A Positive Psychology Intervention With Emerging Adults

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Abstract

This study assessed the impact of a positive psychology intervention in a sample of 40 young men (35%) and women (65%) aged 18-30 years. Participants were 1st and 4th year undergraduate University students, postgraduate students and working youths. The study examined the effects of a battery of interventions commonly used in positive psychology interventions, including a video and three exercises (i.e. expressing gratitude, best possible selves, goal setting) on character strengths, hope, gratitude and social relations. Intervention activities were carried out during a session that lasted an hour and a half, while a further half-hour evaluation session took place after a two-week interval. Marked positive changes were revealed with regards to youths' well-being as a result of the intervention. In particular, elevated levels of hope, perceptions of social support and ability to handle social stress successfully, as well as levels of three out of six key character strengths, i.e. courage, humanity/love and transcendence were observed. Influences of demographic and socio-psychological characteristics of youths on the above variables; constellations of intricate relations between them; as well as certain developmental patterns were also highlighted. The repercussions of the above findings for the advancement of positive psychology knowledge and interventions are discussed.

Keywords: positive psychology intervention, character strengths, hope, gratitude, social relations

Introduction

In their inaugural paper on positive psychology, Seligman and Csikszentmihalyi (2000) described it as a psychology of positive human functioning aimed to "achieve scientific understanding and inspire effective interventions to build thriving in individuals, families, and communities" (p. 5). Thirteen short years later, a number of interventions based on its theoretical premises, methodologies and tools have taken place worldwide, in an effort to achieve its main goals of augmenting well-being and facilitating flourishing (Seligman, 2011). Positive psychology interventions include "treatment methods or intentional activities aimed at cultivating positive feelings, positive behaviors, or positive cognitions" (Sin & Lyubomirsky, 2009, p. 468). Such interventions often compare hedonic (e.g. positive affect, life satisfaction. Diener, 1984) and eudaimonic (e.g. positive relations, purpose in life; strengths. Ryff, 1989; Seligman, Steen, Park, & Peterson, 2005) dimensions of well-being, as well as their effectiveness in increasing and sustaining well-being. Positive interventions can range from single exercises (e.g. writing a gratitude letter) to large, long-term programs (Lyubomirsky, King, & Diener, 2005; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). In a meta-analysis of positive interventions, Sin and Lyubomirsky (2009) found evidence of their effectiveness in enhancing well-being and alleviating depression. In other studies, the positive effects of such interventions included physical and mental health, successful coping and closer relationships (Cohn & Fredrickson, 2010).

Lyubomirsky, Sheldon, and Schkade (2005) proposed a model of happiness in which three factors contribute to well-being, namely one's a) genetically determined happiness starting point, which they ascertain accounts for about 50% of one's overall levels of well-being; b) life circumstances, which were found to account for a further 10% of individual differences in well-being; and c) positive cognitive, behavioural and goal-based activities, which can account for up to 40% of variance in well-being. People have been found willing to engage in intentional activities, such as expressing their gratitude to others, performing acts of kindness, energetically setting and pursuing intriguing goals or thinking optimistically (Lyubomirsky, King, & Diener, 2005). Such intentional activities, be they emotional, cognitive or behavioural in nature, when carried out in the context of positive psychology interventions using optimal timing and variation are believed to bring about lasting positive change in well-being (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011). When such willful and self-directed activities focus on the development of one's prominent character strengths, or those "positive traits reflected in thoughts, feelings and behaviors" (Park, Peterson, & Seligman, 2004, p. 613), they can lead to "more positive emotion, to more meaning, to more accomplishment, and to better relationships" (Seligman, 2011, p. 24)[i]. These latter elements, alongside engagement, form the core of Seligman's (2011) latest conceptualization of well-being and flourishing, as portrayed in his PERMA model of well-being. In this model, examining one's own basic elements of well-being, identifying which ones matter the most for oneself, setting goals to achieve them and monitoring progress are key routes to achieving and maintaining well-being.

The positive psychology approach informed the present intervention study by shaping its scope, concepts, aims and activities. In accordance with the PERMA model (Seligman, 2011), three main routes of fostering well-being were selected for inclusion in the intervention. a) The first involved enhancing *positive emotions*, through expressing gratitude. b) The second route evolved around *setting* meaningful *goals* (with the aid of visualizing best possible selves and a goal setting exercise). c) The third route concerned *monitoring* the progress made in the main intervention for some time (three good things home exercise). Exercising the above three routes to well-being with the aid of appropriate intervention activities was expected to effect positive change in a number of personal and social characteristics of individuals, such as the character strengths of gratitude and hope, as well as the quality of their social relations.

The expression of gratitude has been repeatedly and strongly linked to a number of positive psychological outcomes such as hope, well-being, pride, optimism, prosocial relationships and positive mood in youth (Bono & Froh, 2009). Wood, Froh, and Geraghty (2010) propose a model of gratitude that incorporates both the more traditional notion that it arises as a response to receiving help from others, and the idea that it works by habitually "focusing on and appreciating the positive aspects of life" (p. 890). This conceptualisation of gratitude suggests that gratitude incorporates and manifests itself as an orientation in life that notices and appreciates the positive in the world. This view of gratitude fits in well with a positive psychology perspective, while the relevant literature suggests that gratitude figures among the most prominent strengths that consistently, repeatedly and robustly enhance well-being and life satisfaction (Park, Peterson, & Seligman, 2004). Sheldon and Lyubomirsky (2006) suggest that this strong link between gratitude and positive affect and emotions can be explained by the fact that grateful thinkers tend to savour positive life experiences more intensely than others; this may render grateful thinkers less prone to experiencing negative emotions. This focus on the positive may, in turn, counteract the effects of 'hedonic adaptation', or taking one's positive life experiences for granted. Moreover, habitually expressing gratitude may be an adaptive coping strategy aiding positive reinterpretation of adverse life experiences, as well as a stimulant of helping behaviour, which in turn may foster closer social bonds. Indeed, gratitude has been linked with perceived

quality of relationships (Emmons & McCullough, 2003), and with greater peer and family support; it also promotes relationship formation, maintenance and satisfaction (c.f. Wood et al., 2010).

Goal setting is one of the main routes to well-being, as it provides focus in one's efforts to accomplish meaningful life goals and achievements. Seligman's (2011) rationale for including positive accomplishments in his PERMA model centred on the observation that people seem to need goals and challenges in their life, in order to achieve feelings of competence and mastery. There is also a wealth of theories, developed prior to the emergence of positive psychology, which emphasise how goals help self-regulation (Carver & Scheier, 1981). Locke and Latham's (1990) goal setting theory suggests that conscious human behaviour is purposeful and regulated by one's goals. Numerous studies found evidence that goals facilitate and direct task performance, and are moderated by goal difficulty, individual ability and commitment to the goal (Latham & Locke, 1991). Sheldon and Elliot (1999) proposed a self-concordance model of goals, in the context of which research findings suggested that matching goals to one's developing interests and core values is linked to greater overall well-being and particular facets of it, such as autonomy, competence and relatedness.

