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Psychometric properties of the engaged living scale (ELS) Spanish version in a large sample of Spanish pilgrims

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ABSTRACT

Engaged Living (values clarity and committed action) is a main process of psychological flexibility as defined by Acceptance and Commitment Therapy. The Engaged Living Scale (ELS) was designed to measure it. The purpose of this study was to translate the ELS to Spanish and to examine the reliability and validity of its scores in a heterogeneous sample of 752 Spanish pilgrims of the Way of Saint James (pre-post analysis: $n = 285$). Confirmatory factor analyses were computed to study the structural validity of the ELS scores. In addition, network analyses were computed to examine convergent and discriminant validity. The included variables were engaged living, mindfulness facets, satisfaction with life, subjective happiness, affect, depression, anxiety, and perceived stress. Results showed that the Spanish version of the ELS is two-factorial (valued living [VL] and life fulfillment [LF]). The ELS scores showed good reliability. In addition, it was able to detect VL and LF changes after the Way underscoring its sensitivity to change. The network analyses indicated adequate convergent and discriminant validity of the ELS. Changes in satisfaction with life, life fulfillment, happiness, and valued living scores were most strongly associated with changes in perceived stress, affect, mindfulness facets, depression, and anxiety. In short, the Spanish version of the ELS appeared to be a reliable and valid instrument to assess the engaged response style in the current samples.

1. Introduction

Acceptance and Commitment Therapy (ACT; Hayes et al., 1999) is a third-wave Cognitive Behavioural Therapy that has shown empirical evidence for the treatment of physical and mental health problems (A-Tjak et al., 2015; Öst, 2014; Powers et al., 2009; Ruiz, 2012), such as

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depression (Bai et al., 2020), anxiety (Bluett et al., 2014), psychosis (Tonarelli et al., 2016), or chronic pain (Feliu-Soler et al., 2018). According to this approach, psychological inflexibility is a core construct that encompasses a psychopathological process underlying the symptomatology of a broad range of mental disorders (Levin et al., 2014). The purpose of ACT is to enhance the opposite transdiagnostic process (i.e., psychological flexibility), which involves "the ability to contact the present moment more fully as a conscious human being, and to change or persist in behavior when doing so serves valued ends" (Hayes et al., 2006, p. 7).

Psychological flexibility was originally established through six processes (the Hexaflex model; Hayes et al., 1999): (a) acceptance, (b) defusion, (c) present moment attention, (d) self as context, (e) values clarity, and (f) committed action. Each process is associated to all the others, but they are also related in pairs defining three process dyads or response styles (the Triflex model; Hayes et al., 2012): (a) the *open response style* collects the pair of acceptance and defusion components and refers to a nonjudging, curious, and learning attitude towards the direct experiences while letting undesired private events go; (b) the *centered response style* involves present moment awareness and self as context processes and is defined by being conscious and centered in the psychological, physical, and social aspects of the present; and (c) the *engaged response style* includes values clarity and committed action components. It also refers to the process of performing persistent actions to achieve short-term goals that are aligned with values, which are intangible and dynamic goals. As can be seen below, different measures have been developed to assess each of these processes.

1.1. The hexaflex assessment

This theoretical model can be taken as framework for scale development and assessment of the processes involved in ACT. However, most research on ACT processes has been based on the different versions of the Acceptance and Action Questionnaire (AAQ; Bond et al., 2011; Hayes et al., 2004), which focused on assessing acceptance/experiential avoidance and defusion/cognitive fusion (i.e., the open response style). Moreover, the Five Facets Mindfulness Questionnaire (FFMQ; Baer et al., 2006) is a widely used self-report measure for assessing mindfulness and acceptance processes, related to the open and centered response styles. Furthermore, recent efforts have been made to develop self-report measures that assess all psychological flexibility skills at once, such as the Psy-Flex (Gloster et al., 2021) and the Multidimensional Psychological Flexibility Inventory (Rolffs et al., 2018; Seidler et al., 2020).

Focusing specifically on engaged response style, some authors have indicated that the unique contribution of values clarity and committed action on ACT outcomes is relatively understudied and misunderstood (Barrett et al., 2019; McCracken et al., 2015). This issue is notable, as in ACT all psychotherapeutic techniques are subordinated to supporting the client live in consonance with the client's values. That is, valued living itself is even considered as a main outcome of ACT (Hayes et al., 2012). In the last systematic review on the psychometric quality of the available values instruments, Barrett et al. (2019) concluded that the Valued Living Questionnaire (Wilson et al., 2010), Engaged Living Scale (ELS; Trompetter et al., 2013), Valuing Questionnaire (Smout et al., 2014), and Multidimensional Psychological Flexibility Inventory-values subscale (Rolffs et al., 2018) showed the strongest psychometric properties. The ELS, Valuing Questionnaire, and Multidimensional Psychological Flexibility Inventory-values subscale are self-report measures that have been developed to assess overall valued living, instead of measuring valued living regarding specific life domains. The Valuing Questionnaire has been recently tested in Portuguese (Carvalho et al., 2018), Swedish (Rickardsson et al., 2019), and Spanish (Ruiz et al., 2022). As well, the Multidimensional Psychological Flexibility Inventory have been translated to multiple languages, such as Italian (Landi et al., 2021), French (Grégoire et al., 2020), Mandarin or Japanese (Lin et al., 2020). Meanwhile, as can be seen below, the psychometric properties of the ELS have been scarcely analyzed in languages other than English.

1.2. The engaged living scale

The ELS (Trompetter et al., 2013) is a 16-item scale with a bifactor structure, that is, items loaded both in their respective factor (*Valued Living [VL] or Life Fulfillment [LF]*) and in a general factor of engaged living. The factor VL refers to acknowledging and comprehending one's personal values and behave in accordance to those values. The LF factor refers to experiencing a sense of fulfilment in life as a result of recognizing and adhering to personal values. Although Barrett et al. (2019) showed that the ELS is one of the values-based psychometric tools within ACT with strongest psychometric properties, the factor structure of the ELS had only been previously studied in a chronic pain sample, thus limiting its validity for non-clinical samples. Further, as far as we know, no psychometric assessment studies have been published after the original one, except for a Portuguese validation study (Trindade et al., 2016). In this study, the bifactor model was supported after adjusting for modification indices. In addition, Trindade et al. (2016) reduced the scale to 9 items to achieve a better fit. This study neither re-tested the single factor nor tried to test other alternative factor models (e.g., a hierarchical two-factor model). The authors only tested the correlated two-factor model proposed by Trompetter et al. (2013). Moreover, Cronbach's α was estimated as an index of internal consistency. The authors should have computed coefficient omega and omega hierarchical, which are highly recommended for estimating with accuracy the reliability of bifactor models (Garcia-Garzon et al., 2021). Finally, regarding convergent and discriminant validity of the ELS, engaged living (ELS-total scale) was positively associated with psychological flexibility, mindfulness facets (except for nonjudging that was no statistically significant), health-related quality of life, mental well-being, extraversion, and individual's level of contact with values, as well as negatively associated with psychological inflexibility, cognitive fusion, neuroticism, depression, anxiety, stress, and pain disability (Trindade et al., 2016; Trompetter et al., 2013). Trompetter et al. (2013) reported that VL was positively associated with mindfulness facets (except for nonjudging) and well-being as well as negatively associated with psychological inflexibility, pain interference, anxiety, and depression. Furthermore, LF was positively associated with two mindfulness facets (acting with awareness and nonreacting) and well-being and negatively associated with psychological inflexibility, pain interference, anxiety, depression, and pain disability (Trompetter et al., 2013). As generally done, convergent and discriminant validity was assessed by calculating Pearson's correlation coefficients (Trindade et al., 2016; Trompetter et al., 2013). However, as noted below, the network analysis approach might add significant information about the association between engaged living and other relevant variables.

1.3. A new psychometric approach: Network analysis

Network analysis is a set of integrated statistical techniques that can simultaneously analyze many variables and investigate their role as outcome and mediator at the same time (McNally, 2016). This statistical method provides a network consisting of nodes (variables) and edges (statistical association). The network is a comprehensive system that summarizes the association between variables and their unique contributions to the rest of the system. Thus, it allows to examine complex relations among multiple variables, simultaneously. Further, researchers are recently exploring the potential of this tool to investigate validity of self-report measures, such as the Five Facets Mindfulness Questionnaire (Lecuona et al., 2021), the Wechsler Adult Intelligence Scale (Schmank et al., 2019), the Embodiment Scale (Romano et al., 2021), or the Sussex-Oxford Compassion Scales (Lucarini et al., 2022). In the first two examples, the authors explored and contrasted optimal factor solutions of the measures. In the last two cases, network analysis was used to deeply investigate convergent and discriminant validity of

the scales.

Moreover, it is possible to study a network structure at various time points and determine the changes following an intervention when using longitudinal data (Epskamp et al., 2018; McNally, 2016). This would allow to distinguish if a behavior or psychological construct works mainly as an antecedent or consequent within treatment approaches as well as which one critically influence others within the intervention. According to Christodoulou et al. (2019), network analysis can contribute to a better understanding of the components of the Hexaflex model and to an improvement of behavior change within ACT. Furthermore, other vital experiences foster psychological flexibility skills as well, e.g., mindfulness and clarity in personal values seem to improve within pilgrimage (Feliu-Soler et al., 2021; Schnell & Pali, 2013). Thus, the Hexaflex components can be studied using this new psychometric methodology in other contexts beyond ACT.

