

Chapter III

Method

Positive Psychology postulates that the absence of “Negative”, that is, the absence of disease, does not ensure well-being. The theoretical framework given by Martin Seligman (2011) called the PERMA model consists of five building blocks to human well-being namely Positive Emotions, Engagement or Flow, Relationships, Meaning or Purpose and Accomplishment. Using this framework as the foundation, it was attempted by the researcher to construct and validate a psychological tool to quantify positive psychological constructs from the Indian viewpoint. For this purpose, an initial survey was conducted with 2780 adults to help identify the positive psychology constructs meaningful to the present scenario. The participants were asked to rate, on “what are the factors necessary for well-being in the present scenario?” They were given 26 positive psychology constructs such as optimism, hope, compassion, self-compassion, accomplishment, humour, courage, zest, savouring, gratitude, achievement of a purpose in life, happiness, relationship building and many more. The participants gave the maximum rating to four main positive psychology constructs based on which the acronym C. A. R. E. was devised where:

C: stands for Compassion and Self-Compassion

A: stands for Achieving a Purpose in Life

R: stands for Relationship Building

E: stands for Enhancing Positive Emotions

Objectives

The research objectives for this study are to develop and validate the C. A. R. E. Inventory; and to develop and validate the C. A. R. E. Intervention Module.

Hypotheses

The research hypotheses for the study are as follows:

- The model developed has sufficient model fit indices indicating goodness of fit
- The C. A. R. E. inventory has sufficient construct reliability and test-retest reliability
- The C. A. R. E. inventory has sufficient content, convergent, discriminant and concurrent validity

- The C. A. R. E. intervention module is validated by randomized control trials

This study uses alternate hypotheses. The reason for using alternate hypotheses is the expectation to validate the scale based on the review of literature conducted and the content validation given by the subject experts. Also, for validation of the C. A. R. E intervention module, alternate hypotheses is used owing to the expectation that the intervention will be effective in bringing about a change in the positive psychology constructs. (Gonick, 1993; Kotz, et al., 2006; and Glen, 2016)

Tools Used

The following standardized psychological tools are used through the assessment and intervention

- Self-Compassion Scale (Raes et al., 2011) (SCS) short form consisting of 12 items. The Cronbach's alpha (α ; Cronbach 1951, 1988) is found to be 0.79. The brief version (SCS SF) had adequate internal consistency (Cronbach's alpha) greater than 0.86 in maximum sample and has strong correlations with the longer version of SCS (Raes et al., 2011)
- Brief Resilience Scale (Smith et al., 2008) consisting of 6 items. The authors reported Cronbach's alpha from 0.80 - 0.91 over four samples. The test has sufficient criterion validity (Smith et al., 2008; Rodríguez-Rey et al., 2016).
- Life Orientation Scale- Revised consisting of 10 items. The test-retest reliability of life Orientation Test Revised was $r = 0.68$, and the life orientation test revised has sufficient construct and predictive validity (Scheier, Carver & Bridges, 2004).
- The Adult Trait Hope Scale (Snyder et al., 1991) consisting of 12 items. Across many studies, internal reliability alphas for the overall hope scale have ranged from 0.74 to 0.84. The construct validity was also sufficiently established (Snyder et al., 1991).
- The Pain Catastrophizing Scale (PCS) (Sullivan et al., 1995) consists of 13 items with a 5-point scale and 3 subscales namely, rumination, magnification and helplessness. Reliability established through Cronbach's alpha value is 0.87 and validity is established through construct validity (Sullivan et al., 1995).

- WHO well-being Scale (WHO-5, 1998) consisting of 5 items measuring the well-being of an individual. Reliability and validity statistics have been tested worldwide and reported sufficient (Krieger et al., 2014).
- The Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) consists of 4 items, with a rating scale ranging from 1 (less happy) to 7 (happier). More than 14 studies proved the reliability and validity of this scale among adults, school students and college students. Cronbach alpha value was 0.77 (Lyubomirsky & Lepper, 1999) and another study reported was 0.84 for a translated version (Alquwez et al., 2021)
- The Holmes-Rahe Stress Inventory (Holmes & Rahe, 1967) consists of 43 life changing stressful events. Higher scores indicate higher risk of developing stress related disorders. The scale shows high internal consistency, which is a measure of reliability ($r = 0.96 - 0.89$) and high validity (Rahe, et al., 1970).
- The Form of Self-criticizing/attacking and Self-reassuring Scale (Gilbert et al., 2004) consists of 22 items with a 5-point Likert style response sheet. The scale gives measures for inadequate self, reassures self and hated self. This instrument has been found to be a robust and reliable instrument after confirmatory factor analysis which revealed good model fit indices (Baião et al., 2015)
- Beck's Anxiety Inventory (Beck et al., 1988) consists of a 21-item inventory that rates the level of anxiety. The inventory shows high internal consistency (Cronbach's $\alpha = 0.92$) and high criterion validity (Muntingh et al., 2011).
- The Beck's Depression Inventory (Beck et al., 1996a) (BDI) consists of 21 item inventory that rates the level of Depression. The test has indicated high construct validity. Studies reported reliability coefficient of 0.92 for outpatients in hospitals and 0.93 for a college student sample (Beck et al., 1996b)
- The UCLA Loneliness Scale consists of 20 items with a 4-point Likert type rating scale measuring loneliness. The internal consistency (Cronbach's alpha) of the scale is 0.89 – 0.94 and the test-retest value is $r = 0.73$. Convergent validity was encountered as it showed a significant correlation with other loneliness scales. Construct validity was also supported when it showed an association with health and well-being scales (Russell, 1996).