Closely related to goal setting is the third route to well-being examined here, which involves monitoring progress toward goal achievement. Seligman (2011) recommends keeping track of the daily amount of time or effort dedicated to pursuing personally meaningful goals. This facilitates observing discrepancies between the goals set and what one does to achieve them. Self-monitoring activities can help bridge this gap, allowing people to correct and refocus their attention on the goals committed to. Theories that examine purposive behaviour make a distinction between goal setting and goal striving (Bagozzi & Edwards, 1998). A distinction is traditionally made between the pre-decisional, the preactional and the actional phase on the one hand, and the final postactional phase of setting and pursuing goals on the other. The final phase includes an appraisal of goal attainment compared to one's initial wishes and concludes with a decision to either continue or disengage from goal pursuit. Maintenance or discontinuation of goal pursuit is mediated by situational and interpersonal factors. Such theories have been successfully applied to health-related outcomes, such as weight loss (Bagozzi & Edwards, 1998), but also to educational settings (e.g. Allodi, 2010).

The Scope of the Intervention Study

This paper describes an exploratory study with a dual focus, a methodological and a conceptual one. As a pragmatic, randomised feasibility study it seeks to determine feasibility of measurement. The second focus of this exploratory study is the outcome of the intervention activities. The study examines whether a positive psychology intervention can affect emotional, cognitive and behavioural components of well-being in a sample of Greek emerging adults. Moreover, the intervention design sought to detect any differences in the effectiveness of the activities for different groups of young persons, most of them University students, but also working youths. To the best of the author's knowledge, no intervention studies directly based on the traditions of positive psychology and Seligman's conceptualization of well-being have been carried out in Greece to date; hence the need to explore how such conceptualizations can be translated into activities that are effective in the context of an intervention with young adults. One of the main goals of positive psychology is to promote well-being; this orientation toward the positive sets it apart from more traditional approaches to mental health that focused on illness and maladaptation (Seligman, 2002). It is, perhaps, high time that this emphasis on promoting the positive is brought to this Mediterranean part of the world. Cultural issues, such as the effectiveness of positive psychology intervention activities for members of more individualistic versus collectivistic societies, also need to be carefully examined,

in order to test the contentions of Lyubomirsky et al. (2011) regarding the need to target positive psychology intervention activities according to cultural background.

Overall, this intervention aspired to instigate changes in participants' character strengths of gratitude and hope, in their cognitive ability to set and monitor goals, and in (behavioural aspects of) their social relations. The intervention strategy involved three activities commonly used in positive psychology interventions, such as the Lyubomirsky et al. (2011) study mentioned above: a) a gratitude exercise; b) the "best possible selves" exercise; and c) a target setting activity. These were supplemented by the "three good things" as a home exercise.

Method

Sample

The study sample consisted of forty emerging adults, aged between 18 and 30 years of age[ii] (M_{age} = 22.9, *SD* = 3.5) who were willing to participate in the intervention. Participants were *n* = 14 (35%) men and *n* = 26 (65%) women, residents of the city of Ioannina in Northwestern Greece, who either studied at the Department of Primary Education, University of Ioannina or worked in the same city. Participants were classified into four sets of groups (two groups per set – five participants per group) based on their age and work or study status: a) The first set of (two) groups comprised first year undergraduate students (aged 18-19 years); b) The second set included fourth year undergraduate students (aged 21-22 years); c) the third set consisted of postgraduate students (studying for an MSc or a PhD) at the University (aged 22-25 years); and the fourth set of groups comprised youths (aged 25-30 years) who worked in Ioannina and were referred to the investigator by participants in the first three groups. Half the sample (*n* = 20) originated from higher socio-economic status (SES) families; a further 30% (*n* = 12) came from middle SES families; while 20% (*n* = 8) originated from lower SES families. 80% (*n* = 22) of participants were born and raised in Greece, with a further 10% (*n* = 4) being raised abroad, while the remaining 10% (*n* = 4) originated from another European country. 90% (*n* = 36) of the sample had at least one other sibling. 75% (*n* = 30) were involved in a romantic relationship at the time of the study. Table 1 details the living situation of participants in each group, and Table 2 shows participants' satisfaction with their living situation by group. It is worth mentioning that more than 80% of participants were quite satisfied with their living arrangements.

Table 1

Living situation by group (Total N = 40)

Live…	1st year undergraduates	4th year undergraduates	Post-graduates	Working	Total
With parents	0	0	4 (40%)	0	4 (10%)
Alone	4 (40%)	6 (60%)	2 (20%)	2 (20%)	14 (35%)
With partner	0	0	2 (20%)	4 (40%)	6 (15%)
With housemate(s)	2 (20%)	2 (20%)	2 (20%)	2 (20%)	8 (20%)
With relatives	0	2 (20%)	0	0	2 (5%)
Univ. House of Residence	4 (40%)	0	0	2 (20%)	6 (15%)

Table 2

Satisfaction with living situation by group (Total N = 40)

Satisfaction	1st year undergraduates	4th year undergraduates	Post-graduates	Working	Total
Very satisfied	8 (80%)	8 (80%)	6 (60%)	4 (40%)	26 (65.5%)
A little satisfied	0	2 (20%)	2 (20%)	2 (20%)	6 (15%)
Neither satisfied nor dissatisfied	0	0	2 (20%)	2 (20%)	4 (10%)
A little dissatisfied	0	0	0	2 (20%)	2 (5%)
Very dissatisfied	2 (20%)	0	0	0	2 (5%)

Procedure

Two intervention sessions with each group were carried out at the Department of Psychology, University of Ioannina. There was a two-week lapse between the first and the second meeting. The first session (Time 1) lasted for about an hour and a half and entailed the following tasks in the order presented below: a) completion of a questionnaire battery; b) viewing a video on positive emotions and thinking; c) three positive psychology exercises, as described in the following section; and d) description of home exercises. The second session (Time 2) lasted for about half an hour and included: a) second completion of the questionnaire battery; and b) (verbal) assessment of the whole intervention experience.

Materials

This section describes the materials used for both the intervention and the questionnaire components of this study.

Intervention Materials

The following materials were used in the following order during the first intervention session.

A *video* titled "Your Secret", by French graphic designer and photographer Jean-Sebastien Monzani (http://www.you-tube.com/watch?v=rF0LZWWxSH0) was shown to participants first, in order to create a positive mindset. In the creator's own words, "this short movie evokes a complicity between the spectator and the narrator. Something cheerful, something mysterious, something simple, something that hopefully maybe brightens your day".

The video was followed by a *gratitude* exercise. This exercise, frequently used in similar positive psychology interventions (Sheldon & Lyubomirsky, 2006; based on Emmons & McCullough, 2003), aims to cultivate a sense of gratitude in participants. It was pointed out that, as with all exercises included in this intervention, the gratitude exercise was strictly personal and all materials generated during its completion would only be seen and kept by participants. They were asked to write down different small and big things in their lives for which they feel grateful. It was explained that focusing on things for which we are grateful energizes us, relieves stress, makes us cheerful and happy and brings about a sense of fulfillment.

In order to maintain any positive effects brought about by the gratitude exercise, participants were asked to engage in the *"Three good things"* exercise as homework (Seligman, Steen, Park, & Peterson, 2005). Participants were offered a diary and were instructed to write down, every day for the next two weeks, three things that made their day pleasant and unique. They were encouraged to reflect on why these things happened. If they did not think

that something special had taken place during a day, they were encouraged to note what they did in order to improve this situation.

Subsequently, the *"best possible selves"* exercise was introduced (Sheldon & Lyubomirsky, 2006; adapted from King, 2001). In this activity participants were asked to imagine themselves in the future, after having achieved all their targets and dreams and when everything in their life has taken the best possible turn. Subsequently, they were instructed to write down how they imagine their best possible self in the future and to describe it in as many details as they could.

