

# The Effectiveness of an Online Positive Psychology Intervention among Healthcare Professionals with Depression, Anxiety or Stress Symptoms and Burnout

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## Abstract

This study aimed to test the effectiveness of an online positive psychology intervention among Greek healthcare professionals with depression, anxiety and/or stress symptoms and increased levels of burnout. The sample was consisted of 38 participants with mild, severe, or extremely severe symptoms of depression, anxiety and stress, and moderate or high levels of burnout, who were randomly assigned either to the intervention (N = 19) or the active control group (N = 19). Participants in the intervention group were introduced weekly to three positive psychology activities, whilst participants in the control group were given three placebo activities. All participants completed self-report questionnaires (Depression, Anxiety and Stress Scale, Maslach Burnout Inventory, Satisfaction with Life Scale, Positive and Negative Affect Scale) at the beginning and at the end of the three-week online intervention. The results indicated that the intervention group experienced statistically significant decreases in depression, anxiety, stress, and emotional exhaustion scores, as well as increases in satisfaction with life, compared to the control group which reported no changes. These findings suggest that such a positive psychology intervention could help healthcare professionals to manage their difficulties more effectively. Other clinical implications and recommendations for future research are also considered.

## Keywords

Online Positive Psychology Intervention, Healthcare Professionals, Depression, Anxiety, Stress, Burnout, Well-Being

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## 1. Introduction

Healthcare professionals play a central and critical role in improving access and quality health care for the population (WHO, 2006). However, there is growing evidence that the prevalence of negative symptoms (depression, anxiety, stress) and burnout syndrome (emotional exhaustion, depersonalization, lack of personal accomplishment) among these professions is rapidly increasing worldwide. (Acker, 2012; Aiken, Sermeus, Van Den Heede, Sloane, Busse et al., 2012; Chan & Huak, 2004; Lloyd & King, 2004; Rachiotis, Kourousis, Kamilaraki, Symvoulakis, Dounias, & Hadjichristodoulou, 2014). Providing health care can be a stressful job, as healthcare professionals are often responsible for human lives, and their actions—or lack of action—can have serious consequences for their patients (Sapountzi & Lemonidou, 1994). They work under extremely demanding conditions and often face a variety of stressful situations, such as deadlines, high workloads, multiple roles and emotionally challenging moments. These factors can cause stress and negatively impact healthcare professionals' resilience, resulting in burnout (Aiken et al., 2012; Gonçalves, Fontes, Simões, & Gomes, 2019; Rippstein-Leuenberger, Mauthner, Bryan Sexton, & Schwendimann, 2017). Additionally, high levels of stress and burnout can have negative consequences for healthcare professionals, that is related to reduced attention and concentration (Skosnik, Chatterton, Swisher, & Park, 2000), reduced work performance (Pakenham & Stafford-Brown, 2012), less job satisfaction, physical and psychological complaints, higher rates of turnover and absenteeism (Cooper, Dewe, & O'Driscoll, 2001), higher intention to quit their job (Acker, 2012), reduced service quality, and reduced patient satisfaction (Aiken et al., 2012).

Considering these facts, it becomes clear that healthcare professionals need support to manage stressful situations that are inherent in their work. Cultivation of well-being seems to be of great importance as it is related to reductions in mental illness, improved physical and mental health, sociability, use of effective conflict resolution skills and the intention to stay at work (Decker, Harris-Kojetin, & Bercovitz, 2009; Hone, Jarden, Duncan, & Schofield, 2015; Keyes, Dhingra, & Simoes, 2010; Lyubomirsky, King, & Diener, 2005a, 2005b). The current study examines whether an online intervention based on positive psychology can foster healthcare professionals' mental well-being, by reducing negative symptoms and burnout and increasing satisfaction with life and positive emotions.