1.4. Pilgrimage, a way to foster psychological flexibility

Pilgrimage is a journey to a place that has an important meaning either religiously or secularly (Morinis, 1992). It has been suggested that its common aspects with intensive contemplative practices might explain its effects on psychological processes that operate in mindfulness-based interventions (Cheer et al., 2017; Khoury et al., 2017). In addition, it usually implies long-distance walking, an activity with psychotherapeutic effects that can lead to reflection on life and values (Mau et al., 2021, 2023). Modern pilgrims are no longer motivated by religion, but by secular spiritual aspects (e.g., enjoy solitude, the feeling of freedom), wanting new experiences and for the outdoor and physical activities experience (Amaro et al., 2018). In turn, personal values have shown a significant role in the transformative effect of pilgrimage. Notwithstanding the difficulties and discomfort of the pilgrimage, values related to sense of belonging, sense of accomplishment, warm relationships, and self-fulfillment significantly influence pilgrims' motives to partake in the journey (Hall et al., 2018; Liutikas, 2017). For instance, the most popular pilgrimage way in Spain is the Way of Saint James ("the Way"; "Camino de Santiago", in Spanish). It receives people from all over the world, being 178,912 pilgrims officially registered during the last year (Pilgrim's Office, 2021). The way of Saint James is considered an exceptional and transformative human experience that induces positive psychological and social effects in the individual (Brumec et al., 2022). As commented before, its similarity with mindfulness- and acceptance-based interventions and the benefits related to long-distance walking makes pilgrimage in the Way an optimal natural environment for studying the dynamics and psychometrics properties of contextual constructs such as psychological flexibility, experiential avoidance, mindfulness facets, and engaged living, among others.

1.5. Spanish validation of the engaged living scale

In summary, the ELS, in addition to the Valuing Questionnaire and the Multidimensional Psychological Flexibility Inventory-values subscale, is one of the values-based available tools within ACT with strongest psychometric properties. However, no values measure has been developed or tested in Spanish, except for the recently published Spanish validation of the Valuing Questionnaire (Ruiz et al., 2022). Moreover, further research is needed to replicate and expand the previous findings about the ELS factorial structure, reliability, and validity. The different aims are discussed. Firstly, to re-test the goodness-of-fit of previous factor models and explore the model fit of a hierarchical two-factor solution, which has not been previously reported, in a large sample of Spanish pilgrims of the Way, before and after pilgrimage. Then, to re-test the best-fitting factor solution in a sample of the Spanish general population to examine the potential generalizability of the results. Secondly, to estimate the reliability of the scale with omega in addition to Cronbach's alpha and in the bifactor model (if supported) with omega hierarchical. Thirdly, to explore convergent and discriminant validity of engaged living using network analysis. Finally, to explore the potential effect of pilgrimage on ELS factors. Considering previous evidence on the dimensionality of the ELS (Trindade et al., 2016; Trompetter et al., 2013), we expected that the bifactor model would yield better fit to the data than other competing models both in the pilgrims and the general population samples (Hypothesis 1). We also anticipated satisfactory reliability for the ELS along with adequate convergent and discriminant validity (Hypothesis 2). Concerning it, we expected to determine the network structure entailed in this set of variables, to explore changes in the network structure following pilgrimage, and to assess the influence of the change in engaged living on the rest of variables. In this regard, we hypothesized that ELS scales would be positively associated to mindfulness facets, satisfaction with life, subjective happiness, and positive affect, as well as negatively associated to depression, anxiety, distress, and negative affect within the network (Hypothesis 3). Finally, a significant impact of pilgrimage on ELS factors was expected, with increases in both VL and LF scores (Hypothesis 4).

2. Methods

2.1. Participants

The main sample (Sample 1) comprised 752 Spanish pilgrims (60% women; $M_{age} = 43.27$; $SD_{age} = 13.07$; range: 16–77) of the Way. Among them, 307 pilgrimaged on the Way during the timeframe of the current study, of whom 285 answered the post-pilgrimage assessment. Characteristics of Sample 1 are shown in Table 1. Regarding the sample of the general population (Sample 2), it comprised 423 adults (70% women; $M_{age} = 41.92$; $SD_{age} = 10.93$; range: 18–75). Characteristics of Sample 2 are shown in Appendix A.

2.2. Instruments

2.2.1. Sociodemographics

An ad-hoc questionnaire collected information about gender, age, marital status, educational level, work status, religion, experience in meditation practice, and if it was (or not) the first-time pilgrimaging in

Table 1
Sociodemographic data of the sample 1 participants (N = 752).

Gender (women): *n* (%)	451 (60)
Age (in years): *M (SD)*	43.27 (13.07)
Marital status: *n* (%)	
Single	273 (36.3)
Married/living with a partner	363 (48.3)
Separated/divorced	105 (14)
Widowed	11 (1.5)
Level of education: *n* (%)	
Primary school	47 (6.3)
Secondary school	252 (33.5)
University	453 (60.2)
First time to do the Way (yes): *n* (%)	306 (40.7)
Experience in meditation practice (yes): *n* (%)	144 (19.1)
Work status: *n* (%)	
Student	65 (8.6)
Unemployed	56 (7.4)
Employed	537 (71.4)
Homemaker	13 (1.7)
On a sick leave	16 (2.1)
Retired/pensioner	63 (8.4)
Missing	2 (0.3)
Religion: *n* (%)	
Catholic	398 (52.9)
Protestant	1 (0.1)
Buddhism	12 (1.6)
Hinduism	1 (0.1)
Atheism	126 (16.8)
Agnosticism	199 (26.5)
Other	15 (2)

the Way.

2.2.2. Spanish translation of the ELS

Permission from the original authors was obtained for translating and validating the ELS (Trompetter et al., 2013). Two Spanish psychologists (XX and XX), who were proficient in English, translated the original version of the ELS into Spanish. Then, discrepancies were discussed, and a single version was back-translated into English by an independent native English speaker. Again, discrepancies with the original ELS were discussed and the Spanish version was adapted until it deemed similar by consensus to the English version. The definitive version of the Spanish ELS is available in the supplemental materials section (Appendix B). The ELS was the first measure developed for assessing the engaged response style (Trompetter et al., 2013). It is a 16-item self-report measure that contains two subscales: *Valued Living* (VL; 10 items; e.g., *I have values that give my life more meaning*) and *Life Fulfillment* (LF; 6 items; e.g., *I live the way I always intended to live*). All items are scored on a 5-point Likert scale, ranging from 1 (*completely disagree*) to 5 (*completely agree*). Scores can be summed for each subscale (ranging from 10 to 50 scores in VL subscale; ranging from 6 to 30 scores of LF subscale) and for a total scale (ranging from 16 to 80 scores).

2.2.3. Five Facets Mindfulness Questionnaire 15-item version (FFMQ-15; Gu et al., 2016)

The FFMQ-15 assesses five dimensions of dispositional mindfulness: observing, describing, acting with awareness (actaware), nonjudging of inner experience (nonjudge), and nonreactivity to inner experience (nonreact). This questionnaire is composed of 15 items (3 for each facet) with five response options ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). The Spanish version was used (Feliu-Soler et al., 2021). Sum scores can be calculated for each facet (ranging from 3 to 15 scores), with higher scores indicating higher mindfulness levels (Feliu-Soler et al., 2021). The facet observing was not calculated in accordance with previous literature about the poor association of this facet with the rest of mindfulness skills in non-meditative samples (Baer, 2019; Feliu-Soler et al., 2021; Gu et al., 2016). The Spanish version (Feliu-Soler et al., 2021) showed acceptable internal consistency (Cronbach's α ranged from 0.56 to 0.85) and evidence of construct validity with small to moderate correlations with distress and wellbeing measures. Adequate internal consistency was observed in our sample for the subscales (Time 1: α = 0.74 – 0.86; Time 2: α = 0.74 – 0.82), except for nonreact facet (Time 1: α = 0.56; Time 2: α = 0.57).

2.2.4. Satisfaction with Life Scale (SWLS; Diener et al., 1985)

The SWLS is a 5-item measure assessing global life satisfaction. Items are scored on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All scores are added to form a total score that ranges from 5 to 35 scores. Higher scores indicate a higher level of wellbeing. The Spanish version was used (Vazquez et al., 2013), which was tested in a large representative sample of the Spanish population (n = 2964). The Spanish SWLS showed good reliability (α = 0.88) and evidence of construct validity with significant correlations with subjective happiness and social support. Good internal consistency was observed in our sample (Time 1: α = 0.89; Time 2: α = 0.90).

2.2.5. Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999)

The SHS comprises 4 items based on a 7-point Likert-type scale ranging from 1 to 7. It was designed to assess global subjective happiness. A total mean score can be calculated, with higher scores indicating a higher level of perceived happiness. The Spanish version was used (Extremera & Fernández-Berrocal, 2014). Its psychometric properties were evaluated in a large and representative sample of the Spanish population, including high school students, college students, and community adult participants. The Spanish SHS showed adequate construct validity (with positive correlations with the SWLS scores and negative correlations with depression and anxiety symptomatology measures) and test–retest reliability (r = 0.72). In addition, good internal consistency was found in the original Spanish validation study (α = 0.81) and in our sample (Time 1: α = 0.85; Time 2: α = 0.86).

2.2.6. Patient Health Questionnaire-Short Form (PHQ-2; Kroenke et al., 2003)

The PHQ-2 is a 2-item measure assessing the frequency during the last 2 weeks of two core depression symptoms (i.e., depressed mood and anhedonia). Items are scored on a 4-point Likert-type scale, ranging from 0 (*not at all*) to 3 (*nearly every day*). The total score ranges from 0 to 6 with higher scores, indicating higher level of frequency of depression symptoms. The validated Spanish version was used (Cano-Vindel et al., 2018). The Spanish PHQ-2 showed evidence of concurrent validity and good internal consistency (α = 0.86), as they did in our sample (Time 1: α = 0.78; Time 2: α = 0.77).

2.2.7. General Anxiety Disorder Scale-Short Form (GAD-2; Kroenke et al., 2007)

The GAD-2 was conceived as an initial screening tool for generalized anxiety and assesses the frequency of two core anxiety symptoms during last 2 weeks. It comprises 2 items based on a 4-point Likert-type scale ranging from 0 (*not at all*) to 3 (*nearly every day*). A total summed score can be calculated, with higher scores indicating a higher frequency of *Feeling nervous, anxious or on edge* and *Not being able to stop or control worrying*. The total score ranges from 0 to 6. The Spanish GAD-2 was used (García-Campayo et al., 2012). It showed high concurrent validity and adequate reliability both in the original Spanish adaptation study (α = 0.88) and in our sample (Time 1: α = 0.84; Time 2: α = 0.82).

