants ( $\beta = 0.763, t = 1.977, p < 0.05$ ) ( $\beta = 0.054$ ).

Table 5  
 Coefficients of the model in hierarchical multiple regression with life satisfaction as dependent variable

Life satisfaction model	$\beta$	SE	$\beta$	t	Sig.
Stage 1	19.603	.958		20.452	.000
Man	.073	.485	.005	.150	.881
Education	.366	.165	.076	2.223	.026
Age	.892	.244	.125	3.664	.000
Stage 2	8.500	1.329		6.395	.000
Man	.763	.386	.054	1.977	.048
Education	.180	.131	.037	1.374	.170
Age	.132	.202	.019	.652	.515
Positive emotions	.241	.020	.364	12.120	.000
Negative emotions	-.172	.031	-.158	-5.610	.000
Search for meaning of life	-.039	.026	-.041	-1.475	.141
Presence of meaning of life	.299	.030	.311	9.813	.000

Finally, it is worth mentioning that age contributes significantly to the prediction of life satisfaction in the first model, while this is not confirmed in the second. Thus, the effect of age on life satisfaction seems to be mediated mainly by the presence of meaning in life and secondarily by negative emotions.

## DISCUSSION

The results of the present study highlight the importance of life satisfaction and other positive factors in the well-being of individuals. Similarly, to the existing literature (Bastian et al., 2014; Kuppens et al., 2008. Park et al., 2010), it was found that the experience of more negative emotions by an individual is followed by fewer positive emotions, by a lack of meaning in life, but also from a reduced sense of satisfaction from life. On the contrary, the connection of experiencing positive emotions with the personal search for meaning and with the performance of meaning in life, as well as with the sense of satisfaction from life, proved to be particularly important. In addition, there is an increased likelihood of developing a sense of life satisfaction among people who give meaning to their lives. While, contrary to the findings of the existing literature, it was found that people who seek meaning in their lives are more likely to give a specific meaning and purpose to their lives.

Also particularly noteworthy are the differences that arose based on the gender, age and educational level of the participants (Fujita et al., 1991). More specifically, it showed the superiority of positive emotions, the reduced expression of negative emotions and the performance of a higher meaning in life in men, compared to women. The social role of women in conjunction with gender stereotypes seems to place a particular burden on women, as shown once again.

In addition, there was an increase in life satisfaction and reduced levels of negative emotions in older age groups, such as those older than 46, compared to younger adults. Equally important was the increase in the performance of meaning in life, among the higher educational levels. In fact, it has been found that graduates of public higher education institutions and holders of postgraduate and doctoral degrees recognize greater meaning in their lives, compared to students in post-secondary education institutes (Pinquart, 2002; Reker, 2005q Steger et al., 2009).

Finally, the results of the research supported our research hypothesis, regarding the possibility that experiencing positive emotions, the absence of negative emotions and meaning in life can predict life satisfaction (Cohn et al., 2009; Zapandiotou, 2013). At the same time, the finding, which highlighted the significant predictive ability of age on the sense of life satisfaction, was of particular interest, but only in the model that did not include quantitative variables. From the statistical analysis, it emerged that age could predict life satisfaction, mediated mainly by the meaning of life and secondarily the absence of negative emotions.

## CONCLUSION

It seems that the person who experiences generally positive emotions is more likely to interpret a situation in his own positive way and at the same time experience a sense of satisfaction with life. This, perhaps, is attributed to the fact that positive emotions empower a person, according to the theory of Fredrickson (2001) and at the same time, according to Seligman (2002), give meaning and purpose to his life. Finally, according to the above findings, the same seems to be true in the absence of negative emotions.

The present research was carried out during the period of the COVID-19 pandemic highlights the importance of positive emotions and positive factors as protective factors in difficult conditions and as factors that give meaning and satisfaction to life. At the same time, the need to support people who appear more vulnerable, such as young people and women, and the fact that as long as the social conditions that burden specific groups of people (inequality, inequality, unemployment, and lack of support structures) remain unchanged, problems will persist.