Participants were then asked to engage in a *"goal setting"* exercise (based on Snyder, Feldman, Taylor, Schroeder, & Adams, 2000). In this final activity, participants were instructed to set goals for their life and to write them down, keeping in mind all the positive things they imagined for themselves in the previous exercises. They were instructed first to write down the three most important goals for them, then to prioritise them and, finally, to rewrite them in such a way as to express expectation rather than avoidance (e.g. "I want to …", not "I don't want to…").

Finally, participants were asked to complete an *evaluation sheet* in order to assess the total intervention experience. Using open-ended questions, participants were asked to evaluate the intervention, i.e. how they liked it overall, how they felt after completing it, what they liked best and what they would change.

Questionnaire Battery

A questionnaire battery was administered to participants for completion prior to delivering the intervention for the first time, in order to establish baselines for a number of their demographic characteristics (such as age, gender, SES, siblings, origin, study vs working status, year of studies, marital status, living conditions and satisfaction with them, romantic relations); and also their levels of hope, gratitude, character strengths and social relations. The same questionnaire battery was administered to participants during the second meeting, in order to observe any changes in the levels of the above characteristics, thus evaluating the impact of the intervention.

In order to assess *gratitude* levels, The Gratitude Questionnaire-Six Item Form, GQ-6 (McCullough, Emmons, & Tsang, 2002) was included in the battery. This is a 6-item scale, rated on a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree). Sample items include "I have so much in life to be thankful for" and "Long amounts of time can go by before I feel grateful to something or someone". Cronbach's α for this study was a) for the first completion of the questionnaires, α = .61; and b) for the second completion, α = .58. A higher score indicates higher levels of gratitude.

Hope levels were assessed using the Children's Hope Scale (Snyder, Hoza, et al., 1997)[iii]. This 6-item scale is rated on a 6-point Likert-type scale (1 = never, 6 = always). Sample questions include "I think I am doing pretty well" and "Even when others want to quit, I know that I can find ways to solve the problem". Cronbach's α for this study was a) for the first completion of the questionnaires, α = .72; and b) for the second completion, α = .74. A higher score indicates higher levels of hope.

Participants' *character strengths* were assessed using the VIA Survey of Character Strengths – SCS (Seligman, 2002). This scale comprises 48 items rated on a 5-point Likert-type scale ranging from "very much like me" to "very much unlike me". Each strength is measured by two items, a positively and a negatively phrased one. Sample items included "I am always curious about the world" (wisdom subscale) and "I am in control of my feelings" (temperance subscale). The scale items fall into six subscales, namely wisdom and knowledge, courage, humanity,

justice, temperance and transcendence. The reliability of the whole scale was a) for the first completion, α = .64 (αs for the subscales ranged from α = .32 - α = .66); and b) for the second completion, α = .61 (αs for the subscales ranged from α = .28 - α = .69). A high SCS score suggested that participants scored highly on a number of character strengths.

For the assessment of participants' *social relations*, the Relationship Questionnaire (Stinson et al., 2008) was used. This scale consists of 16 items which fall into three subscales as follows: a) 9 items measure *social support* and are answered using a 7-point Likert-type scale, ranging from "strongly disagree" to "strongly agree". Sample item: "I am comfortable being close to my friends". Cronbach's α for this subscale was a) for the first completion, α = .76; and b) for the second completion, α = .78. b) 2 items measure *social integration.* Participants are asked to indicate how many friends they have who live locally and at a distance (0 to 10, or more than 10). Cronbach's α for this subscale was a) for the first completion, α = .54; and b) for the second completion, α = .66. c) 5 items evaluated *social stress*, in which participants are asked to answer two questions for the following persons: friends, family, partner, people at work/place or education, neighbours and others. The first question refers to *sources of stress* (responses range from 0 = no stress to 4 = severe stress), while the second to whether participants can *handle this stress* (responses range from 1 = strongly disagree to 6 = strongly agree). Cronbach's α for sources of stress was a) for the first completion, α = .51; and b) for the second completion, α = .71. Cronbach's α for handling of stress was a) for the first completion, α = .51; and b) for the second completion, α = .69[iv]. A higher score in the subscales indicates higher levels of social support, integration and stress.

Results

This section describes the results of the intervention and the questionnaire battery administered.

Overall Evaluation of the Intervention

Due to the small sample size, and in the interests of preserving participants' anonymity as regards their general evaluation of the intervention, no demographic information was collected on the evaluation sheets administered after all intervention activities were completed during the first session (Time 1). In general, it appeared that the intervention was very well received. All participants reported that they found the intervention original, pleasant and fun. 24 out of 40 (60%) participants indicated that the intervention process made them ponder on the quality of their lives. 16 (40%) of the youths responded that they particularly liked the "Your Secret" video, because it moved and surprised them, that it made them think (be puzzled in a positive manner), and that it was optimistic. 6 (15%) participants greatly appreciated the gratitude exercise, while two of them suggested that they were enthused about and could not wait to start the home exercise ("three good things"). 28 (70%) reported that after the intervention they felt strange (in a positive way), positively charged and more optimistic. The only negative comment made by 6 (15% participants) was about the length of the questionnaire battery.

At the second session (Time 2), 32 (80%) of the people who had actually engaged in the home exercise verbally communicated to the researchers that their mood was much improved. 36 (90%) stated that after the intervention they started having more positive thoughts, and that they had found it easier to handle stressful situations in the two weeks between the first and the second meeting.

Research Findings

Table 3 shows means, standard deviations and Pearson's r correlations between the independent study variables and their subscales for Time 1. Statistically significant positive correlations were identified between a) hope and the character strength of humanity and love ($r = .35$, $p < .05$); b) gratitude and courage ($r = .38$, $p < .01$); c) the character strength of courage and those of humanity *(r = .47, p < .001)*, justice (*r* = .59, *p* < .001) and transcendence (*r* = .36, *p* < .05), and also between courage and sources of social stress (*r* = .39, *p* < .001); and d) the character strengths of justice and temperance (*r* = .44, *p* < .001). e) a negative correlation was observed between temperance and social integration (*r* = -.33, *p* < .05); and finally f) a positive correlation was evident between handling of social stress and social support (*r* = .35, *p* < .01) and a negative correlation between handling of social stress and social integration (*r* = -.47, *p* < .001).