2.2.8. Perceived Stress Scale-short form (PSS-4; Cohen et al., 1983)

The PSS-4 is a short scale designed to assess the degree to which respondents appraise situations as stressful in the last month. It consists of four items (e.g., *how often have you felt that you were unable to control the important things in your life?*) scored on a Likert-type scale ranging from 0 (*never*) to 4 (*very often*). A total score can be obtained by adding all item scores that ranges from 0 to 16. The Spanish version was used here (Vallejo et al., 2018). The scores in the original Spanish validation study showed an adequate internal consistency (α = 0.74) and evidence of concurrent validity. Similarly, an adequate internal consistency was found in the present work (Time 1: α = 0.74; Time 2: α = 0.74).

2.2.9. International positive and negative affect schedule-short form (I-PANAS-SF; Thompson, 2007)

The I-PANAS-SF comprises two scales: Positive Affect (PA) and Negative Affect (NA). PA assesses the extent to which a person feels positive affects like inspired, attentive, and determined, while NA assesses the extent to which a person experiences forms of subjective distress like upset, hostile, and afraid. Each scale has 5 Likert-type items ranging from 1 (*never*) to 5 (*always*). Scores for each scale range from 5 to 25. We used an ad hoc Spanish-language version of the I-PANAS-SF, which is in process of validation in an ongoing parallel study of the present research team. The translated version of the Thompson's items (2007) was extracted from the Spanish validation study of the PANAS (Sandín et al., 1999). The I-PANAS-SF showed an adequate internal consistency for PA (Time 1: α = 0.84; Time 2: α = 0.87) and NA (Time 1: α = 0.75; Time 2: α = 0.71) scales in our sample.

Table 2 shows mean scores and standard deviations of the participants in the study measures.

2.3. Procedure

The study was approved by the Ethics Committee at the XX (XX) and complied with the Declaration of Helsinki. It was also pre-registered (XXX). No remuneration was offered for participating in this research. The dataset stemmed from the "Ultreya" project, an online longitudinal study that evaluated the impact of the pilgrimage on the Way of Saint

Table 2
Mean scores (standard deviations) of the participants in the study measures.

Study measures	Time 1 (n = 752)	Time 2 (n = 285)
FFMQ-Describing (3-15)	10.64 (2.63)	11.04 (2.57)
FFMQ-Actaware (3-15)	10.25 (2.57)	10.54 (2.38)
FFMQ-Nonjudge (3-15)	11.47 (2.95)	12.09 (2.53)
FFMQ-Nonreact (3-15)	9.05 (2.59)	9.76 (2.51)
SWLS (5-35)	22.74 (6.70)	25.03 (6.24)
SHS (1–7)	5.08 (1.21)	5.47 (1.06)
PHQ-2 (0–6)	1.25 (1.46)	0.57 (1.06)
GAD-2 (0–6)	1.46 (1.58)	0.77 (1.20)
PSS-4 (0–16)	4.96 (3.04)	4.14 (2.92)
I-PANAS–SF–Negative Affect (5-25)	8.56 (3.09)	6.91 (2.23)
I-PANAS–SF–Positive Affect (5-25)	16.82 (3.90)	18.98 (3.71)

Note. FFMQ = Five Facet Mindfulness Questionnaire-15; SWLS = Satisfaction with Life Scale; SHS = Subjective Happiness Scale; PHQ-2 = Patient Health Questionnaire-Short Form; GAD-2 = General Anxiety Disorder Scale-Short Form; PSS-4 = Perceived Stress Scale.

James on mental health and wellbeing (www.estudiocamino.org). All data were collected through a web-based platform (www.surveymonkey.com) between May 2017 and May 2020 and were partially analyzed for the XXXXX.

Regarding data collection procedure, a link to the Ultreya website was posted and shared across social networks, specialized websites, pilgrim associations, and hostels. Participants voluntarily gave their written informed consent to take part in the study and gave permission to analyze their data in subsequent studies. The initial study sample included 2013 individuals who were aimed at doing the Way of Saint James, agreed to participate. Only Spanish-native speakers with Spanish nationality who completed all ELS items at baseline evaluation were retained (Time 1; n = 752). Among them, those who pilgrimaged on the Way during the timeframe of this study and answered the post-pilgrimage assessment (Time 2; n = 285) comprised the post-pilgrimage sample. Additionally, data on the ELS from participants in an ongoing study within our research team about the association among meditation practice, mindfulness, self-compassion, and engaged living in the general population were collected (XXXX, 2014).

2.4. The Way of Saint James

The Way of St. James involves the pilgrimage to the Cathedral of Santiago de Compostela (Galicia, Spain), the legendary site of the remains of Saint James. It is the most ancient route in Europe with a network of paths starting from different locations in Spain and abroad (e.g., France, the United Kingdom or Italy). The most common route is *Camino Francés*, around 800 km long path (from Saint-Jean-Pied-de-Port in France) that takes about 4–5 weeks of walking. Unlike centuries ago, it is not only a religious phenomenon but also a cultural one and a growth experience. Usually, pilgrims collect stamps along their route from the places they pass through in order to get an official certificate of pilgrimage (the "Compostela" in Spanish). The minimum distance required for achieve it is 100 km on foot or horseback, or the last 200 km by bicycle (Pilgrim's Office, n.d.)". Most pilgrims are of Spanish nationality, but the "Compostela" is generally issued to pilgrims from almost two hundred countries each year.

2.5. Statistical analyses

Descriptive statistics (mean, SD, range, skewness, and kurtosis) were computed for all variables. In addition, corrected item-total correlations (r_{tot}) were calculated for items in the ELS to examine how each item contributed to the overall scale. Coefficients lower than 0.30 were considered an indication of an item measuring something different from the scale as a whole (DeVellis, 1991).

First, we made use of pilgrims' ELS scores for an exploratory maximum likelihood factor analysis. To know the suitability of the ELS data for factor analysis, the Kaiser-Mayer-Olkin's Measure of Sampling Adequacy (Kaiser, 1974) was computed. Kaiser-Mayer-Olkin's scores above 0.70 are considered adequate. The Bartlett's test of Sphericity (Barlett, 1954) was also computed to examine the extent to which the correlation matrices departed from orthogonality. To make our results in this exploratory analysis comparable with those originally reported by Trompetter et al. (2013), an oblique (oblimin) rotation was used to explore the underlying structure of the scale. The following set of rules helped to determine the optimal number of factors to retain (Tabachnick & Fidell, 2007): the Cattell's scree test (inspection of a plot of the eigenvalues for breaks or discontinuities), and Monte Carlo Parallel Analysis (comparison of the present eigenvalues with those obtained in 100 sets of random data of the same size as our pilgrims' data).

Then, Confirmatory Factor Analyses (CFAs) with Maximum Likelihood Robust estimation method were conducted for assessing dimensionality, as proposed by Trompetter et al. (2013). The bifactor model of the ELS (valued living, life fulfillment, and a general factor) was tested to replicate Trompetter et al. (2013). Additionally, a one-factor model with all items loading on one latent factor, a correlated two-factor model with 10 items loading on valued living factor and 6 items on the life fulfillment factor, and a hierarchical two-factor model including an overarching engaged living factor were tested. All models were calculated with and without the correlated residuals between items 1 and 3, 4 and 7, 6 and 7, 11 and 15, and 14 and 16 that Trindade et al. (2016) proposed in their psychometric study using pre- and post-pilgrimage data, i.e., Time 1 and Time 2, respectively. Finally, the best-fitting factor solution of the ELS was re-tested in a Spanish sample of the general population from an ongoing parallel study (Sample 2).

As pointed out by Herrero (2010), rules of thumb cut-off criteria for testing the fit of CFA models can be arbitrary and they should not be used as absolute universally applied rules for assessing fit. Consequently, to test the fit of our proposed models, the next indices were calculated and interpreted using conservative and liberal cut-offs (Hu & Bentler, 1999; Schermelleh-Engel et al., 2003): the comparative fit index (CFI) and the Tucker-Lewis index (TLI) should be close to or greater than 0.90 or 0.95, the root mean square error approximation (RMSEA) should be equal or less than 0.06 or 0.10, and the standarized root mean square residual (SRMR) should be less than 0.05 or 0.10. A practical improvement in model-fit approach was used to compare the models (difference of 0.01 or greater in TLI; Vandenberg & Lance, 2000).

Pearson correlations and network analysis were conducted to investigate convergent and discriminant validity. First, Pearson correlations between the ELS scores and the other related study measures were calculated. The strength of the associations was interpreted according to Cohen's guidelines (Cohen, 1988): r = 0.10-0.29 (small); r = 0.30-0.49 (medium); r = 0.50-1 (large). Regarding network analysis, all variables (nodes) were treated as numeric and continuous. The estimation method was the Extended Bayesian Information Criterion Graphical Least Absolute Shrinkage and Selection Operator (EBICglasso), which outlines the unique associations between variable pairs (edges) with regularized partial correlations. As such, edges represent regularized partial correlation coefficients, corresponding each one to the association between two variables while all other linear relationships have been accounted for. Meanwhile, spurious edges are set to zero (i.e., regularized), thus improving interpretability of the network (Chen & Chen, 2008; Epskamp et al., 2018; Tibshirani, 1996). The thickness of the edges represents the strength of the association between variables. A pair of networks were estimated using Time 1 and 2 data.

The Fruchterman-Reingold algorithm was used to plot the networks. This procedure positions the nodes based on the strength of the connections between them. Then, the centrality for each node was estimated with three measures (Christodoulou et al., 2019; McNally, 2016): betweenness, closeness, and degree. The first one is based on the number of times a node is found in the shortest connection between two other nodes, that is, the higher the betweenness of a node, the higher the activation of other nodes as consequence of that node. Another

centrality index is closeness, which is the average distance of a node to all other ones in the network. Thus, the higher the closeness of a node, the higher relevance of that node in the network. Finally, how many edges are connected to a node is indicated by the degree. Again, the higher the degree of a node, the more central is that node in the network.