Positive Psychology is a rapidly evolving branch of the science of psychology that promotes well-being and flourishing of people, improves their quality of life, and prevents pathologies that arise when life is barren and meaningless (Seligman & Csikszentmihalyi, 2014). It is a science that promotes the study of conditions and processes that contribute to the optimal functioning of individuals, groups and institutions (Gable & Haidt, 2005). Positive psychology interventions are defined as treatment methods or intentional activities that aim to cultivate positive emotions, behaviors and cognitions, as well as positive aspects of perso-

nality (Sin & Lyubomirsky, 2009). The effectiveness of positive psychology interventions is tested in single-component (one or two positive activities are used) and multi-component studies (three or more activities are used, Hendriks, 2018). Several meta-analyses have shown that positive psychology interventions are highly effective in enhancing life satisfaction, positive affect, happiness and well-being among participants, while reducing negative affect and symptoms such as depression, anxiety and stress (Bolier, Haverman, Westerhof, Riper, Smit, & Bohlmeijer, 2013; Chakhssi, Kraiss, Sommers-Spijkerman, & Bohlmeijer, 2018; Hendriks, Schotanus-Dijkstra, Hassankhan, Graafsma, Bohlmeijer, & de Jong, 2009).

Furthermore, positive psychology interventions can produce moderate to high improvements in healthcare professionals' well-being, burnout syndrome, and negative symptoms. Bolier, Ketelaar, Nieuwenhuijsen, Smeets, Gärtner & Sluiter (2014), showed that healthcare professionals who participated in a positive psychology intervention reported improved mental health. Cheng, Tsui and Lam (2015), examined the effect of a positive psychology intervention compared to a placebo control, and results showed decreases in depression and stress for the healthcare professionals that took part in the experimental group. In a qualitative study, Rippstein-Leuenerberger and colleagues (2017), tested the "three good things" positive intervention among healthcare professionals and it was found that after the intervention their well-being levels increased. In a similar research, Davidson, Graham, Montross-Thomas, Norcross & Zerbi (2017) applied a positive intervention on healthcare professionals selected from four hospitals. 100% of the participants answered that they found the intervention helpful and 84% stated that they would recommend it to others. Recently, Luo, Li, Plummer, Cross, Lam, Guo et al. (2019), evaluated the "three good things" intervention among nurses. After the intervention, the score of emotional exhaustion was significantly reduced in the participants who did the exercise compared to the control group. Mindfulness-Based Stress Reduction intervention in healthcare professionals has also been shown to be effective in increasing positive variables such as positive emotions and quality of life, and reducing negative ones, such as stress, anxiety and burnout (Galantino, Baime, Maguire Szapary, & Farrar, 2005; Goodman & Schorling, 2012; Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro, Brown, & Biegel, 2007).

However, low participation rates were the most common limitation in these studies. Interventions that are less time-consuming are essential regarding that population. The flexibility provided by the online format of many positive psychology interventions makes it easier to apply to healthcare professionals who are characterized by a high workload (Bolier & Abello, 2014; Sin & Lyubomirsky, 2009), and that was why this form of administration was chosen in the present study.

## 2. Present Study

The aim of this study is to evaluate the effectiveness of a three-week online posi-

tive psychology intervention among Greek healthcare professionals with depression, anxiety, or stress and burnout. The hypothesis is that compared to the control group, the participants in the intervention group will demonstrate decreased levels of 1) depression; 2) anxiety; 3) stress; 4) burnout; and 5) negative emotions; as well as increased levels of 6) positive emotions; and 7) satisfaction with life. These improvements will remain for one month following the completion of the intervention. The research questions of this study are as follows:

1) Is an online positive psychology intervention effective in reducing levels of depression, anxiety, or stress and negative emotions compared to the control group?

2) Is an online positive psychology intervention effective in reducing levels of emotional exhaustion, depersonalization, and/or increasing personal accomplishment compared to the control group?

3) Is an online positive psychology intervention effective in increasing levels of positive emotions and satisfaction with life compared to the control group?

4) Are the gains achieved present 1 month after the completion of the intervention?