Table 3

Correlations between the independent variables and their subscales for Time 1

Measure	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Hope	4.25	.65											
2. Gratitude	5.66	.42	.25										
Character strengths													
3. Wisdom	3.24	.25	.16	-.23									
4. Courage	3.30	.54	.18	.38**	.04								
5. Humanity	3.08	.56	.35*	.09	.06	.47***							
6. Justice	3.13	.36	-.16	.14	-.16	.59***	.14						
7. Temperance	3.15	.54	-.29	-.11	.00	.15	-.20	.44***					
8. Transcendence	3.05	.31	.25	.09	.31	.36*	.17	.29	-.15				
Social relations													
9. Social support	5.97	.71	.00	.04	.14	-.07	.08	-.03	-.21	.10			
10. Social integration	1.85	.57	.07	.13	-.13	-.13	.06	-.02	-.33*	-.30	-.03		
11. Sources of social stress	1.92	.56	.10	-.09	-.24	.39**	.17	.30	.16	.19	-.14	.11	
12. Handling social stress	4.82	.58	.20	-.06	.25	.01	.25	.06	.02	.04	.35**	-.47**	-.21

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

Table 4 shows means, standard deviations and Pearson's r correlations between the independent study variables and their subscales for Time 2. During the second administration of the questionnaire battery, a) a number of statistically significant positive correlations were identified between hope and gratitude ($r = .49$, $p < .001$), as well as hope and handling social stress ($r = .51$, $p < .001$); b) a negative correlation appeared between gratitude and wisdom ($r = -.55$, $p < .001$). Positive correlations were found between c) courage and temperance ($r = .52$, $y < .001$), transcendence ($r = .39$, $y < .01$), social integration ($r = .51$, $p < .001$), and also sources of social stress ($r = .44$, $p < .01$); d) humanity and love and social support ($r = .38$, $p < .05$), and integration ($r = .32$, $p < .01$; e) justice and transcendence ($r = .65$, $p < .001$); g) handling social stress and social support ($r = .34$, $p < .05$), and also a negative one with sources of social stress ($r = -.45$, $p < .001$); and h) sources of social stress and social integration ($r = .34$, $y < .05$).

Table 4

Correlations between the independent variables and their subscales for Time 2

Measure	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Hope	4.50	.59											
2. Gratitude	5.82	.66	.49***										
Character strengths													
3. Wisdom	3.32	.21	.12	-.55***									
4. Courage	3.45	.53	-.03	-.08	.00								
5. Humanity	2.83	.45	.12	.09	.07	.185							
6. Justice	3.04	.31	.18	.19	-.04	.24	.18						
7. Temperance	3.08	.51	.03	.07	-.28	.52***	-.09	.17					
8. Transcendence	3.18	.31	.02	-.17	.07	.39**	.01	.65***	.25				
Social relations													
9. Social support	6.14	.43	.04	.01	-.25	-.07	.38*	.00	.12				
10. Social integration	1.76	.52	.24	.13	-.02	.51**	.32**	.27	.30	.09	.08		
11. Sources of social stress	1.89	.62	-.23	.01	-.07	.44**	-.04	-.08	.16	-.01	-.24	.34*	
12. Handling social stress	5.10	.64	.51***	.24	.01	.00	.09	-.05	.13	-.13	.34*	-.06	-.45**

*p < .05. **p < .01. ***p < .001.

Subsequently, a series of *t*-tests and ANOVAs were applied to explore any demographic and psychosocial influences on the independent variables during the first (Time 1) and second (Time 2) administration of the questionnaire battery.

Demographic and Psychosocial Differences — Significant *gender* differences emerged for Time 1, indicating that women scored significantly higher than men in terms of a) justice, $t(38)$ = -2.41, p < .05; b) temperance, $t(38)$ = -4.63, p < .001; and c) sources of stress, t (38) = -2.27, p < .05. Men, on the other hand, seemed to receive higher levels of social support than women, $t(38)$ = 2.86, p < .01.

After the intervention (Time 2), women reported higher levels of sources of stress, $t(38)$ = -2.72, p < .01; while men scored significantly higher in the character strength of humanity and love, $t(38)$ = 4.81, p < .001.

A few differences depending on participants' *socio-economic status* (SES) were observed for Time 1. Youths from different SES backgrounds appeared to differ in terms of a) courage, which youths from higher SES families displayed much more of than youths from middle SES families, $F(4, 35)$ = 4.47, p < .01; b) justice, which people from lower SES families displayed at much higher levels than people from higher SES families, $F(4, 35)$ = 2.8, p < .05; c) temperance, which youths from middle SES families excelled in compared to people from lower SES families, $F(4, 35)$ = 3.24, p < .05; and d) transcendence, which people from lower SES families appeared to score much higher in than their counterparts from middle SES families, $F(4, 35)$ = 6.66, p < .001; as well as e) handling of social stress, a skill which people from middle SES families seemed to command much better than those from lower SES families, $F(4, 35)$ = 3.11, p < .05; and f) gratitude, which youths from middle SES families did not display as much as those from upper or lower SES families, $F(4, 35)$ = 2.77, p < .05.

At Time 2, participants seemed to differ depending on their levels of a) justice, which people from lower SES families seemed to display at a higher level than people from either upper or middle SES families, $F(4, 35)$ = 5.62, p < .001; b) transcendence, in which youths from lower SES families again scored significantly higher than youths

from higher SES families, $F(4, 35) = 4.72$, $p < .01$; c) hope, where the reverse picture emerged, with people from lower SES families displaying much lower levels than people from either higher or middle SES families, $F(4, 35) = 3.85$, $p < .01$; and d) sources of stress, which people from the lower end of the SES continuum seemed to experience at significantly higher levels than others, $F(4, 35) = 3.13$, $p < .05$.

Having *siblings* appeared to influence youths' character strengths and other socio-emotional characteristics in Time 1. In particular, significant differences were observed among those with and those without siblings regarding a) wisdom/knowledge, which those with three or more siblings displayed much more of than those without siblings, $F(3, 36) = 3.41$, $p < .05$; b) humanity/love, for which a similar picture emerged, $F(3, 36) = 3.9$, $p < .01$; c) justice, in which those with no siblings scored much higher than those with one sibling, $F(3, 36) = 3.4$, $p < .05$; d) temperance, in which those with three or more siblings scored higher than those with two siblings, $F(3, 36) = 3.7$, $p < .05$; and e) hope, which those with one sibling displayed much higher levels of than those with three or more siblings, $F(3, 36) = 6.09$, $p < .001$.

At Time 2, more differences emerged between those with and those without siblings. Significant differences were observed for a) wisdom/knowledge, which those with one or two siblings displayed more of than only children, $F(3, 36) = 6.01$, $p < .01$; b) justice, which was observed at the highest level for those with two siblings, compared to those with one or no siblings, $F(3, 36) = 6.01$, $p < .01$; c) temperance, which those with two or no siblings displayed higher levels of than those with one or three siblings, $F(3, 36) = 6.01$, $p < .01$; d) transcendence, in which those with three siblings or more scored significantly higher than all others, $F(3, 36) = 6.01$, $p < .01$; and e) gratitude, in which those with two siblings fared much worse than any other participants, $F(3, 36) = 6.01$, $p < .01$.

A few differences also emerged depending on participants' being in a *romantic relationship* at the time of study. At Time 1, youths who were romantically involved with someone enjoyed higher levels of a) courage, $t(38) = 2.44$, $p < .01$; b) justice, $t(38) = 2.06$, $p < .05$; c) transcendence, $t(38) = 3.51$, $p < .001$; but also of d) sources of stress, $t(38) = 2.81$, $p < .01$. At Time 2, those in a relationship showed more a) courage, $t(38) = 2.44$, $p < .01$; b) justice, $t(38) = 2.44$, $p < .01$; and c) transcendence, $t(38) = 2.44$, $p < .01$; but significantly lower ability to d) handle social stress, $t(38) = 2.44$, $p < .01$.