Change scores for all variables in the network were computed. Then, Pearson correlations between change scores of each of the variables and a summed change score for the remainder of them, as well as change in valued living and life fulfilment separately were calculated. This was an indication of how changes in each variable were related to changes in the full network (Robinaugh et al., 2016; Åkerblom et al., 2021).

The internal consistency of all scales used in this research was determined by calculating Cronbach's α. Regarding the internal consistency of the ELS, Cronbach's α and McDonald's ω were calculated. Coefficients equal or above 0.70 indicated adequate internal consistency (DeVellis, 1991). Regarding to sensitivity to change, a paired-samples *t*-test was conducted to evaluate the impact of the Way on pilgrims' valued living and life fulfillment scores. Cohen's *d* was calculated for measuring the effect size. It was interpreted as follows (Cohen, 1988): 0.2 (small effect), 0.5 (medium effect), and 0.8 (large effect).

Last, as supplementary analysis, an independent-samples *t*-test was conducted to compare the ELS baseline mean scores for those going on the pilgrimage (n = 285) vs those who were not (n = 467) during the timeframe of this study (Appendix C). Moreover, Pearson correlation was used to investigate the relationship between all measured variables (Appendix D). Finally, paired-samples *t*-test was conducted to explore pre-post changes in dispositional mindfulness, global life satisfaction, subjective happiness, depression symptoms, anxiety-worry, perceived stress, positive affect, and negative affect scores (Appendix E).

All analyses were conducted on Sample 1. Sample 2 was only used for cross-validating the best-fitting factor solution of the ELS according to the CFA. Descriptive and correlation analyses were performed with SPSS v.26, CFA with MPlus v.7, and network analysis with JASP 0.16.

3. Results

3.1. Item analysis

Preliminary analyses showed that the items scores of the ELS were normally distributed (see skewness and kurtosis values in Table 3). In addition, the corrected item-total correlation coefficients for the subscales were all greater than 0.30, thus suggesting good scale homogeneity.

3.2. Construct validity

Regarding the exploratory factor analysis, Table 3 presents the pattern coefficients and structure coefficients for the items of the ELS. The Kaiser-Mayer-Olkin's measure yielded a coefficient of 0.93, which is indicative of satisfactory sampling adequacy. The Bartlett's test of sphericity produced a value of 8241.07 ($p < .001$), indicating that the correlation matrix was suitable for exploratory factor analysis. An inspection of the scree plot and the Monte Carlo Parallel Analysis suggested that 2 factors may be sufficient to capture the essence of the Spanish ELS. The 2-factor solution accounted for 51% and 9.24% of the total variance, respectively. These two factors were strongly correlated (r = 0.73) and several items cross-loaded (e.g., items 1, 5, 8, and 9).

Regarding the CFA using Maximum Likelihood Robust estimation method, the fit indices for the factor models of the ELS are shown in Table 4. The results showed that neither the original bifactor model

Table 3
Descriptive data, patter coefficients, and structure coefficients for the two-factor solution from exploratory factor analysis.

ELS items	*M (SD)*	S	K	r_{tot}	Pattern coefficients		Structure coefficients	
					VL	*LF*	*VL*	*LF*
1. I have values that give my life more meaning. *Tengo valores que dan a mi vida un mayor significado.*	4.29 (0.78)	−1.23	2.26	.54	.35	.15	.45	.40
2. I know what motivates me in life. *Sé qué es lo que me motiva en la vida.*	4.08 (0.84)	−1.03	1.47	.71	.66	.05	.69	.53
3. I believe that I've found important values to live according to. *Creo que he encontrado valores importantes que guían mi vida.*	4.15 (0.79)	−.85	.86	.68	.48	.17	.61	.52
4. I know exactly what I want to do with my life. *Sé exactamente lo que quiero hacer con mi vida.*	3.54 (1.02)	−.53	−.10	.74	.94	−.08	.88	.60
5. I make choices based on my values, even if it is stressful. *Tomo decisiones basadas en mis valores, aunque me resulte difícil.*	3.94 (0.84)	−.70	.47	.65	.46	.18	.60	.52
6. I know how I want to live my life. *Sé cómo quiero vivir mi vida.*	3.84 (0.94)	−.86	.68	.77	.90	−.04	.87	.62
7. I know what I want to do with my life. *Sé lo que quiero hacer con mi vida.*	3.71 (0.98)	−.65	.11	.75	1.00	−.14	.90	.60
8. I believe that my values are really reflected in my behaviour. *Creo que mis valores se reflejan claramente en mi comportamiento.*	4.06 (0.82)	−.91	1.11	.61	.35	.26	.53	.51
9. I believe that how I behave fits in with my personal wants and desires. *Creo que mi manera de comportarme responde a lo que quiero y deseo.*	3.88 (0.88)	−.84	.69	.69	.40	.33	.64	.62
10. My emotions don't hold me back from doing what's important to me. *Mis emociones no me impiden hacer lo que es importante para mí.*	3.55 (1.01)	−.60	−.18	.59	.27	.44	.59	.63
11. I live the way I always intended to live. *Vivo como siempre he querido vivir.*	3.21 (0.98)	−.26	−.43	.76	.03	.79	.61	.81
12. I am satisfied with how I live my life. *Me siento satisfecho con la manera que vivo.*	3.55 (1.01)	−.60	−.14	.77	−.04	.87	.59	.84
13. Nothing can stop me from doing something that's important to me. *Nada puede detenerme a la hora de hacer algo que es importante para mí.*	3.64 (0.99)	−.49	−.26	.49	.22	.34	.47	.50
14. I believe that I am living life to the full right now. *Creo que estoy viviendo la vida con plenitud ahora mismo.*	3.42 (1.07)	−.48	−.33	.81	−.06	.92	.61	.87
15. I make time for the things that I consider important. *Encuentro tiempo para las cosas que considero importantes.*	3.82 (0.93)	−.83	.44	.60	.10	.54	.49	.61
16. I feel that I am living a full life. *Siento que estoy viviendo una vida plena.*	3.38 (1.04)	−.37	−.43	.83	−.03	.92	.64	.90

Note. $n = 752$. ELS = Engaged Living Scale; VL = Valued Living (Items 1–10); LF = Life Fulfillment (Items 11–16); M = mean; SD = Standard Deviation; S = Skewness; K = Kurtosis. r_{tot} = corrected item-total correlations. Items scores can range from 1 (*completely disagree*) to 5 (*completely agree*). Pattern coefficients represent the unique association between the item and the factor while controlling for the other factor. Structure coefficients represent correlations between the item and the factor.

Table 4
Fit indices for Engaged Living Scales models.

Time	Model	χ^{2***}	df	CFI	TLI	RMSEA [90% CI]	SRMR
Time 1	One-factor	1735.240	104	.722	.680	.144 [.138, .150]	.079
	One-factor ($+\theta_{1\text{-}3}$, $\theta_{4\text{-}7}$, $\theta_{6\text{-}7}$, $\theta_{11\text{-}15}$, $\theta_{14\text{-}16}$ free[a])	1014.680	99	.844	.811	.111 [.105, .117]	.068
	Correlated Two-factor	1086.240	103	.833	.805	.113 [.107, .119]	.072
$n = 752$	Correlated Two-factor ($+\theta_{1\text{-}3}$, $\theta_{4\text{-}7}$, $\theta_{6\text{-}7}$, $\theta_{11\text{-}15}$, $\theta_{14\text{-}16}$ free[a])	632.378	98	.909	.889	.085 [.079, .092]	.055
	Bifactor	1063.123	91	.835	.782	.119 [.113, .126]	.434
Time 2	One-factor	709.710	104	.764	.728	.143 [.133, .153]	.075
	One-factor ($+\theta_{1\text{-}3}$, $\theta_{4\text{-}7}$, $\theta_{6\text{-}7}$, $\theta_{11\text{-}15}$, $\theta_{14\text{-}16}$ free[a])	413.706	99	.877	.851	.106 [.095, .116]	.064
	Correlated Two-factor	496.740	103	.847	.821	.116 [.106, .126]	.067
$n = 285$	Correlated Two-factor ($+\theta_{1\text{-}3}$, $\theta_{4\text{-}7}$, $\theta_{6\text{-}7}$, $\theta_{11\text{-}15}$, $\theta_{14\text{-}16}$ free[a])	303.804	98	.920	.902	.086 [.075, .097]	.055
	Bifactor	510.523	91	.836	.784	.127 [.117, .138]	.567

Note. χ^2 (df) = chi-square (degrees of freedom); CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = root mean square error approximation; 90% CI = 90% confidence interval of the RMSEA; SRMR = standardized root mean square residual. The chosen estimator was Maximum Likelihood Robust. Indices for the hierarchical two-factor and bifactor with correlated residuals models are not shown because the Mplus model did not converge.
$p < .001$.
[a] Correlated residuals among items as in Trindade et al. (2016).

proposed by Trompetter et al. (2013) nor the bifactor model with modification indices proposed by Trindade et al. (2016) were supported. The best-fitting model at Time 1 (pre-test) was the correlated two-factor solution with the five pairs of correlated error terms proposed by Trindade et al. (2016): CFI = 0.91; TLI = 0.89; RMSEA = 0.09 with CI 90% [0.08, 0.09]; SRMR = 0.06. As well, it showed a good fit at Time 2 (post-test). The alternative models were not supported. Finally, the correlated two-factor solution with the five pairs of correlated error