### 3. Method

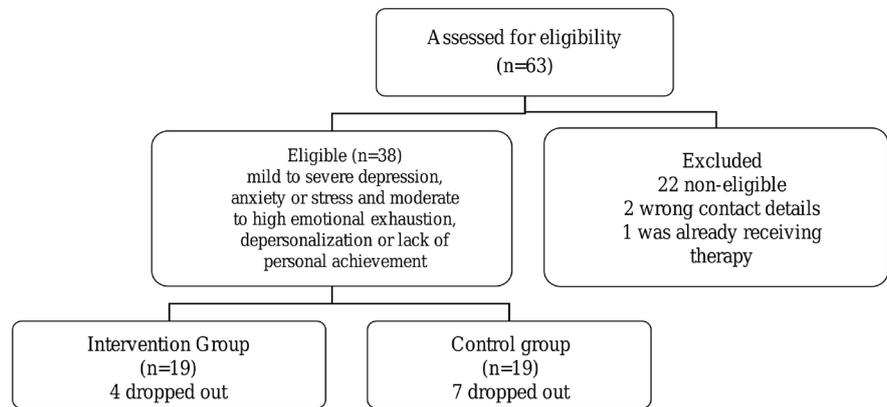
#### 3.1. Participants

The participants were healthcare professionals (nurses, psychologists, social workers, and physiotherapists) who were either employed in public health institutions or worked privately, and were recruited from Athens, Greece via the internet. An advert was posted on social media sites related to health professions one month prior to the start of the intervention. Out of sixty-three people who completed the original questionnaire, thirty-eight participated in the study forming the intervention group (19) and the control group (19) (See **Figure 1**). The inclusion criteria were: 1) to work with their specialty and 2) the presence of mild to very severe symptoms of depression, anxiety, or stress as measured by the Depression, Anxiety, Stress Scale (DASS) and moderate or high symptoms of emotional exhaustion, depersonalization or lack of personal accomplishment by the Maslach Burnout Inventory (MBI). Participants who were attending another psychotherapeutic treatment were excluded from the study. 89.5% (seventeen) of the participants in the intervention group were women and the mean age of the group was 33.9 (SD = 8.69). For the control group, 89.5% were women with a mean age of 31.7 (SD = 7.17). **Table 1** outlines the demographic characteristics of the intervention and control group.

#### 3.2. Measures

##### 3.2.1. Depression, Anxiety, Stress Scale (DASS-21)

We used the Greek standardized version of the DASS-21 scale (Lovibond & Lovibond, 1995; Lyrakos, Arvaniti, Smyrnioti, & Kostopanagiotou, 2011) to measure symptoms of depression, anxiety and stress. The respondents are requested



**Figure 1.** Selection process.

**Table 1.** Group demographics.

	Intervention Group	Control Group
<b>Sex n (%)</b>		
Women	17 (89.5%)	17 (89.5%)
Men	2 (11.5%)	2 (11.5%)
Age M (SD)	33.9 (SD = 8.69).	31.7 (SD = 7.17)
<b>Marital Status n (%)</b>		
Single	10 (52.6%)	12 (63.2%)
Cohabit	7 (36.8%)	7 (36.8%)
Divorced	2 (10.5%)	0 (0.0%)
<b>Education n (%)</b>		
University Graduate	12 (63.2%)	12 (63.2%)
MSc Degree	7 (36.8%)	7 (36.8%)
<b>Specialty n (%)</b>		
Psychologists	6 (31.6%)	9 (47.4%)
Social Workers	6 (31.6%)	4 (21.1%)
Doctors	1 (5.3%)	0 (0.0%)
Nurses	2 (10.5%)	3 (15.8%)
Physiotherapists	4 (21.1%)	3 (15.8%)
<b>Sexual orientation n (%)</b>		
Heterosexual	18 (94.7%)	17 (89.5%)
Homosexual	0 (0.0%)	2 (10.5%)
Bisexual	1 (5.3%)	0 (0.0%)

to choose their answer on a 4-point self-report Likert scale (0 “did not apply to me at all” to 3 “applied to me very much or most of the time”). In our sample, the internal consistency was  $\alpha = 0.79$  for depression,  $\alpha = 0.76$  for anxiety &  $\alpha = 0.85$  for stress.

### 3.2.2. Maslach Burnout Inventory (MBI)

The MBI (Maslach & Jackson, 1986) consists of 22 items. Emotional exhaustion is measured by 9 items, depersonalization by 5 items, and personal accomplishment by 8 items. All items have a 7-point Likert scale ranging from 0 “never experienced such a feeling” to 6 “experienced such feelings every day”. Internal consistency reliability in the present study was  $\alpha = 0.81$  for emotional exhaustion,  $\alpha = 0.88$  for depersonalization and  $\alpha = 0.64$  for lack of personal accomplishment.