---

## REFERENCES

- Bastian, B., Kuppens, P., De Roover, K., & Diener, E. (2014). Is valuing positive emotion associated with life satisfaction? *Emotion, 14*(4), 639–645. <https://doi.org/10.1037/a0036466>
- Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion, 9*(3), 361–368. <https://doi.org/10.1037/a0015952>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71–75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13)
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34–43. <https://doi.org/10.1037/0003-066X.55.1.34>
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological bulletin, 125* (2), 276–302. <https://doi.org/10.1037/0033-2909.125.2.276>
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*(3), 300–319. <https://doi.org/10.1037/1089-2680.2.3.300>
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218–226. <https://doi.org/10.1037/0003-066x.56.3.218>
- Fredrickson, B. L., & Joiner, T. (2018). Reflections on positive emotions and upward spirals. *Perspectives on Psychological Science, 13* (2), 194–199. <https://doi.org/10.1177/2F1745691617692106>
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*(2), 365–376. <https://doi.org/10.1037/0022-3514.84.2.365>
- Froh, J. J. (2004). The History of Positive Psychology: Truth Be Told. *NYS Psychologist, 16*(3), 18–20.
- Fujita, F., Diener, E., & Sandvik, E. (1991). Gender differences in negative affect and well-being: The case for emotional intensity. *Journal of Personality and Social Psychology, 61*(3), 427–434. <https://doi.org/10.1037/0022-3514.61.3.427>
- Israelashvili, J. (2021). More positive emotions during the Covid-19 pandemic are associated with better resilience, especially for those experiencing more negative emotions. *Frontiers in Psychology, 12*, 1635. <https://doi.org/10.3389/fpsyg.2021.648112>
- Karataş, Z., Uzun, K., & Tagay, Ö. (2021). Relationships between the life satisfaction, meaning in life, hope and Covid-19 fear for Turkish adults during the Covid-19 outbreak. *Frontiers in Psychology, 12*, 778. <https://doi.org/10.3389/fpsyg.2021.633384>
- Kardas, F., Zekeriyay, C. A. M., Eskisu, M., & Gelibolu, S. (2019). Gratitude, hope, optimism, and life satisfaction as predictors of psychological well-being. *Eurasian Journal of Educational Research, 19* (82), 1–20. <https://doi.org/10.14689/ejer.2019.82.5>
- King, L. A., Heintzelman, S. J., & Ward, S. J. (2016). Beyond the search for meaning. *Current Directions in Psychological Science, 25*(4), 211–216. <https://doi.org/10.1177/0963721416656354>
- Kim, H., Doiron, K., Warren, M.A., Donaldson, S.I. (2018) The international landscape of positive psychology research: A systematic review. *International Journal of Well-being, 8*(1), 50–70. <https://doi.org/10.5502/ijw.v8i1.651>