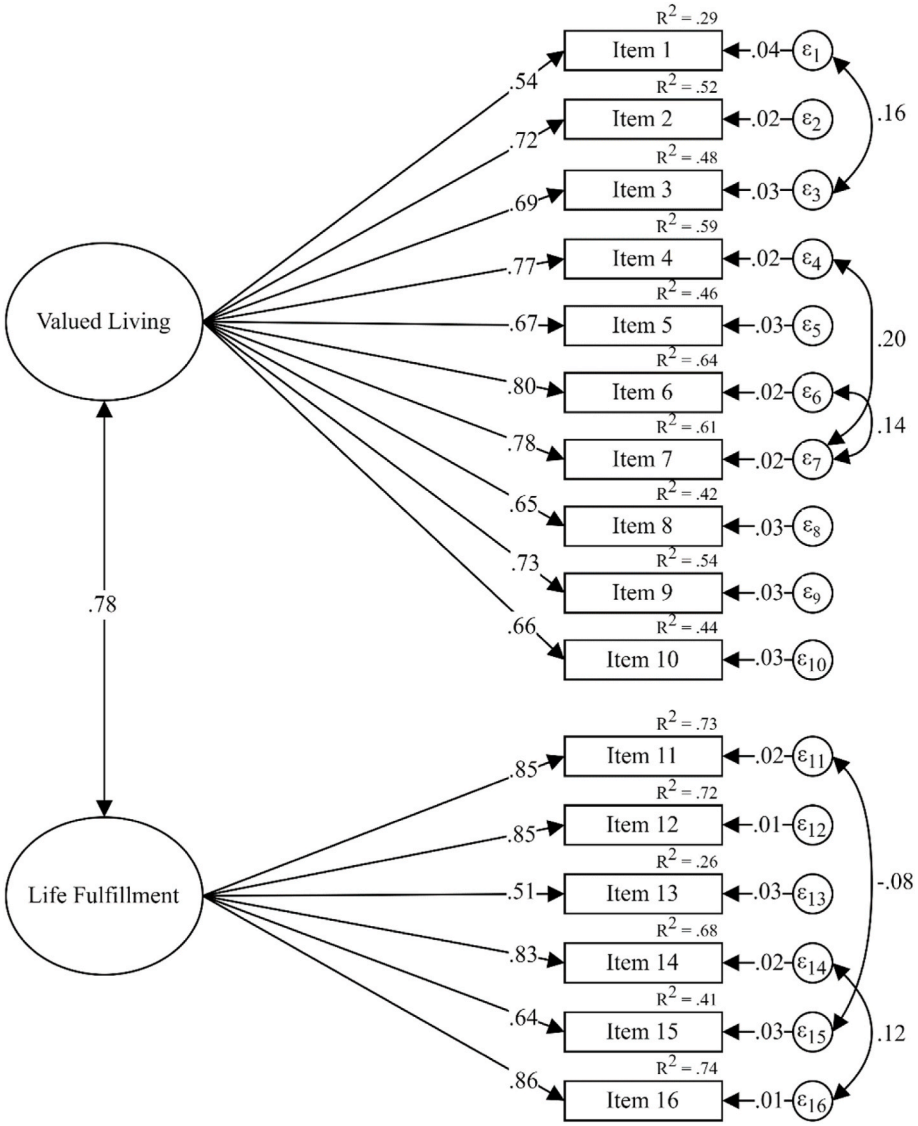


Fig. 1. Two-factor Model of the Engaged Living Scale (ELS) obtained in the CFA.

terms was supported when it was computed in an independent sample from the general population (Sample 2): CFI = 0.91; TLI = 0.89; RMSEA = 0.09 with CI 90% [0.08, 0.10]; SRMR = 0.06. Fig. 1 shows the standardized estimates of this factor model. All the estimated loadings were significant ($p < .001$).

Pearson correlations indicated that valued living and life fulfillment had a positive relationship with dispositional mindfulness (describe, actaware, nonjudge, and nonreact facets), satisfaction with life, subjective happiness, and positive affect. In contrast, there was a negative correlation between valued living and life fulfillment and depression, anxiety-worry, perceived stress, and negative affect. Overall, the associations were significant at the $p < .001$ level (except for nonreact, $p < .01$) and generally their strength was medium to large ($r \geq 0.30$). See Appendix F in the Supplemental Materials for more details.

Regarding network analysis, Fig. 2 shows the pre- and post-pilgrimage networks including all variables in the study. As can be seen, valued living scores were positively associated to positive affect, subjective happiness, and three mindfulness facets (nonjudge, actaware, and describe) scores before pilgrimage. After pilgrimage, those associations were maintained except for that with nonjudge. Meanwhile, life fulfillment scores were positively associated to satisfaction with life, positive affect, and subjective happiness scores, as well as negatively associated to perceived stress and negative affect scores before pilgrimage. After pilgrimage, life fulfillment scores maintained the positive association with those scores, to which were added nonjudge and nonreact (mindfulness facets). Moreover, life fulfillment was only negatively associated to depression scores after the pilgrimage.

Overall, the nodes valued living, life fulfillment, satisfaction with life, and subjective happiness clustered together, thus forming a highly correlated colony of adaptative variables. Within this colony, satisfaction with life could be considered as a bridging variable that presented the strongest inverse association with the perceived stress node, which was the most central psychopathological node in the networks. Both networks showed that the exerted influence of the ELS factors on the perceived stress node was mediated by subjective happiness and satisfaction with life (or vice versa) and intensified after pilgrimage. Similarly, positive affect seemed to mediate the relation of valued living and life fulfillment with depressive symptoms. The tables showing the values of all the edge weights (i.e., strength of the associations between nodes in the network) are included as Supplemental Material (Appendix G).

Attending to the centrality measures (see Fig. 3), perceived stress was the most central node of the network before and after pilgrimage, only topped by life fulfillment in number of interconnections (i.e., degree). Overall, valued living showed an increase in centrality after pilgrimage. In contrast, valued living lost in connections and number of proximities to other nodes (i.e., betweenness and closeness, respectively).

3.3. Pre-to-post-pilgrimage change

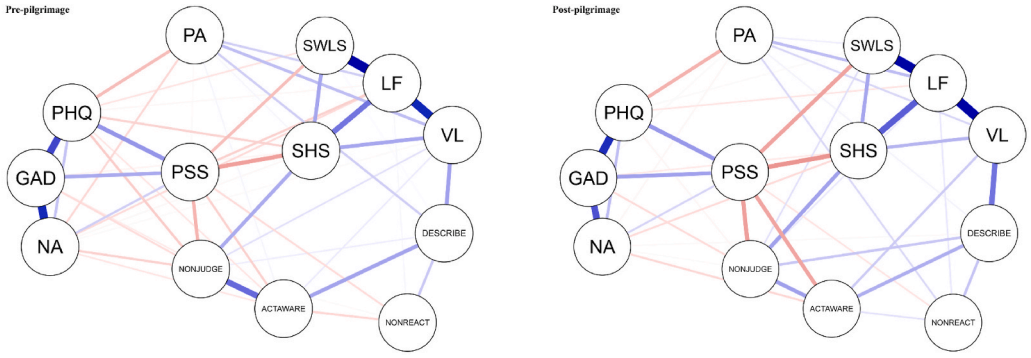
Table 5 shows the Pearson correlations between pre-to post-pilgrimage change in each of the nodes and a summed change score for the remainder of the nodes, as well as changes in valued living and life fulfillment separately. Changes in satisfaction with life scores were most strongly associated with changes in the remainder of the nodes followed by changes in life fulfillment, subjective happiness, and valued living. In contrast, changes in Nonjudge, anxiety-worry, Describing, and Nonreact were least strongly associated with changes in the network. Moreover, changes in both valued living and life fulfillment were strongly associated to changes in subjective happiness. Meanwhile, anxiety-worry, Describing, and Nonreact were least strongly associated with valued living and life fulfillment.

3.4. Reliability analyses

Internal consistency of the ELS was adequate with Cronbach's α values greater than 0.70: pre-test: $\alpha_{\text{Valued Living}} = 0.91$; $\alpha_{\text{Life Fulfillment}} = 0.89$; post-test: $\alpha_{\text{Valued Living}} = 0.91$; $\alpha_{\text{Life Fulfillment}} = 0.90$. Similarly, McDonald's ω values indicated a good internal consistency: pre-test: $\omega_{\text{Valued Living}} = 0.91$; $\omega_{\text{Life Fulfillment}} = 0.90$; post-test: $\omega_{\text{Valued Living}} = 0.92$; $\omega_{\text{Life Fulfillment}} = 0.91$.

3.5. Sensitivity to change

The paired-samples t-tests showed that there was a statistically significant increase in valued living scores from Time 1 ($M = 38.74$; $SD = 6.34$) to Time 2 ($M = 40.63$; $SD = 6.05$): $t(284) = -6.23$, $p < .001$, $d =$



Note. Blue and red lines indicate positive and negative correlations, respectively. The thickness of the edges indicates the magnitude of the association between two nodes. Thus, the higher strength between two nodes, the higher probability of that the activation of a node will be followed by the other. VL = Valued Living; LF = Life Fulfillment; SWLS = Satisfaction with Life Scale; SHS = Subjective Happiness Scale; ELS = Engaged Living Scale; PSS = Perceived Stress Scale; NA = Negative Affect; PHQ = Patient Health Questionnaire-Short Form; PA = Positive Affect; FFMQ-15 = Five Facets Mindfulness Questionnaire 15-item version; GAD = General Anxiety Disorder Scale-Short Form; Actaware = acting with awareness; Nonjudge = nonjudging of inner experience; Nonreact = nonreactivity to inner experience.

Fig. 2. Pre- and Post-pilgrimage Networks. ***Note.*** Blue and red lines indicate positive and negative correlations, respectively. The thickness of the edges indicates the magnitude of the association between two nodes. Thus, the higher strength between two nodes, the higher probability of that the activation of a node will be followed by the other. VL = Valued Living; LF = Life Fulfillment; SWLS = Satisfaction with Life Scale; SHS = Subjective Happiness Scale; ELS = Engaged Living Scale; PSS = Perceived Stress Scale; NA = Negative Affect; PHQ = Patient Health Questionnaire-Short Form; PA = Positive Affect; FFMQ-15 = Five Facets Mindfulness Questionnaire 15-item version; GAD = General Anxiety Disorder Scale-Short Form; Actaware = acting with awareness; Nonjudge = nonjudging of inner experience; Nonreact = nonreactivity to inner experience.