### 3.2.3. Scale of Positive and Negative Experience (SPANE)

The SPANE comprises of 12 items with two dimensions, 6 items for positive and 6 items for negative feelings (Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi, & Biswas-Diener, 2010). Respondents choose their answer using a modified Likert-type scale ranging from 1 (very rarely or never) to 5 (very often or always). The summed score can range from 6 to 30 for each dimension and the two scores can be combined by subtracting the negative score from the positive score, and the resulting scores can range from  $-24$  to  $24$ . The scale has been validated in the Greek population by Kyriazos, Stalikas, Prassa, & Yotsidi (2018). In this study, the internal consistency was  $\alpha = 0.87$  for the positive experience and  $\alpha = 0.82$  for the negative experience.

### 3.2.4. Satisfaction with Life Scale (SWLS)

Diener’s Satisfaction with Life Scale was provided in its Greek version (Diener, Emmons, Larsen, & Griffin, 1985; Stalikas & Lakioti, 2012). It consists of 5 items that measure global life satisfaction and people choose their answer using a 7-point Likert scale (1 “strongly disagree” to 7 “strongly agree”). The internal consistency in the present study was  $\alpha = 0.88$ .

## 3.3. Procedure

All participants were informed on the purpose of the study and completed a consent form. Firstly, they answered a battery of questionnaires and those who were eligible to participate in the study, completed the same questionnaires at the beginning, at the end, and one month after the intervention. All questionnaires were distributed online. The members of the control group were offered the opportunity to attend the intervention after the completion of the study. The intervention ran for 3 weeks.

The content of the current intervention was based on evidence-based positive psychology activities, which have been previously applied on clinical or non-clinical population and healthcare professionals, and have been found to be

effective in reducing symptoms of depression, anxiety, or stress, and burnout, as well as improving wellbeing (Curry, Rowland, Van Lissa, Zlotowitz, McAlaney, & Whitehouse, 2018; Enrique, Bretón-López, Molinari, Baños, & Botella, 2017; Loveday, Lovell, & Jones, 2018; Luo et al., 2019; Rippstein-Leuenberger et al., 2017; Seligman, Steen, Park, & Peterson, 2005). They are covered by three key topics of well-being: 1) gratitude, 2) kindness, and 3) optimism. The placebo control exercises were derived from previous randomized controlled trials and have been found to have a neutral effect on the participants of the studies (Giannopoulos & Vella-Brodrick, 2011; Seligman et al., 2005; Trew & Alden, 2015).

At the beginning of each week participants received an e-mail with instructions tailored to each exercise, and in the middle of the week they received a reminder e-mail. Participants in the intervention group were asked to complete three positive psychology activities, whereas participants in the control group were asked to complete three placebo exercises.

### 3.3.1. Positive Psychology Activities

**Three good things.** In the first week, participants were asked to write down three things that went well each day. They were also asked to provide a causal explanation for each good thing (Seligman et al., 2005).

**Acts of kindness.** In the second week, participants were asked to perform five acts of kindness within the week, all in one day. Such actions have been described as behaviors that benefit other people or make them happy, and usually have some cost to themselves (Lyubomirsky, Sheldon, & Schkade, 2005).

**The best possible self.** In the third week, participants were asked to imagine their best selves in the future having accomplished all their dreams. They were instructed to choose a different area of their lives each day for a week (e.g. career, family life, hobbies or personal interests, social life, physical health, mental health, community involvement) and then write down their thoughts and what they needed to do to make it happen in reality (Sheldon & Lyubomirsky, 2006).

### 3.3.2. Placebo Exercises

**Placebo control exercise: Daily events.** In the first week, participants were instructed to write down three daily events every night for 1 week (Giannopoulos & Vella-Brodrick, 2011).

**Placebo control exercise: Early memories.** In the second week, participants were asked to write about their early memories every night for 1 week (Seligman et al., 2005).

**Placebo control exercise: Life events.** Participants were asked to pay attention and then record at least 3 events that occurred each day (Trew & Alden, 2015).

## 4. Results

The data were examined for the normality of their distribution, to decide whether parametric or non-parametric tests will be used. All data followed the

normal distribution. At the baseline there were no statistically significant differences between the control and the intervention group regarding their sociodemographic characteristics or variable measures therefore the two groups can be considered equivalent (**Table 1 & Table 2**). For the analysis of the data the program SPSS Statistics version 25 was used.