Certain differences emerged at Time 1 depending on participants' *satisfaction with their living situation* (i.e. accommodation). Specifically, differences were observed with regard to youths' a) justice, which youths who were a little dissatisfied with their living situation displayed least of, $F(4, 35) = 5.09$, $p < .001$; b) temperance, for which a similar pattern emerged as for justice (see above), $F(4, 35) = 3.84$, $p < .01$; c) sources of stress, which people generally satisfied with their living conditions showed lower levels of, $F(4, 35) = 3.46$, $p < .01$; d) hope, which, paradoxically, youths highly displeased with their living arrangements displayed much higher levels of than others, $F(4, 35) = 4.14$, $p < .01$; and e) gratitude, which people generally satisfied with their living conditions displayed more freely than those who were neither satisfied nor dissatisfied with them, $F(4, 35) = 3.61$, $p < .01$.

At Time 2, certain differences also emerged according to participants' satisfaction with their living situation. These differences centered around a) temperance, which youths who were a little dissatisfied with their living arrangements displayed much lower levels of than those who were satisfied or neutral with regard to their living situation (esp. when compared to the very dissatisfied, who scored particularly high in temperance), $F(4, 35) = 4.394$, $p < .01$; b) sources of stress, for which a similar picture emerged as for temperance (see above), $F(4, 35) = 4.27$, $p < .01$; c) hope, which those dissatisfied with their living arrangements displayed significantly higher levels of, $F(4, 35) =$

9.32, $p < .001$; and d) gratitude, in which those very dissatisfied with their living situation p scored much higher than those neither satisfied nor dissatisfied with it, $F(4, 35) = 2.93$, $p < .05$.

Significant *group* differences were observed for Time 1. In particular, differences were observed for the character strengths of a) courage, where postgraduate students displayed significantly less courage than fourth-year students and working youths, $F(3, 36) = 4.48$, $p < .01$; b) temperance, where working youths scored much lower than first year undergraduates and postgraduate students, $F(3, 36) = 4.84$, $p < .01$; and c) transcendence, which working youths seemed to excel in, contrary to both first year undergraduates and postgraduate students, $F(3, 36) = 6.77$, $p < .001$; and also in terms of d) social support, which 4th year undergraduate students seemed to enjoy much less of than working youths, $F(3, 36) = 4.97$, $p < .01$; e) social integration, where 1st year students appeared to be more socially integrated than 4th year students, $F(3, 36) = 4.37$, $p < .01$; f) handling of social stress, in which ability 1st year undergraduate students fared much worse than either 4th year or postgraduate students, $F(3, 36) = 2.89$, $p < .05$; and g) gratitude, in which postgraduate students scored significantly lower than 4th year under-graduate students and working youths, $F(3, 36) = 4.38$, $p < .01$.

At Time 2 significant group differences were observed in the character strengths of a) courage, where 1st year students scored much lower than 4th year undergraduates and working youths, $F(3, 36) = 6.01$, $p < .01$; b) justice, which 4th year students displayed much less of than either 1st years or emerging adults, $F(3, 36) = 7.21$, $p < .001$; c) transcendence, in which working youths scored significantly higher than 4th year undergraduates, $F(3, 36) = 2.99$, $p < .05$; and d) gratitude, which 1st year students displayed much more of than postgraduate students, $F(3, 36) = 4.28$, $p < .01$.

The Effects of the Intervention — In order to establish whether any significant positive changes occurred as a result of the intervention, a series of paired samples t-tests was carried out. A number of statistical differences between pre and post intervention were identified. In particular, at the end of the second meeting (Time 2) marked increases were observed in the levels of a) hope, $t(39) = -3.04$, $p < .01$; b) social support, $t(39) = -2.29$, $p < .05$; and c) handling of social stress, $t(39) = -3.08$, $p < .01$. Significant positive changes were also observed in parti-cipants' character strengths as follows: d) courage, $t(39) = -2.14$, $p < .05$; e) humanity/love, $t(39) = -3.16$, $p < .01$; and f) transcendence, $t(39) = -3.03$, $p < .01$.

On the basis of the above findings regarding the effectiveness of the intervention, a series of hierarchical linear regressions was carried out for each of the variables affected by the intervention. The relevant procedure and findings are presented below.

Predicting Positive Outcome — The regression analyses applied to the data sought to determine whether the dependent variables at Time 2 could be predicted by demographic and psychosocial participant characteristics as well as by the levels of the independent variables both before and after the intervention. For the regression on the variable of "Hope (Time 2)", step 1 included group, age, gender, ses, siblings, relationship status, satisfaction with living conditions. Step 2 included "Hope (Time 1)". Step 3 included "Gratitude (Time 1 and Time 2)". Step 4 included "Social support, sources of social stress and handling of social stress (Time 1 and Time 2)". Step 5 included character strengths at Time 1 and Time 2. The variables depicting character strengths did not appear to make any contribution to the regression and were excluded from the Table shown here. For the regressions on the variable "Social support (Time 2), step 1 included demographics, as shown above. Step 2 included "Gratitude (Time 1 and Time 2)". Step 3 included "Hope (Time 1 and Time 2)". Step 4 included "Social support (Time 1),

sources of social stress and handling of social stress (Time 1 and Time 2)". As character strengths did not seem to make any contribution to the regression, they were not reported here. Similarly, for the regressions on the variable "Handling of social stress (Time 2), step 1 included demographics, as above. Step 2 included "Gratitude (Time 1 and Time 2)". Step 3 included "Hope (Time 1 and Time 2)". Step 4 included "Social support (Time 1 and 2)", "Sources of social stress (Time 1 and Time 2)" and "Handling of social stress (Time 1)". Character strengths made no contribution to the regression and were omitted. For the regressions on the character strengths of courage, humanity/love and transcendence, demographics were entered in the equation first, followed by the level of each independent variable at Time 1 in the second step, followed by gratitude, hope and social stress variables. As social stress variables made no contributions to the regression equations of courage and humanity/love they were excluded from the Tables shown here.

Results indicated that *hope* at Time 2 was reliably predicted (99% of the total variance was explained) by participants' satisfaction with their living situation; their pre-existing levels of hope, demonstrating substantial test-retest stability; as well as gratitude and all social relationship variables both before and after the intervention (i.e. social support, sources of social stress and handling of social stress; see Appendix, Table A1 for details).

Social support at Time 2 was predicted (98% of the total variance was explained) by gender (with males more likely to report higher social support levels than females both before and after the intervention); by gratitude; by social support at Time 1, also demonstrating a substantial test-retest effect; and by sources of stress and handling of stress at both measurement points (see Appendix, Table A2 for details).

Handling of social stress at Time 2 was predicted (97% of the total variance was explained) by hope at Times 1 and 2; gratitude at Time 2; and all other social relationship variables (see Appendix, Table A3 for details).

Character strengths variables at Time 2 could also be predicted by a constellation of independent variables. In particular, *courage* was predicted (95% of the total variance was explained) by age, with older participants showing higher levels of courage; by being involved in a romantic relationship; by courage at Time 1, indicating high test-retest stability; and also by hope at Times 1 and 2 (see Appendix, Table A4). *Humanity and love* could be predicted (78% of the total variance was explained) by pre-existing levels of this particular strength, indicating a strong test-retest stability (see Appendix, Table A5 for details). Finally, *transcendence* was predicted (99% of the total variance was explained) by Time 1 transcendence, indicating test-retest stability; by being romantically involved; by social support at Times 1 and 2; and by sources of stress and handling of stress at Time 1 (see Appendix, Table A6 for details).

Discussion

With regards to the methodological focus of the study as outlined above, significant progress was achieved in establishing feasibility of measurement. It seems that the variables here examined can be used to explore the effectiveness of positive psychology interventions in enhancing well-being in emerging adulthood. However, the reliability of some of the scales needs to be further examined, in order to improve them for future use with Greek samples.