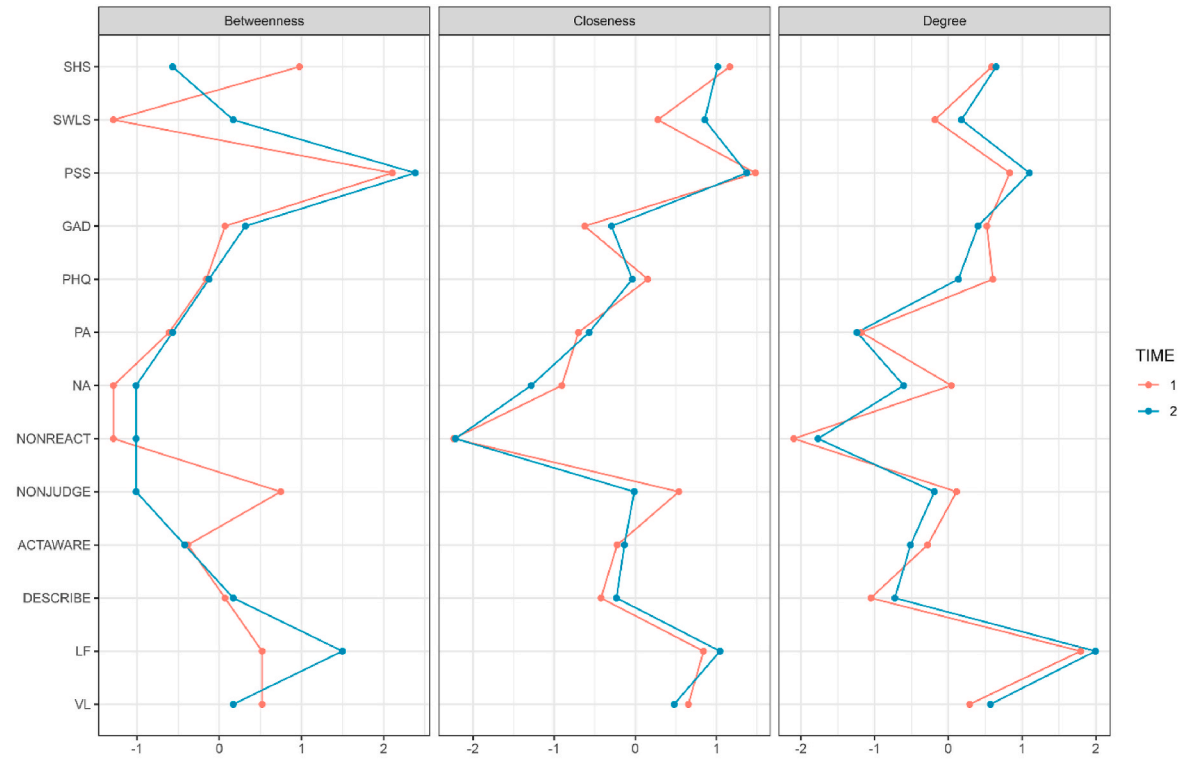


Fig. 3. Centrality Measures for the Factor Network. *Note*. VL = Valued Living; LF = Life Fulfillment; SWLS = Satisfaction with Life Scale; SHS = Subjective Happiness Scale; PSS = Perceived Stress Scale; NA = Negative Affect; PHQ = Patient Health Questionnaire-Short Form; PA = Positive Affect; GAD = General Anxiety Disorder Scale-Short Form; Actaware = acting with awareness; Nonjudge = nonjudging of inner experience; Nonreact = nonreactivity to inner experience.

Table 5
Pearson Correlations Between Pre- and Post-pilgrimage Change (Δ) in each of the Nodes and the Summed Change Score in the Remainder of the Nodes, Valued Living, and Life Fulfillment.

Variable	Δ *Other network nodes*[a]	Ranking of importance	Δ *Valued Living*[b]	Ranking of importance	Δ *Life Fulfillment*[c]	Ranking of importance
Δ SWLS	.590	1	.345	4	.516	3
Δ Life Fulfillment	.577	2	.620	1	–	–
Δ SHS	.529	3	.477	2	.563	2
Δ Valued Living	.503	4	–	–	.620	1
Δ PSS	−.396	5	−.335	6	−.303	7
Δ NA	−.324	6	−.258	9	−.298	8
Δ PHQ	−.314	7	−.311	7	−.394	4
Δ PA	.267	8	.336	5	.367	5
Δ Actaware	.246	9	.272	8	.238	10
Δ Nonjudge	.231	10	.379	3	.322	6
Δ GAD	−.201	11	−.182	10	−.291	9
Δ Describing	.184	12	.149	11	.163	11
Δ Nonreact	.042	13	.123	12	.099	12

Note. SWLS = Satisfaction with Life Scale; SHS = Subjective Happiness Scale; PSS = Perceived Stress Scale; NA = Negative Affect; PHQ = Patient Health Questionnaire-Short Form; PA = Positive Affect; GAD = General Anxiety Disorder Scale-Short Form; Actaware = acting with awareness; Nonjudge = nonjudging of inner experience; Nonreact = nonreactivity to inner experience.
[a]All correlations were significant at the $p < .001$ level, except for Describe ($p = .001$) and Nonreact ($p = .467$).
[b]All correlations were significant at the $p < .001$ level, except for Describe ($p = .005$), and Nonreact ($p = .094$).
[c]All correlations were significant at the $p < .001$ level, except for Describe ($p = .004$) and Nonreact ($p = .094$).

0.37 with CI 95% [0.25, 0.49]; as well as an increase in life fulfillment scores from Time 1 ($M = 21.11$; $SD = 4.70$) to Time 2 ($M = 22.91$; $SD = 4.41$): $t\,(284) = -8.16$, $p < .001$, $d = 0.48$ with CI 95% [0.36, 0.61]. The Cohen's d indicated a medium effect size for both ELS factors.

4. Discussion

The purpose of the current study was to examine the psychometric properties of the Spanish version of the ELS, the only existing specific

process measure of the engaged response style, in a large sample of Spanish pilgrims. Our first aim was to examine its factorial structure. The exploratory factor analysis yielded two factors but with many cross-loadings, which generates some uncertainty about the dimensionality. However, a correlated two-factor structure (though with five pairs of correlated error terms) showed an adequate goodness of fit, both in the pilgrims and the general population (cross-validation sample). Although the bifactor model showed the best model fit in the original validation study (Trompetter et al., 2013), it did not provide an adequate model fit neither in the Portuguese validation (Trindade et al., 2016) nor in this study (with and without the modifications suggested by Trindade et al., 2016). Moreover, the one-factor and hierarchical two-factor structures were not supported. From a theoretical point-of-view, it should be noted that valued living comprised values clarity and committed action, the two components of the engaged response style (Trompetter et al., 2013). Further, although not strictly part of the triflex model set out by Hayes et al. (2012), life fulfillment was intended as a complementary construct to the engaged living process, thus justifying those items from both factors loaded on a general dimension too (Trompetter et al., 2013). The lack of conclusiveness about a general underlying factor deserves additional consideration, though what seems evident is the presence of the two well-differentiated factors; valued living and life fulfillment. Thus, we suggest that the Spanish version of the ELS should be scored using only the two subscale scores.

The second aim was to estimate the reliability of the Spanish version of the ELS. It was found that the valued living and life fulfillment subscales showed good internal consistencies, with similar alpha values to those obtained in the English and Portuguese versions (Trindade et al., 2016; Trompetter et al., 2013). In that sense, it is noteworthy that we calculated not only Cronbach's alpha, but also McDonald's omega values following recent recommendations (e.g., Hayes & Coutts, 2020; McNeish, 2018).

The third and fourth aims were to determine construct validity of the ELS with network analysis, the network structure entailed in the present set of variables, to explore changes in the network structure following pilgrimage, and to assess the influence of the change in valued living and life fulfillment on the rest of variables. In terms of construct validity, our data showed a positive association of valued living and life fulfillment with satisfaction with life, subjective happiness, positive affect, and mindfulness skills. Besides, ELS factors were negatively associated to psychopathology levels and negative affect. These patterns of associations were going in the expected direction and were coherent to those described in previous literature (Trindade et al., 2016; Trompetter et al., 2013). Furthermore, network analysis allowed us to investigate these interactions in depth by considering all variables at once in two temporal moments: before and after participants went on pilgrimage to the Way. From this novel procedure, it was concluded that the main effect of engaged living and life fulfillment on distress is apparently exerted through their effect on subjective happiness and satisfaction with life. It should be mentioned that network analysis does not allow inferences about causation, so it should be also considered an effect from distress to engaged living through satisfaction with life and subjective happiness.

Moreover, participants significantly increased their levels of engaged living and life fulfillment after pilgrimage, that together with the changes in subjective happiness and satisfaction with life, were the most influential and explicative variables in the networks. These results are in line with previous findings about the positive association of psychological flexibility with well-being (e.g., Howell & Demuynck, 2021) and satisfaction with life (e.g., Graham et al., 2016; Kashdan et al., 2020). However, Lucas and Moore (2020) found that the significant association between psychological flexibility and satisfaction with life was mediated by mental health outcomes (anxiety, depression, and social functioning). On the contrary, our data showed that the only direct association between engaged living processes and psychopathology was mirrored by a weak negative association between life fulfillment and distress before pilgrimage.