To answer the first, second and third research questions that are whether the intervention group showed statistically significant differences compared to the control group, a series of two-tailed paired samples t-tests were employed to examine pre and post changes for each group. Answering the first question the results showed that the intervention group demonstrated a statistically significant difference in the scores of depression ( $t = 3.410, p = 0.004$ ), anxiety ( $t = 3.150, p = 0.007$ ), and stress ( $t = 3.213, p = 0.006$ ), but not in the scores of negative emotions ( $t = 1.853, p = 0.084$ ) before and after the intervention. No statistically significant difference was found in any of the post intervention outcome of the control group: depression ( $t = -0.902, p = 0.386$ ), anxiety ( $t = 1.173, p = 0.266$ ), stress ( $t = 1.514, p = 0.158$ ), and negative emotions ( $t = -1.363, p = 0.200$ ).

Similarly, to test the second hypothesis, paired sample t-tests were used for each group. For the intervention group, there was a statistically significant decrease in the levels of emotional exhaustion ( $t = 2.433, p = 0.028$ ), but no differences observed in depersonalization ( $t = 1.235, p = 0.236$ ), and personal accomplishment scores ( $t = -0.823, p = 0.423$ ). No statistically significant changes were observed for the control group: emotional exhaustion ( $t = 1.242, p = 0.240$ ), depersonalization ( $t = 0.650, p = 0.529$ ), and personal accomplishment ( $t = -0.740, p = 0.475$ ).

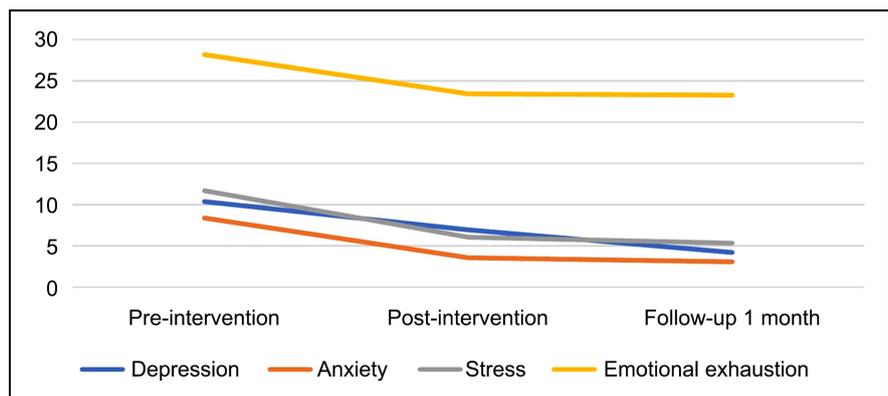
**Table 2.** Mean scores for outcome measures by group for pre-group (Pre) and post-group (Post).

	Intervention Group		Control Group	
	Pre	Post	Pre	Post
	M(SD)	M(SD)	M(SD)	M(SD)
Depression	10.37 (4.17)	6.94 (4.21)	6.83 (3.32)	8.50 (5.63)
Anxiety	8.38 (4.25)	3.56 (2.98)	5.75 (3.36)	4.42 (5.64)
Stress	11.69 (3.75)	6.06 (4.13)	7.17 (3.56)	5.33 (3.47)
Emotional Exhaustion	28.19 (9.07)	23.44 (9.79)	19.75 (8.90)	17.78 (9.99)
Depersonalization	13.13 (6.42)	11.50 (4.25)	8.25 (5.73)	7.58 (4.58)
Personal Accomplishment	27.75 (5.19)	28.75 (4.87)	33.17 (5.34)	34.42 (6.96)
Satisfaction with Life	19.69 (7.19)	26.75 (3.23)	22.27 (3.92)	23.08 (3.84)
Positive Emotions	16.81 (4.13)	17.69 (3.61)	19.92 (3.91)	21.50 (4.46)
Negative Emotions	20.56 (2.94)	18.44 (3.46)	16.50 (4.31)	19.75 (7.94)