- Kuppens, P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgment across nations. *Journal of Personality and Social Psychology*, *95* (1), 66. <https://doi.org/10.1037/0022-3514.95.1.66>
- Lau, C. L., Feher, A., Wilson, C. A., Babcock, S. E., & Saklofske, D. H. (2018). Resiliency, Meaning in life, and life satisfaction: An examination of moderating effects. *Acción Psicológica*, *15*(2), 5–14. <https://doi.org/10.5944/ap.15.2.22256>
- Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *The Journal of Positive Psychology*, *11*(5), 531–545. <https://doi.org/10.1080/17439760.2015.1137623>
- Park, N., Park, M., & Peterson, C. (2010). When is the search for meaning related to life satisfaction? *Applied Psychology: Health and Well-Being*, *2*(1), 1–13. <https://doi.org/10.1111/j.1758-0854.2009.01024.x>
- Pavot, W. & Diener, E. (2008). The Satisfaction with life Scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, *3*(2), 137–152. <https://doi.org/10.1080/17439760701756946>
- Peterson, C. (2006). A primer in positive psychology. New York: Oxford University Press.
- Peterson, C., Park, N., & Seligman, M. E. (2005). Orientations to happiness and life satisfaction: The full life versus the empty life. *Journal of Happiness Studies*, *6*(1), 25–41. <https://doi.org/10.1007/s10902-004-1278-z>
- Pezirkianidis, C., Stalikas, A., Efstathiou, E., & Karakasidou, E. (2016). The relationship between meaning in life, emotions and psychological illness: The moderating role of the effects of the economic crisis. *The European Journal of Counselling Psychology*, *4*(1), 77–100. <http://dx.doi.org/10.5964/ejcop.v4i1.75>
- Pinquart, M. (2002). Creating and maintaining purpose in life in old age: A meta-analysis. *Ageing International*, *27*(2), 90–114. <https://doi.org/10.1007/s12126-002-1004-2>
- Reker, G. T. (2005). Meaning in life of young, middle-aged, and older adults: Factorial validity, age, and gender invariance of the Personal Meaning Index (PMI). *Personality and Individual Differences*, *38*(1), 71–85. <https://doi.org/10.1016/j.paid.2004.03.010>
- Seligman, M. E. P. (2002). *Authentic happiness*. Free Press.
- Seligman, M. E. P. (2004). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfilment*. Simon and Schuster.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*, 5–14. [https://doi.org/10.1007/978-94-017-9088-8\\_18](https://doi.org/10.1007/978-94-017-9088-8_18)
- Seo, E. H., Kim, S. G., Kim, S. H., Kim, J. H., Park, J. H., & Yoon, H. J. (2018). Life satisfaction and happiness associated with depressive symptoms among university students: A cross-sectional study in Korea. *Annals of General Psychiatry*, *17*(1), 1–9. <https://doi.org/10.1186/s12991-018-0223-1>
- Schnell, T. (2009). The sources of meaning and meaning in life questionnaire (SoMe): Relations to demographics and well-being. *The Journal of Positive Psychology*, *4*(6), 483–499. <https://doi.org/10.1080/17439760903271074>
- Sheldon, K. M., & King, L. (2001). Why positive psychology is necessary. *American Psychologist*, *56*(3), 216–217. <https://doi.org/10.1037/0003-066X.56.3.216>
- Shin, D.C., Johnson, D.M. Avowed happiness as an overall assessment of the quality of life. *Social Indicators Research* *5*, 475–492 (1978). <https://doi.org/10.1007/BF00352944>
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counselling Psychology*, *53*(1), 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>
- Steger, M. F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology*, *4*(1), 43–52. <https://doi.org/10.1080/17439760802303127>
- Suldo, S. M., Riley, K. N., & Shaffer, E. J. (2006). Academic correlates of children and adolescents' life satisfaction. *School Psychology International*, *27* (5), 567–582. <https://doi.org/10.1177/0143034306073411>
- Trzebiński, J., Cabański, M., & Czarnecka, J. Z. (2020). Reaction to the COVID-19 pandemic: the influence of meaning in life, life satisfaction, and assumptions on world orderliness and positivity. *Journal of Loss and Trauma*, *25*(6-7), 544–557. <https://doi.org/10.1080/15325024.2020.1765098>
- Waters, L., Algoe, S. B., Dutton, J., Emmons, R., Fredrickson, B.L., Heaphy, E., Moskowitz, J.T., Neff, K., Niemiec, R., Pury, C. & Steger, M. (2021) Positive psychology in a pandemic: Buffering, bolstering, and building mental health. *The Journal of Positive Psychology*, *1*(21). <https://doi.org/10.1080/17439760.2021.1871945>

- Yek, M. H., Olendzki, N., Kekecs, Z., Patterson, V., & Elkins, G. (2017). Presence of meaning in life and search for meaning in life and relationship to health anxiety. *Psychological Reports, 120*(3), 383–390. <https://doi.org/10.1177%2F0033294117697084>
- Zapandiotou, L. (2013). (in Greek) The relationship between positive emotions and meaning in life and subjective happiness: A comparative study in the Greek population before and during the financial crisis (Master' s thesis). <https://doi.org/10.1037/a0036466>