Regarding the impact of pilgrimage on engaged living, our results showed that this experience had a significant impact on the ability to recognize personal values, behave congruently to them, and the positive perception of living according to them. Similarly, Feliu-Soler et al. (2021) found that going on the Way had a significant effect on mindfulness skills, another process of psychological flexibility. As only these studies have explored the effectiveness of pilgrimage on these processes of psychological flexibility, more research is needed to confirm and describe in detail the role of psychological flexibility in this special kind of journeys. Doing pilgrimage is an opportunity to reflect on our own lives, bringing increased awareness and personal insight about what matters in each pilgrim life. In this regard, one of the crucial aspects affected by this self-discovery journey would be clarity in personal values and meaning (Schnell & Pali, 2013). Pilgrims find out who they really are and can contemplate about things they have done in the past from another perspective. Traditionally, pilgrimage is considered a valuable experience through which people learn lessons for life.

A limitation of this study is the absence of a general measure of psychological flexibility in the assessment protocol. This would have enriched the construct validity analyses by making possible investigate the convergence between the Spanish ELS and that measure (e.g., Psy-Flex or Multidimensional Psychological Flexibility Inventory), as awareness of values and commitment to values in daily life is an important part of psychological flexibility. In addition, the poor internal consistency of the mindfulness facet "nonreactivity to inner experience" hinders its interpretation within correlation analyses. Moreover, a Spanish-language version of the I-PANAS-SF was used. Although it showed apparently acceptable reliability here, the validity of this Spanish-language version remains to be assessed and will be the subject of subsequent research. Furthermore, the online assessment of participants might have altered the results because of a self-selection bias (Wright, 2005). Also, a considerable part of the initial sample did not answer the post-pilgrimage assessment. Thus, the post-pilgrimage sample might not be representative of the initial sample. As well, the peculiarities of the main sample (pilgrims) might hinder the generalizability of the results. However, we did replicate the factor analysis results in an independent sample to partially overcome this limitation. Furthermore, the influence of other confounding variables not included in this study might explain the post-pilgrimage changes such as the duration of the trip for each participant or the social life during the trip. In fact, the absence of a control group and random allocation precluded the possibility of casual inferences. Finally, the translation and adaptation of the instrument could have benefited from considering extra methodological aspects in accordance with specialized guidelines (e.g., Sousa & Rojjanasrirat, 2011), such as producing two independent translations both in the forward- and back-translation steps and counting with a team of independent translators. However, we received some supervision from the developers of the ELS and also had sessions of interactive discussion when adapting the ELS to Spanish culture. In addition, it is important to say that even the stricter forms of translation methodology are far from being perfect and have some drawbacks very well described by van de Vijver and Leung (1997). For instance, it is more focused on the semantics and less to connotations, naturalness, and comprehensibility than rounds of agreement among experts.

To conclude, the Spanish ELS is a reliable and valid self-report measure of two closely related variables of high relevance within the ACT model of psychological flexibility, which are valued living and life fulfillment. Regarding scoring, the respective two subscales should be used separately, whereas computation of a total score seems not warranted. In fact, it is necessary to highlight that the ELS is the only existing specific measure of the engaged response style. Furthermore, in a network approach to a large sample of Spanish pilgrims, valued living and life fulfillment were found to be clustered with satisfaction with life, and subjective happiness were found to have a strong influence on the change of psychopathology, affect, and mindfulness variables.

Declaration of conflicts of interest

None.

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Appendix A. Supplementary data

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References

A-Tjak, J. G., Davis, M. L., Morina, N., Powers, M. B., Smits, J. A., & Emmelkamp, P. M. (2015). A meta-analysis of the efficacy of acceptance and commitment therapy for clinically relevant mental and physical health problems. *Psychotherapy and Psychosomatics, 84*(1), 30–36.

Åkerblom, S., Cervin, M., Perrin, S., Rivano-Fischer, M., Gerdle, B., & McCracken, L. M. (2021). A network analysis of clinical variables in chronic pain: A study from the Swedish quality registry for pain rehabilitation (SQRP). *Pain Medicine, 22*(7), 1591–1602.

Amaro, S., Antunes, A., & Henriques, C. (2018). A closer look at Santiago de Compostela's pilgrims through the lens of motivations. *Tourism Management, 64*, 271–280.

Baer, R. (2019). Assessment of mindfulness by self-report. *Current Opinion in Psychology, 28*, 42–48.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27–45.

Bai, Z., Luo, S., Zhang, L., Wu, S., & Chi, I. (2020). Acceptance and commitment therapy (ACT) to reduce depression: A systematic review and meta-analysis. *Journal of Affective Disorders, 260*, 728–737.

Barrett, K., O'Connor, M., & McHugh, L. (2019). A systematic review of values-based psychometric tools within acceptance and commitment therapy (ACT). *Psychological Record, 69*(4), 457–485.

Bluett, E. J., Homan, K. J., Morrison, K. L., Levin, M. E., & Twohig, M. P. (2014). Acceptance and commitment therapy for anxiety and OCD spectrum disorders: An empirical review. *Journal of Anxiety Disorders, 28*(6), 612–624.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*(4), 676–688.

Brumec, S., Lavrič, M., & Naterer, A. (2022). Exceptional human experiences among pilgrims on the Camino de Santiago: A typology of experiences and transformative aftereffects. In *Psychology of religion and spirituality*. Advance online publication. https://doi.org/10.1037/rel0000456.

Cano-Vindel, A., Muñoz-Navarro, R., Medrano, L. A., Ruiz-Rodríguez, P., González-Blanch, C., Gómez-Castillo, M. D., Capafons, A., Chacón, F., Santolaya, F., & PsicAP Research Group.. (2018). A computerized version of the Patient Health Questionnaire-4 as an ultra-brief screening tool to detect emotional disorders in primary care. *Journal of Affective Disorders, 234*, 247–255.

Carvalho, S. A., Palmeira, L., Pinto-Gouveia, J., Gillanders, D., & Castilho, P. (2018). The utility of the Valuing Questionnaire in chronic pain. *Journal of Contextual Behavioral Science, 9*, 21–29.

Cheer, J. M., Belhassen, Y., & Kujawa, J. (2017). The search for spirituality in tourism: Toward a conceptual framework for spiritual tourism. *Tourism Management Perspectives, 24*, 252–256.

Chen, J., & Chen, Z. (2008). Extended Bayesian information criteria for model selection with large model spaces. *Biometrika, 95*(3), 759–771.

Christodoulou, A., Michaelides, M., & Karekla, M. (2019). Network analysis: A new psychometric approach to examine the underlying ACT model components. *Journal of Contextual Behavioral Science, 12*, 285–289.

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Washington: American Psychological Association.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385–396.

DeVellis, R. (1991). *Scale development*. Newbury, CA: Sage.

Diener, E., Emmons, R. A., Larsem, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75.

Epskamp, S., Borsboom, D., & Fried, E. I. (2018). Estimating psychological networks and their accuracy: A tutorial paper. *Behavior Research Methods, 50*(1), 195–212.

Extremera, N., & Fernández-Berrocal, P. (2014). The subjective happiness scale: Translation and preliminary psychometric evaluation of a Spanish version. *Social Indicators Research, 119*, 473–481.

Feliu-Soler, A., Montesinos, F., Gutiérrez-Martínez, O., Scott, W., McCracken, L. M., & Luciano, J. V. (2018). Current status of acceptance and commitment therapy for chronic pain: A narrative review. *Journal of Pain Research, 11*, 2145.

Feliu-Soler, A., Pérez-Aranda, A., Luciano, J. V., Demarzo, M., Mariño, M., Soler, J., Van Gordon, W., García-Campayo, J., & Montero-Marín, J. (2021). Psychometric properties of the 15-item five facet mindfulness questionnaire in a large sample of Spanish pilgrims. *Mindfulness, 12*(4), 852–862.

García-Campayo, J., Zamorano, E., Ruiz, M. A., Pérez-Páramo, M., López-Gómez, V., & Rejas, J. (2012). The assessment of generalized anxiety disorder: Psychometric validation of the Spanish version of the self-administered GAD-2 scale in daily medical practice. *Health and Quality of Life Outcomes, 10*(1), 1–10.

Garcia-Garzon, E., Abad, F. J., & Garrido, L. E. (2021). On omega hierarchical estimation: A comparison of exploratory Bi-factor analysis algorithms. *Multivariate Behavioral Research, 56*(1), 101–119.

Gloster, A. T., Block, V. J., Klotsche, J., Villanueva, J., Rinner, M. T., Benoy, C., Walter, M., Karekla, M., & Bader, K. (2021). Psy-flex: A contextually sensitive measure of psychological flexibility. *Journal of Contextual Behavioral Science, 22*, 13–23.

Graham, C. D., Gouick, J., Ferreira, N., & Gillanders, D. (2016). The influence of psychological flexibility on life satisfaction and mood in muscle disorders. *Rehabilitation Psychology, 61*(2), 210–217.

Grégoire, S., Gagnon, J., Lachance, L., Shankland, R., Dionne, F., Kotsou, I., Monestès, J., Rolffs, J. L., & Rogge, R. D. (2020). Validation of the English and French versions of the multidimensional psychological flexibility inventory short form (MPFI-24). *Journal of contextual behavioral science, 18*, 99–110.

Gu, J., Strauss, C., Crane, C., Barnhofer, T., Karl, A., Cavanagh, K., & Kuyken, W. (2016). Examining the factor structure of the 39-item and 15-item versions of the Five Facet Mindfulness Questionnaire before and after mindfulness-based cognitive therapy for people with recurrent depression. *Psychological Assessment, 28*, 791–802.

Hall, J., Basarin, V. J., Lockstone-Binney, L., Yusuf, A., Winter, C., & Valos, M. (2018). Spiritual values and motives of secular pilgrims. *International Journal of Consumer Studies, 42*(6), 715–723.

Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. *But….Communication Methods and Measures, 14*(1), 1–24.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes, and outcomes. *Behaviour Research and Therapy, 44*(1), 1–25.

Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.

Hayes, S. C., Strosahl, K., & Wilson, K. G. (2012). *Acceptance & Commitment Therapy: The process and practice of mindful change* (2nd ed.). New York, NY: Guilford Press.

Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., Polusny, M. A., Dykstra, T. A., Batten, S. V., Bergan, J., Stewart, S. H., Zvolensky, M. J., Eifert, G. H., Bond, F. W., Forsyth, J. P., Karekla, M., & McCurry, S. M. (2004). Measuring experiential avoidance: A preliminary test of a working model. *Psychological Record, 54*(4), 553–578.

Herrero, J. (2010). Confirmatory factor analysis in the study of the structure and stability of assessment instruments: An example with the self-Esteem questionnaire (CA-14). *Psychosocial Intervention, 19*(3), 289–300.

Howell, A. J., & Demuynck, K. M. (2021). Psychological flexibility and psychological inflexibility are independently associated with both hedonic and eudaimonic well-being. *Journal of Contextual Behavioral Science, 20*, 163–171.

Hu, L. T., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria vs. new alternatives. *Structural Equation Modeling, 6*, 1–55.

Kashdan, T. B., Disabato, D. J., Goodman, F. R., Doorley, J. D., & McKnight, P. E. (2020). Understanding psychological flexibility: A multimethod exploration of pursuing valued goals despite the presence of distress. *Psychological Assessment, 32*(9), 829.

Khoury, B., Knäuper, B., Schlosser, M., Carrière, K., & Chiesa, A. (2017). Effectiveness of traditional meditation retreats: A systematic review and meta-analysis. *Journal of Psychosomatic Research, 92*, 16–25.

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2003). The Patient health questionnaire-2: Validity of a two-item depression screener. *Medical Care, 41*, 1284–1292.

Kroenke, K., Spitzer, R. L., Williams, J. B. W., Monahan, P. O., & Löwe, B. (2007). Anxiety disorders in primary care: Prevalence, impairment, comorbidity, and detection. *Annals of Internal Medicine, 146*, 317–325.

Landi, G., Pakenham, K. I., Giovannetti, A. M., Presti, G., Boccolini, G., Cola, A., Grandi, S., & Tossani, E. (2021). Italian validation of the Italian multidimensional psychological flexibility inventory (MPFI). *Journal of Contextual Behavioral Science, 21*, 57–65.

Lecuona, O., García-Rubio, C., de Rivas, S., Moreno-Jiménez, J. E., Meda-Lara, R. M., & Rodríguez-Carvajal, R. (2021). A network analysis of the five facets mindfulness questionnaire (FFMQ). *Mindfulness, 12*, 2281–2294.
Levin, M. E., MacLane, C., Daflos, S., Seeley, J. R., Hayes, S. C., Biglan, A., & Pistorello, J. (2014). Examining psychological inflexibility as a transdiagnostic process across psychological disorders. *Journal of Contextual Behavioral Science, 3*(3), 155–163.
Lin, Y. Y., Rogge, R. D., & Swanson, D. P. (2020). Cross-cultural flexibility: Validation of the traditional Mandarin, simplified Mandarin, and Japanese translations of the multidimensional psychological flexibility inventory. *Journal of Contextual Behavioral Science, 15*, 73–84.
Liutikas, D. (2017). The manifestation of values and identity in travelling: The social engagement of pilgrimage. *Tourism Management Perspectives, 24*, 217–224.
Lucarini, A., Fuochi, G., & Voci, A. (2022). A deep dive into compassion: Italian validation, network analysis, and correlates of recent compassion scales. In *European journal of psychological assessment*. Advance online publication.
Lucas, J. J., & Moore, K. A. (2020). Psychological flexibility: Positive implications for mental health and life satisfaction. *Health Promotion International, 35*(2), 312–320.
Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46*, 137–155.
Mau, M., Aaby, A., Klausen, S. H., & Roessler, K. K. (2021). Are long-distance walks therapeutic? A systematic scoping review of the conceptualization of long-distance walking and its relation to mental health. *International Journal of Environmental Research and Public Health, 18*(15), 7741.
Mau, M., Klausen, S. H., & Roessler, K. K. (2023). Becoming a person: How long-distance walking can lead to personal growth–A cultural and health-related approach. *New Ideas in Psychology, 68*, Article 100975.
McCracken, L. M., Chilcot, J., & Norton, S. (2015). Further development in the assessment of psychological flexibility: A shortened committed action questionnaire (CAQ-8). *European Journal of Pain, 19*(5), 677–685.
McNally, R. J. (2016). Can network analysis transform psychopathology? *Behaviour Research and Therapy, 86*, 95–104.
McNeish, D. (2018). Thanks coefficient alpha, we'll take it from here. *Psychological Methods, 23*(3), 412–433. https://doi.org/10.1037/met0000144
Morinis, A. (1992). Introduction: The territory of the anthropology of pilgrimage. In A. Morinis (Ed.), *Sacred journeys: The anthropology of pilgrimage* (pp. 1–28). Greenwood.
Öst, L. G. (2014). The efficacy of acceptance and commitment therapy: An updated systematic review and meta-analysis. *Behaviour Research and Therapy, 61*, 105–121.
Pilgrim's Office. (n.d.). http://oficinadelperegrino.com/en/.
Pilgrim's Office. (2021). *Informe estadístico: Año 2021 [Statistical Report: 2021]*. https://catedral.df-server.info/est/peregrinaciones2021.pdf.
Powers, M. B., Vörding, M. B. Z. V. S., & Emmelkamp, P. M. (2009). Acceptance and commitment therapy: A meta-analytic review. *Psychotherapy and Psychosomatics, 78*(2), 73–80.
Rickardsson, J., Zetterqvist, V., Kemani, M. K., Holmström, L., Andersson, E., & Wicksell, R. K. (2019). Assessing values–Psychometric properties of the Swedish version of the Valuing Questionnaire in adults with chronic pain. *Journal of Contextual Behavioral Science, 14*, 40–49.
Robinaugh, D. J., Millner, A. J., & McNally, R. J. (2016). Identifying highly influential nodes in the complicated grief network. *Journal of Abnormal Psychology, 125*(6), 747.
Rolffs, J. L., Rogge, R. D., & Wilson, K. G. (2018). Disentangling components of flexibility via the hexaflex model: Development and validation of the multidimensional psychological flexibility inventory (MPFI). *Assessment, 25*(4), 458–482.
Romano, D., Maravita, A., & Perugini, M. (2021). Psychometric properties of the embodiment scale for the rubber hand illusion and its relation with individual differences. *Scientific Reports, 11*(1), 5029.
Ruiz, F. J. (2012). Acceptance and commitment therapy versus traditional cognitive behavioral therapy: A systematic review and meta-analysis of current empirical evidence. *International Journal of Psychology and Psychological Therapy, 12*(3), 333–358.
Ruiz, F. J., Suárez-Falcón, J. C., Segura-Vargas, M. A., & Gil-Luciano, B. (2022). Psychometric properties of the Spanish version of the Valuing Questionnaire in Colombian clinical and nonclinical samples. *Journal of Clinical Psychology, 78*(2), 233–248.
Sandín, B., Chorot, P., Lostao, L., Joiner, T. E., Santed, M. A., & Valiente, R. M. (1999). Escalas PANAS de afecto positivo y negativo: Validación factorial y convergencia transcultural. *Psicothema, 11*(1), 37–51.
Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online, 8*, 23–74.
Schmank, C. J., Goring, S. A., Kovacs, K., & Conway, A. R. (2019). Psychometric network analysis of the Hungarian WAIS. *Journal of Intelligence, 7*(3), 21.
Schnell, T., & Pali, S. (2013). Pilgrimage today: The meaning-making potential of ritual. *Mental Health, Religion & Culture, 16*, 887–902.
Seidler, D., Stone, B., Clark, B. E., Koran, J., & Drake, C. E. (2020). Evaluating the factor structure of the Multidimensional Psychological Flexibility Inventory: An independent replication and extension. *Journal of Contextual Behavioral Science, 17*, 23–31.
Smout, M., Davies, M., Burns, N., & Christie, A. (2014). Development of the valuing questionnaire (VQ). *Journal of Contextual Behavioral Science, 3*(3), 164–172.
Sousa, V. D., & Rojjanasrirat, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: A clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice, 17*(2), 268–274.
Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics, 5* pp. 481–498). Boston, MA: Pearson.
Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of Cross-Cultural Psychology, 38*(2), 227–242.
Tibshirani, R. (1996). Regression shrinkage and selection via the lasso. *Journal of the Royal Statistical Society: Series B, 58*, 267–288.
Tonarelli, S. B., Pasillas, R., Alvarado, L., Dwivedi, A., & Cancellare, A. (2016). Acceptance and commitment therapy compared to treatment as usual in psychosis: A systematic review and meta-analysis. *Journal of Psychiatry, 19*(3), 2–5.
Trindade, I. A., Ferreira, C., Pinto-Gouveia, J., & Nooren, L. (2016). Clarity of personal values and committed action: Development of a shorter engaged living scale. *Journal of Psychopathology and Behavioral Assessment, 38*(2), 258–265.
Trompetter, H. R., Ten Klooster, P. M., Schreurs, K. M., Fledderus, M., Westerhof, G. J., & Bohlmeijer, E. T. (2013). Measuring values and committed action with the engaged living scale (ELS): Psychometric evaluation in a nonclinical sample and a chronic pain sample. *Psychological Assessment, 25*(4), 1235.
Vallejo, M. A., Vallejo-Slocker, L., Fernández-Abascal, E. G., & Mañanes, G. (2018). Determining factors for stress perception assessed with the Perceived Stress Scale (PSS-4) in Spanish and other European samples. *Frontiers in Psychology, 9*, 37.
Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods, 3*, 4–70.
Vazquez, C., Duque, A., & Hervas, G. (2013). Satisfaction with life scale in a representative sample of Spanish adults: Validation and normative data. *Spanish Journal of Psychology, 16*, 1–15.
Wilson, K. G., Sandoz, E. K., Kitchens, J., & Roberts, M. (2010). The Valued Living Questionnaire: Defining and measuring valued action within a behavioral framework. *Psychological Record, 60*(2), 249–272.
Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10*(3), JCMC1034.
XXXX, D. (2014, XXXX). (XXX [Symposium]. XXX, Spain).