Furthermore, the analysis of the study data indicated the usefulness of the positive psychology intervention carried out with emerging adults. The exercises employed seemed to produce immediate increases in participants' levels of hope, perceptions of social support and ability to handle social stress successfully, as well as levels of three

out of six key character strengths, i.e. courage, humanity/love and transcendence. The results also revealed other important trends regarding demographic and other socio-psychological influences on the dependent variables above, including developmental patterns in modern youths.

The Routes to Well-Being

Guided by Seligman's PERMA model (2011), this study examined three main routes through which well-being is achieved in young adulthood, i.e. augmentation of positive emotion, goal setting and goal monitoring. Pursuit of each route was expected to inspire heightened levels of participants' personal and social characteristics, such as the character strengths of gratitude and hope, as well as the quality of their social relations. The first route, enhancing positive emotion, produced a significant increase in hope, although not in gratitude, as originally hypothesized. Hope and gratitude were highly correlated at Time 2, though not at Time 1. These two positive emotions have repeatedly been found to correlate with each other (Bono & Froh, 2009; McCullough, Emmons, & Tsang, 2002), a fact that may go some way toward explaining how hope was increased as a result of an intervention that included exercising gratitude. Based on the Wood et al. (2010) conceptualization of gratitude mentioned earlier, this positive emotion stems from and can lead to a positive orientation in life. We posit that such a life orientation bears similarities to and can also be expressed by a hopeful outlook in life. It is also possible that gratitude exerts its effects or manifests itself through the variables of hope and courage in this particular age group. Moreover, Sheldon and Lyubomirsky (2006) asserted that self-concordant motivation, i.e. identification with and interest in carrying out positive psychology activities, is important in engaging in and keeping up such exercises. In their own studies, they found that the gratitude exercise prompted less positive changes in positive affect than the "best possible selves" exercise. Still, the low reliability of the gratitude scale prevents us from drawing definite conclusions until further testing is carried out.

Hope was also expected to increase due to its link with goal setting, which represents the second route to well-being examined here. Snyder's (2002) definition of hope clearly delineates such a link via two main mechanisms: a sense of successful agency, or goal-directed determination, and of pathways to meet one's goals (Snyder et al., 1991). In this respect, our findings that hope appeared to increase at Time 2 verified our initial hypothesis. These results simultaneously validate Seligman's (2011) contentions linking goals to positive emotions and outcomes. They also match findings linking hope for one's future to intentional self-regulation skills, such as goal setting in adolescence (Schmid et al., 2011). Since goal setting also improves people's social relations, it was encouraging that individuals' perceptions of social support availability and their sense of effectiveness in handing different forms of social stress were found to be higher after the intervention. The self-monitoring activities participants were encouraged to engage in both during and after the intervention seemed to reinforce this socially-oriented third route to well-being (Seligman, 2011).

Boosts in character strengths were also found. Three out of six strengths, namely courage, humanity and love, and transcendence, appeared to be enhanced two weeks after the intervention. These results add to the growing body of data offering support to the PERMA model (Seligman, 2011) and to the mechanisms that it argues lead to well-being. It is significant that our exploratory attempt to evaluate this model of well-being in a Mediterranean country achieved initial confirmation for certain groups of young persons.

Demographic and Other Socio-Psychological Influences on Well-Being

One of the contributions of this exploratory intervention study was unearthing certain constellations of demographic and other personal youth characteristics that affect aspects of well-being measured here. For instance, even after

the intervention, women continued to report higher levels of sources of stress than men. Women typically displayed higher temperance and justice than men (Linley et al., 2007); nevertheless, this was smoothed out at a later stage. It is interesting to note, however, that the difference in the perceived social support favouring men at Time 1 also diminished later. Perhaps some aspect of the intervention led young women to re-examine and possibly appreciate more the type and/or amount of support they enjoyed from their environment. Also, the intervention activities appeared to bring out awareness of higher levels of humanity and love in men than in women. These findings can inform future interventions on the different responses and types of outcome that can be expected for men and women.

In terms of socio-economic differences, youths from the lower end of the continuum demonstrated higher levels of justice and transcendence, but also of various aspects of social-related stresses both before and after the intervention (as well as hope at Time 2). It is perhaps an indication of the effectiveness of the intervention that initial differences favouring higher SES people in terms of courage and gratitude were smoothed out by Time 2.

An interesting picture emerged regarding the influence of having siblings on the dependent variables at hand. Overall, the existence of siblings, usually more than one, seemed to have beneficial effects on the character strengths of wisdom/knowledge, justice, temperance and also on transcendence (only at Time 2). The differences observed in the strengths of humanity/love and hope were diminished by Time 2 for those with and without siblings, while gratitude was augmented for all but those with two siblings.

Emerging adults seemed to be well aware of the benefits associated with being in a romantic relationship, such as a heightened sense of courage, justice and transcendence, but also of the stresses that such a relationship may involve. In fact, after the intervention, people who were not involved in one appeared to feel more able to handle social stress. Unfortunately, no data were available at Time 2 regarding any changes in the status of participants' romantic relationships that might help explain such a finding - for example, sometimes the stressors inherent in a relationship may lead to separation. Nor was any information collected with respect to any adverse life events that might have affected single youths more profoundly.

Satisfaction with one's living situation appeared to influence a number of the participants' characteristics. Highly satisfied individuals displayed higher levels of temperance, and lower levels of stress and gratitude. On the other hand, the more disaffected people were with their living conditions, the more hopeful they appeared in their outlook. Perhaps for those people "the only way is up". Differences in terms of justice were ironed out between those participants who were satisfied and dissatisfied with their living arrangements by Time 2.

Some interesting findings surfaced that allow for certain developmental trends to be identified, since the age of the participants can be largely inferred by group membership. In particular, fourth year undergraduate students and working youths appeared to enjoy higher levels of courage than either first year undergraduate or postgraduate students both before and after the intervention. Working youths constantly displayed more transcendence than other groupings examined here, while a sense of gratitude was far more evident the younger the participants were. Linley et al. (2007) also found small but significant age differences in a UK adult sample with regards to justice, temperance and wisdom/knowledge. In our sample, group differences in temperance, social support, social integration and handling of social stress were eventually smoothed out, thus lending initial support to the effectiveness of the intervention.

The Effectiveness of the Intervention

Taken together, the findings discussed above offer initial support to the overall effectiveness of the intervention empirically examined here. Although the cross sectional study design precluded inference of causation, certain encouraging trends were evident. It seems that the particular mix of intervention activities chosen was associated with positive change in levels of youths' personal characteristics, attitudes and practices that are critical for maintaining a positive outlook in life (Emmons & McCullough, 2003; King, 2001; Sheldon & Lyubomirsky, 2006). These positive activities were the linchpin used here to improve young people's well-being, thus corroborating the findings of Lyubomirsky et al. (2011) regarding improvements in well-being after exercising gratitude and visualizing best possible futures. Moreover, within the context of the intervention those characteristics seemed to be associated with a constellation of demographic and other psychosocial characteristics of emerging adults, such as their gender, SES and satisfaction with their living situation, especially when accompanied by adequate levels of certain individual and social assets of youths. Regression analyses results highlighted, for instance, how initial levels of hope, when accompanied by gratitude, satisfaction and other social relationship variables, may be associated with higher hope levels at a later stage. In addition, being male, expressing gratitude, enjoying social support and feeling able to handle stress seemed to increase one's perceived amount of social support. The ability to handle social stress successfully was in turn related to one's levels of hope, gratitude and all other social relationship variables measured here. As far as character strengths were concerned, hopeful older participants involved in a romantic relationship could be expected to display courage. Transcendence was linked to being in a romantic relationship and enjoying social support, as well as to levels of social stress and one's own expectations of handling them. The above results shed some light on the intricate pattern of character strengths, social relationships and well-being.