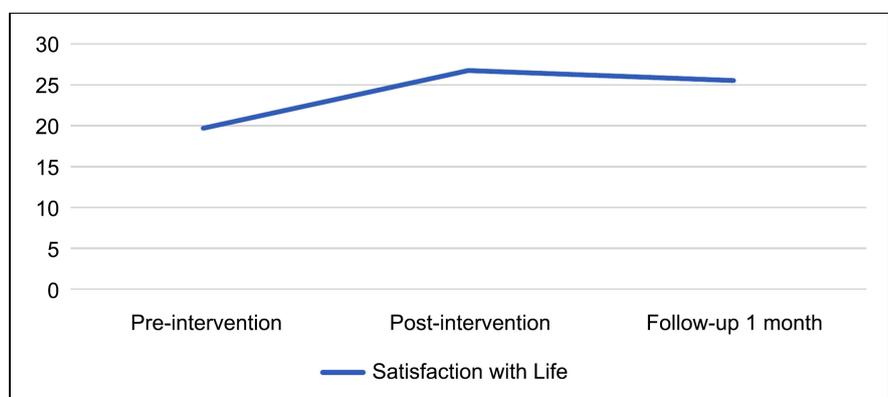
For the third research question, two-tailed paired sample t-tests revealed that there was a statistically significant increase in life satisfaction ( $t = -3.590$ ,  $p = 0.003$ ), but not in positive emotions scores ( $t = -0.687$ ,  $p = 0.503$ ) for the intervention group. There were no statistically significant differences either in life satisfaction ( $t = -0.928$ ,  $p = 0.374$ ), or in positive emotions scores ( $t = -1.144$ ,  $p = 0.277$ ) for the control group.

To test the fourth research question, “Are the gains achieved present 1 month after the completion of the intervention”, a series of t-tests comparing the post outcome measures with the 1-month follow up were conducted for the intervention group. According to the findings, there was no significant difference for depression ( $t = 2.011$ ,  $p = 0.064$ ), anxiety ( $t = 0.712$ ,  $p = 0.488$ ), stress ( $t = 0.609$ ,  $p = 0.552$ ), emotional exhaustion ( $t = 0.485$ ,  $p = 0.635$ ), and satisfaction with life ( $t = 1.513$ ,  $p = 0.153$ ). These results demonstrate that the variables levels in which participants showed improvement after the positive psychology intervention remained at the same levels 1 month after the completion of the intervention.

The graph below indicates the changes in depression, anxiety, stress, and emotional exhaustion variables for the intervention group (Figure 2). The significant increase in satisfaction with life is illustrated in Figure 3.



**Figure 2.** Depression, anxiety, stress, and emotional exhaustion pre, post and 1 month after the positive psychology intervention.



**Figure 3.** Satisfaction with life pre, post and 1 month after the positive psychology intervention.

## 5. Discussion

To our knowledge, the current study was the first to evaluate the effectiveness of an online positive psychology intervention among Greek healthcare professionals with depression, anxiety, or stress and burnout.

The hypotheses of our study were partially confirmed. The participants of the positive psychology intervention reported statistically significant lower levels of depression, anxiety, stress, and emotional exhaustion after the completion of the intervention. There was also a significant increase in their levels of satisfaction with life. All changes were maintained one month after the completion of the intervention. The control group, that received placebo exercises, did not demonstrate any statistically significant differences. Since both groups were similar in other characteristics before the intervention, we can assume that the changes observed in the intervention group are due to the positive psychology intervention. These findings enrich the existing literature regarding the effectiveness of positive psychology interventions among healthcare professionals (Bolier et al., 2014; Cheng et al., 2015; Davidson et al., 2017; Luo et al., 2019; Rippstein-Leuenberger et al., 2017).

In line with our expectations, the results of this study indicated that this positive psychology intervention led to an important decrease in all three dimensions of negative emotions (depression, anxiety, stress). As other studies have shown, the “three good things”, “acts of kindness” and “the best possible self” interventions, reduce participants’ negative symptoms such as stress, depression (Cheng et al., 2015; Enrique et al., 2017; Paviglianiti & Irwin, 2017; Seligman et al., 2005) and anxiety (Kerr, O’Donovan, & Pepping, 2014).

The MBI results detected changes in the emotional exhaustion dimension of burnout but not in the personalization and personal accomplishment dimensions. This finding seems to be consistent with the results of a previous study, where the “three good things” intervention induced a decrease only in the dimension of emotional exhaustion among nurses with burnout (Luo et al., 2019). According to the burnout model of Taris, Le Blanc, Schaufeli, & Schreurs (2005), emotional exhaustion is the key dimension and the first stage of burnout. An individual’s reduced emotional exhaustion, can lead to a reduction in depersonalization, which in turn increases personal accomplishment. Thus, we can assume that the decrease of emotional exhaustion observed in the intervention group, may affect the other two dimensions in the long run.