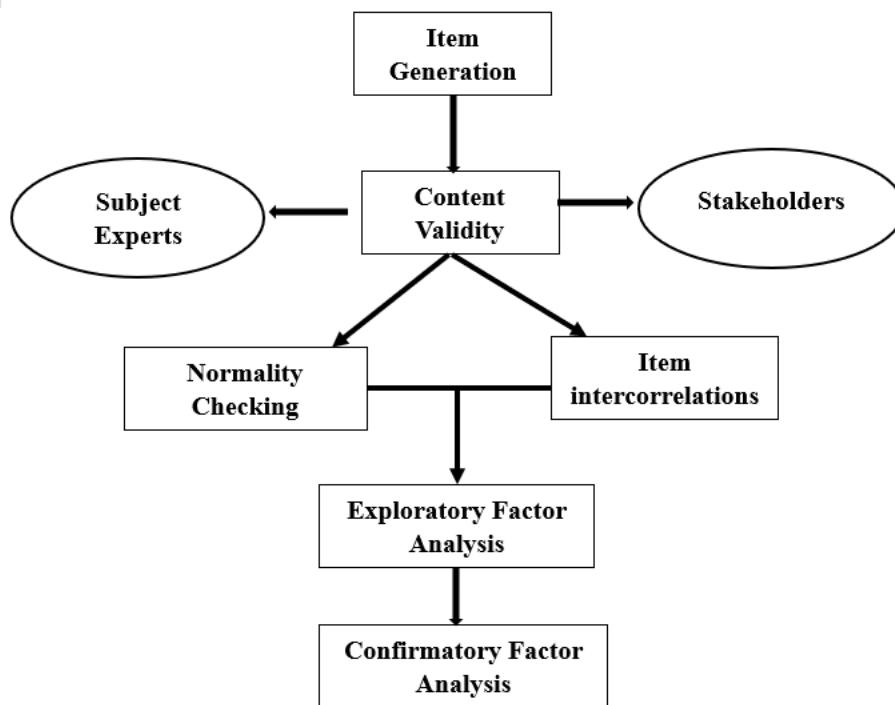
The tools to be validated are

- The C. A. R. E. Inventory
- The C. A. R. E. Intervention Module

The following steps are followed in developing the C. A. R. E. Inventory

- Item Generation
- Content Validity from Stakeholders and Experts
- Normality Testing
- Item Intercorrelations
- Exploratory Factor Analysis
- Confirmatory Factor Analysis

Figure 5
Flow Chart of Steps Followed



Item Generation

The first step of the tool construction is item generation. C. A. R. E. inventory version 1 was created with 80 items (20 for each construct). Further Versions 2, 3, 4, 5 and 6 were created

with consultation from subject experts and stakeholders. Further language correction was done by two professors from the Department of English of the Avinashilingam Institute for Home Science and Higher Education for Women. This version was also sent to Professor Martin Seligman in 2022, explaining the further steps involved in validation. This version of the inventory had 40 items measuring the 4 positive psychology constructs with answers in Likert-type response scale of, “Always, Often, Sometimes, Rarely, Never”. Scoring of 4 to 0 for the items according to responses. Always gets a score of 4 and so on. Twelve items had reverse language and hence reverse scoring. On Seligman’s approval to go ahead, the Version 7 consisting of 40 items (10 items for each of the 4 constructs identified) was subjected to Content Validity.

Twelve subject experts from all over India and 25 stakeholders (adults chosen randomly) were given the C. A. R. E. inventory to be validated. The Content Validity Ratio (CVR) was computed using the formula given below:

$$\text{Content Validity Ratio CVR} = (N_e - N/2) / (N/2)$$

Where N_e = Number of raters with ratings of 3 (Relevant item) and 4 (Highly Relevant Item)

N = Total Number of Raters

Using the above formula CVR* for subject experts was 0.95**, and CVR* for stakeholders was 0.88** (**Acceptable value for CVR is 0.99 for 5 raters, 0.85 for 8 raters, and 0.62 for 10 raters) (**Polit, Beck, & Owen, 2007).

Ethical Approval

At the same time, ethical approval for the study was sought from the Institutional Human Ethics Committee of Avinashilingam Institute for Home Science and Higher Education for Women. The approval was granted vide A UW/IHEC/PSY-21-22/FHP-20 (Attached in appendix 1).

Pilot Study

A pilot study was conducted with a sample of 208 adults chosen through simple random sampling. The C. A. R. E. inventory was administered to the participants. Data was collected

and analyzed using the SPSS Software Version 21 and the AMOS Graphics Version 22. Normality testing assessed the skewness, kurtosis and histogram for normal distribution. The values for skewness and kurtosis were between 0.1 and -0.1 which was found to be adequate (Griffin & Steinbrecher, 2013). Item correlation also revealed sufficient intercorrelations between items. Exploratory factor analysis extracted 4 principal components and the confirmatory factor analysis done using AMOS graphics revealed sufficient model fit indices. It was decided to go for the final data collection.

Sample for the final study

The participants for the final study consisted of 1000 adults selected randomly, all from 10, tier 2 cities (according to the classification of Indian cities given by the Indian government to allot house rent allowance to its employees and provide tax exemptions).

Inclusion Criteria

- Participants willing to involve themselves were only included
- All participants who could read and understand basic English were included
- For the intervention, only participants who had recovered from COVID infection and could produce a proof of their medical health were included to avoid any risk to their health due to participation

Exclusion Criteria

- Participants who had issues travelling and wanted to relocate were allowed to leave the study
- Participants who contacted COVID during the course of the intervention were excluded

The data was collected using the above tools and analyzed using the IBM SPSS (Statistical Package for Social Sciences) version 21 and AMOS graphics version 22. The statistics for distribution analysis, correlation, exploratory and confirmatory factor analysis, Wilcoxon signed rank test, Mann-Whitney U test, two-way repeated measures MANOVA, students “t” test etc, were computed.