The interplay between character strengths and aspects of well-being, such as positive emotions, positive relationships and accomplishments, is complex, dynamic and dependent on individual attributes, social and environmental determinants, as well as situational characteristics. According to Seligman (2011), living one's core strengths may facilitate one's experience of different aspects of well-being. Using personal strengths was also associated with higher well-being longitudinally (Wood, Linley, Maltby, Kashdan, & Hurling, 2011). Linley, Nielsen, Gillett, & Biswas-Diener (2010) explained the strong connection they found between use of signature strengths and well-being as a result of strengths allowing people to meet their goals and their basic needs for independence, relationship and competence. The present study represents a research effort similar to a few others already undertaken with a view to deciphering the underlying mechanisms linking the experience of the core strengths to eudaimonic well-being (Proyer, Ruch, & Buschor, 2013); still, there is more to be learned with respect to the manner in which different aspects of positive psychology interventions facilitate well-being.

The initial evidence from the Mediterranean area presented here complements other international data regarding the effectiveness of strengths-based positive psychology interventions (Cohn & Fredrickson, 2010; Proyer, Ruch, & Buschor, 2013; Sheldon & Lyubomirsky, 2006). This information can add functional value to future, broader intervention efforts aimed at enhancing the well-being of young people; these efforts, according to the suggestions of Lyubomirsky et al. (2011), need to be informed by cultural background. It is also important to understand whether the benefits associated with this and other positive psychology interventions are sustained longitudinally. There is some evidence to suggest that this is possible. For instance, Cohn and Fredrickson (2010) reported that effects of a loving-kindness meditation intervention continued to enhance positive emotions and sustain increased personal resources a year after the intervention, an effect the authors explained within the context of the "broaden and build" theory of positive emotions.

The implications of the research findings for practice delineated here are far reaching and cover a wide range of contexts, including educational, therapeutic and organisational contexts. Within the school context, there is a recent trend that regards student well-being as a focus of learning (Waters, 2011). School-based positive psychology interventions designed to foster well-being and to boost academic performance were found to not only increase well-being, but also to build stronger, more satisfying relationships, as well as improving performance (ibid). These outcomes were achieved by cultivating positive emotions, resilience and positive character strengths. Findings from the present study may inform future positive psychology programs aimed at emerging adults that take place in college or University settings. Such programs can be targeted to the different stresses, anxieties and needs, but also build on the unique personal and contextual assets and strengths of this age group, as they are depicted in the paragraphs above.

Strengths-based positive psychology interventions have been found to be effective within the therapeutic environment (Seligman, Rashid, & Parks, 2006). Biswas-Diener, Kashdan, and Minhas (2011) introduced a 'strengths development' approach, which is dynamic and within-person, as opposed to more simplistic 'identify and use' approaches. In their paper they describe strengths as 'highly contextual phenomena that emerge in distinctive patterns alongside particular goals, interests, values, and situational factors' (pp. 106). The results of the present study go some way toward confirming their recommendations, by identifying constellations of personal and situational characteristics of emerging adults that need to be taken into account when designing therapeutic interventions. These interventions can be comfortably placed within the context of promoting positive health, 'a combination of excellent status on biological, subjective, and functional measures… (predicting) increased longevity…, decreased health costs, better mental health in aging, and better prognosis when illness strikes' (Seligman, 2008, p. 3).

Further applications for practice based on the findings above include the beneficial effects of positive psychology interventions in organisations. In a recent meta-analysis of positive psychology interventions in the work context, Meyers, van Woerkom, and Bakker (2013) ascertained the added value of interventions aimed at enhancing employee well-being, by improving happiness, retention rate and, possibly, performance. In an effort to decipher some of the mechanisms that help employees benefit from positive psychology interventions, the authors indicated that those lower in positive affect or gratitude seemed to profit more than their happier peers.

The contributions of the present study to positive psychology theory and interventions are discussed above; a few caveats are, nonetheless, in order. The exploratory nature of this intervention requires further validation of the measures used, the processes followed and the emergent outcomes. For instance, there is a need to examine the psychometric qualities of the gratitude measure, as the low reliability coefficients were problematic. The evaluation procedures, especially at Time 2, could be improved by giving participants the opportunity to fill in a formal evaluation sheet. Moreover, the small sample size precluded more advanced statistical handling of the data; nevertheless, the different groups examined here seem to hold promise for gaining some understanding of the configuration of personal and social-environmental characteristics and strengths of individuals that lead to the acquiring and maintenance of well-being. Optimisation of the benefits of future intervention studies can be achieved by tracking the development and patterning of aspects of their well-being at more time intervals around and after the intervention sessions. Future positive psychology intervention studies in this part of the world which are based on the design and initial evidence here amassed need to focus on evaluating any potential longitudinal effects of the positive change brought about by well-planned and executed interventions, solidly based on the principles and findings of positive psychology.

Notes

i) There may not be a single mechanism that gives each individual the strength to facilitate well-being; nevertheless, strengths are thought to serve as lubricants that enable positive psychological functioning. In a character-strengths-based intervention, Proyer, Ruch, and Buschor (2013) found support for this idea and concluded that strengths-based interventions can improve well-being. They also ascertained that in order for strengths-based interventions to be more effective, strengths more closely correlated to life satisfaction and well-being should be targeted.

ii) According to Arnett (2000), emerging adulthood covers the age period 'from the late teens through the twenties' (p. 469). By definition, emerging adulthood incorporates a lot of uncertainty in different areas of life, such as economic stability, living alone and being in a romantic relationship. As long as such issues remain unresolved (usually until the mid- to late twenties), the individual is not qualified as a fully-fledged adult.

iii) This scale, rather than the adult version (Adult Dispositional Hope Scale; Snyder et al., 1991) was chosen for its brevity, so as to reduce the questionnaire completion time, which was followed by the intervention tasks at Time 1. According to Snyder, Cheavens, & Sympson (1997, p. 107) the rationale for the development of the child version was identical to that for the adult version, given that "people of all ages are goal oriented and that 2 related thought processes typically accompany this goal-related thinking ... pathway thoughts ... and agentic thoughts".

iv) Marked improvements in the reliability of the social integration and sources of stress subscales were observed at Time 2. Perhaps these may be attributed to participants' increased familiarity with the subscales and their measurement, which was more complicated than the commoner "agree-disagree" Likert-type scales.

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Competing Interests

The author has declared that no competing interests exist.