Furthermore, the results showed that this positive psychology intervention led to a significant increase in life satisfaction levels. As has been observed in previous studies, the three positive psychology activities that were delivered to the participants of the intervention group, can positively change the way one evaluates life (Buchanan & Bardi, 2010; Boehm, Lyubomirsky, & Sheldon, 2011; Manthey, Vehreschild, & Renner, 2014). That finding has significant value as it has been found that among the most effective strategies that help healthcare professionals deal with stress are the positive evaluations of everyday life events

(Koinis, Giannou, Drantaki, Angelaina, Stratou, & Saridi, 2015).

No changes were detected in SPANE variable. As it seems, this intervention had an impact on the cognitive but not on the emotional component of well-being (Mitchell, Stanimirovic, Klein, & Vella-Brodrick, 2009). Two possible conditions are considered to explain this phenomenon. Diener, Suh, Lucas, and Smith (1999) introduced a definition of subjective well-being, arguing that it consists of three different components: high life satisfaction (cognitive factor), frequent positive emotion, and rare negative emotion (emotional factor). They also stressed that these factors are independent of each other and should be measured separately. This means that a person may demonstrate high levels of life satisfaction, and at the same time he may report low levels of positive emotion, and/or high levels of negative emotion, and vice versa. Alternatively, the fact that the majority of participants in the present study showed moderate to high symptoms of depression, anxiety or stress, may have had an impact on this result. According to Kerr et al. (2014), such positive interventions may require more time to cause changes in the levels of positive and negative emotions, if they are delivered to clinical population.

As we expected, all changes were maintained one month after the completion of the intervention. Previous research is consistent with this finding as it has been shown that positive interventions are a very useful tool for improving mental health and their effect can be longlasting (Cohn & Frederickson, 2010), as it can be a product of learning (Seligman et al., 2005).

### 5.1. Limitations and Future Directions

This study has a few limitations that offer important directions for future research. First, it should be noted that the present study was performed during the period of lockdown due to the COVID-19 virus pandemic. This may have affected the results to some extent, so the study should be repeated in a neutral period, to examine whether specific variables, such as high participation rates and compliance with the activities would remain at the same levels.

Also, the sample of the study was small and consisted mainly of women. Thus, our results might not be generalizable to other healthcare professionals with more diverse demographics. Future studies should aim to recruit a larger sample of to explore whether the same results will be extracted.

Another important factor to consider is that due to time constraints, we were unable to perform another follow-up measure. Future studies could include follow-up measures three or six months later to ensure that the gains are maintained and potentially detect significant differences in other measures, such as depersonalization, personal accomplishments, and positive or negative emotions, as it may take longer for changes to occur in these variables.

Finally, although the present study was conducted using self-report questionnaires, it would be interesting for future studies to use a combination of quantitative and qualitative data in order to eliminate the common method variance

which may have impacted our results (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), and examine which are the components of positive interventions that contribute to mental health gains.

Future research would do well to implement this online positive psychology intervention to similar vulnerable population that has been shown to suffer from burnout symptoms, such as teachers or employees of large organizations (Hakanen, Bakker, & Schaufeli, 2006. Maslach, Schaufeli, & Leiter, 2001). It could also be used in specific clinical population, like people with anxiety disorders, depression, etc., as it has been shown that such interventions may be useful before treatment because they reduce the negative impact of waiting for treatment (Kerr et al., 2014).

## 5.2. Implications

Overall, the results of the present study show that this online positive psychology intervention has significant benefits for this special population. From a theoretical perspective, scientific knowledge related to the effectiveness of positive psychology interventions among healthcare professionals is broadened. From a clinical perspective, this brief online positive psychology intervention offers opportunities for the large and growing numbers of healthcare professionals to enhance well-being and alleviate negative symptoms and burnout, by way of self-care. Immersing such a mental health program within a structural workplace strategy may help to contribute to the success of this intervention. It could be implemented in a broad range of healthcare settings, as it constitutes a less time consuming and more cost-effective method to develop psychological resilience and empower their emotional and cognitive skills. When healthcare professionals feel that their work environment provides support and nurtures their psychological needs, they will be more likely to function well and invest their time and energy in their patients (Bakker, 2011). Finally, during a crisis period, like the Covid-19 pandemic, the dissemination of such an intervention on as many healthcare professionals as possible, combined with appropriate surveillance and encouragement, could be beneficial on public mental health as a whole.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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