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Appendix

Table A1

Hierarchical regression with "hope" at Time 2 as the dependent variable and demographic and other psychosocial characteristics, and social relationships variables as the independent variables

Step and predictor variable	df	F	p	Beta	t	p	R^2	ΔR^2	ΔF
Step 1	8, 31	2.28	.047				.37	.37	2.28*
Group				-.27	-1.21	.23			
Age				-.30	-1.39	.17			
Gender				.05	.28	.77			
SES				.07	.30	.76			
Siblings				-.06	-.20	.83			
Relationship				-.28	-1.14	.26			
Satisfaction-living cond.				-.53	-2.06	.04			
Origin				.48	2.07	.04			
Step 2	9, 30	3.23	.007				.49	.12	7.15**
Hope – T1				.69	2.67	.01			
Step 3	11, 28	12.19	.000				.82	.33	27.15***
Gratitude – T1				-.66	-5.17	.000			
Gratitude – T2				1.05	7.32	.000			
Step 4	17, 22	1610.88	.000				.99	.17	785.41***
Social Support – T1				.23	9.27	.000			
Social Support – T2				-.24	-10.16	.000			
Sources of social stress – T1				.63	27.22	.000			
Sources of social stress – T2				-.68	-27.15	.000			
Handling social stress – T1				.39	29.79	.000			
Handling social stress – T2				.18	15.35	.000			

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

Table A2

Hierarchical regression with "social support" at Time 2 as the dependent variable and demographic and other psychosocial characteristics, and social relationships variables as the independent variables

Step and predictor variable	df	F	p	Beta	t	p	R^2	ΔR^2	ΔF
Step 1	8, 31	2.52	.031				.39	.39	2.52*
Group				.17	.80	.427			
Age				-.23	-1.10	.279			
Gender				.38	2.18	.036			
SES				-.00	-.03	.970			
Siblings				-.02	-.10	.919			
Relationship				.32	1.34	.188			
Satisfaction-living cond.				.20	.80	.427			
Origin				-.03	-.17	.866			
Step 2	10, 29	3.72	.003				.56	.16	5.56**
Gratitude – T1				-.59	-3.10	.004			
Gratitude – T2				.67	3.02	.005			
Step 3	12, 27	2.99	.009				.57	.00	.27
Hope – T1				-.24	-.71	.484			
Hope – T2				.06	.22	.824			
Step 4	17, 22	114.98	.000				.98	.41	165.29***
Social Support – T1				.94	15.71	.000			
Sources of social stress – T1				2.17	9.80	.000			
Sources of social stress – T2				-2.35	-10.05	.000			
Handling social stress – T1				1.33	10.16	.000			
Handling social stress – T2				.62	9.02	.000			

*p < .05. **p < .01. ***p < .001.

Table A3

Hierarchical regression with "handling of social stress" at Time 2 as the dependent variable and demographic and other psychosocial characteristics, and social relationships variables as the independent variables

Step and predictor variable	df	F	p	Beta	t	p	R^2	ΔR^2	ΔF
Step 1	8, 31	2.06	.071				.34	.34	2.06
Group				-.22	-.96	.343			
Age				-.15	-.69	.491			
Gender				.23	1.28	.207			
SES				.45	1.72	.095			
Siblings				-.43	-1.45	.156			
Relationship				.27	1.09	.281			
Satisfaction-living cond.				.30	1.14	.263			
Origin				.01	.04	.962			
Step 2	10, 29	2.79	.015				.49	.14	4.09*
Gratitude – T1				-.56	-2.73	.011			
Gratitude – T2				.60	2.49	.018			
Step 3	12, 27	6.30	.000				.73	.24	12.64***
Hope – T1				-.23	-.86	.396			
Hope – T2				1.09	4.62	.000			
Step 4	17, 22	56.47	.000				.97	.24	47.23***
Social Support – T1				-1.17	-7.29	.000			
Social Support – T2				1.25	9.02	.000			
Sources of social stress – T1				-3.18	-11.75	.000			
Sources of social stress – T2				3.39	10.94	.000			
Handling social stress – T1				-1.98	-14.39	.000			

*p < .05. **p < .01. ***p < .001.

Table A4

Hierarchical regression with "courage" at Time 2 as the dependent variable and demographic and other psychosocial characteristics, and outcome variables as the independent variables

Step and predictor variable	df	F	p	Beta	t	p	R^2	ΔR^2	ΔF
Step 1	8, 31	1.99	.080				.34	.34	1.99
Group				-.15	-.65	.517			
Gender				.07	.32	.744			
Age				.50	2.75	.010			
Satisfaction-living cond.				-.07	-.28	.781			
SES				.10	.35	.729			
Siblings				-.26	-1.03	.311			
Relationship				-.57	-2.14	.040			
Origin				.28	1.18	.247			
Step 2	9, 30	8.55	.000				.72	.38	40.62***
Courage – T1				.71	6.37	.000			
Step 3	11, 28	8.00	.000				.75	.03	2.26
Gratitude – T1				-.11	-.64	.521			
Gratitude – T2				-.19	-1.14	.261			
Step 4	13, 26	44.76	.000				.95	.19	60.33***
Hope – T1				1.03	9.28	.000			
Hope – T2				-.99	-9.94	.000			

*p < .05. **p < .01. ***p < .001.

Table A5

Hierarchical regression with "humanity/love" at Time 2 as the dependent variable and demographic and other psychosocial characteristics, and outcome variables as the independent variables

Step and predictor variable	df	F	p	Beta	t	p	R^2	ΔR^2	ΔF
Step 1	8, 31	3.52	.005				.47	.47	3.52**
Group				.02	.09	.923			
Gender				-.64	-3.22	.003			
Age				.11	.71	.478			
Satisfaction-living cond.				.26	1.10	.276			
SES				-.11	-.41	.679			
Siblings				.16	.71	.482			
Relationship				.06	.26	.792			
Origin				.13	.65	.519			
Step 2	9, 30	9.29	.000				.73	.26	29.51***
Humanity/love – T1				.63	5.43	.000			
Step 3	11, 28	7.68	.000				.75	.01	.84
Gratitude – T1				.09	.63	.531			
Gratitude – T2				-.22	-1.26	.218			
Step 4	13, 26	7.07	.000				.78	.02	1.68
Hope – T1				.01	.04	.963			
Hope – T2				-.35	-1.58	.125			

*p < .05. **p < .01. ***p < .001.

Table A6

Hierarchical regression with "transcendence" at Time 2 as the dependent variable and demographic and other psychosocial characteristics, and outcome variables as the independent variables

Step and predictor variable	df	F	p	Beta	t	p	R^2	ΔR^2	ΔF
Step 1	8, 31	3.96	.002				.50	.50	3.96**
Group				-.01	-.05	.958			
Gender				-.18	-.97	.339			
Age				-.04	-.26	.790			
Satisfaction-living cond.				-.10	-.47	.638			
SES				.42	1.64	.111			
Siblings				-.24	-1.08	.285			
Relationship				-.68	-2.95	.006			
Origin				.03	.19	.851			
Step 2	9, 30	5.19	.000				.60	.10	7.94**
Transcendence – T1				.48	2.81	.008			
Step 3	11, 28	4.05	.001				.61	.00	.19
Gratitude – T1				-.11	-.61	.541			
Gratitude – T2				.09	.42	.672			
Step 4	13, 26	3.52	.003				.63	.02	.83
Hope – T1				-.42	-1.28	.209			
Hope – T2				.16	.58	.567			
Step 5	18, 21	112.02	.000				.99	.35	143.39***
Social Support – T1				-.52	-4.79	.000			
Social Support – T2				1.29	10.39	.000			
Sources of social stress – T1				-.58	-9.61	.000			
Handling social stress – T1				-1.34	-15.15	.000			
Handling social stress – T2				-.11	-1.92	.068			

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