

QUALITY OF LIFE AND PSYCHOLOGICAL
STRENGTHS OF OLDER PEOPLE: ASSESSMENT
AND INTERVENTION

STATISTICAL ANALYSIS PLAN

A database will be created to enter the data and the SPSS statistical tool will be used to perform the corresponding analyses.

Initially, following the recommendations indicated in the literature (Tabachnick & Fidell, 2001), analyses will be carried out on the presence of univariate and multivariate outliers, as well as on the normality of the distribution of the variables evaluated. Likewise, and depending on the analysis to be performed, other assumptions that must be fulfilled for certain analyses (e.g. multicollinearity) will be evaluated.

First, to verify the different models derived from the hypotheses on the potential role of personal strengths in the quality of life of the elderly, the matrix of polychoric correlations known as Structural Equation Modelling (SEM) will be used. Before the hypothesized model can be tested, the measurement part of the model needs to be specified, so the two-step procedure (Anderson & Gerbing, 1988; Byrne, 2013) will be followed in this study. According to this method, the task of developing and testing the structural model is twofold. The first step consists of a confirmatory factor analysis (CFA) of the measurement model, which includes the relationships between the observed variables and the latent variables. The second step includes a CFA of the causal relationships between the model constructs as specified by the theory.

The maximum likelihood (ML) estimation method will be used. To examine the overall fit of the model to the data, several indices proposed by Hu and Bentler (1999) and Kline (2015) will be calculated: the chi-square (χ^2) statistical test and its associated probability level, CFI (Comparative Fit Index), TLI (Tucker-Lewis Index), RMSEA (RMSEA) (Root Mean Squared Error of Approximation) with its confidence interval (CI), and SRMR (Standardized Root Mean Residual Square). The chi-square test will also be included to compare the estimated models. For the CFI, values above 0.90 suggest an acceptable fit, while values above 0.95 suggest a good fit. Values in the SRMR and RMSEA near 0.05 suggest an excellent fit, while values between 0.05 and 0.08 suggest an acceptable fit (Hu & Bentler, 1999; Kline, 2015). An analysis will be performed taking gender into account to see if this variable affects the resulting proposed model. P11 (Gema Pérez Rojo) will specially supervise this part of the project.

For the analysis of the differential efficacy of the programs, repeated measures analysis of covariance will be performed. As an intersubject factor, the intervention conditions (GT and GC) will be considered and as an intrasubject factor the evaluation phases (pre-intervention, post-intervention

and follow-up). The effect of the intervention will be analyzed considering as dependent variable both quality of life and those which, according to theoretical approaches, are the mechanisms of action through which the intervention is hypothesized to act (e.g. family function, resilience, acceptance and gratitude). Depending on the results obtained in other variables and the possible difference between pre-intervention conditions and intervention conditions in any of these variables, the inclusion of covariates will be considered. In particular, statistically significant results are expected to be obtained when analyzing the interaction between the change associated with the interventions and the passage of time, since this measure will indicate the extent to which the scores between the two groups (intervention and control) differ in the post-intervention and follow-up phases. Differences will be analyzed according to the gender of the participants.

In addition, an intention-to-treat analysis will be performed so that all caregivers who initiated the treatments will be included in the analyses of the efficacy of the intervention. In other words, all subjects who initiate treatment will be included in the analyses. Thus, in the case of dropouts, all the data from their last recorded time of measurement will be kept in the post-treatment and follow-ups. Values will be kept for pre-treatment when caregivers drop out without completing treatment and for the last follow-up when they drop out after treatment has been completed (Kazdin, 1998).

Following the recommendations of the American Psychological Association (APA), the effect size of the results obtained will be analyzed. In addition to the analysis of the results in terms of whether statistically significant changes associated with the intervention occur, an analysis of the clinical significance of such changes will also be conducted. The assessment of whether significant clinical changes occur over time for each caregiver will be carried out using the procedure outlined by Jacobson et al. (1999), through which a score (reliable change index) is obtained which, if greater than 1.96, indicates that a clinically significant positive change in the score has occurred, while if less than -1.96 indicates that a clinically significant negative change in the score has occurred. Scores between 1.96 and 1.96 indicate that no significant change has occurred as a result of the intervention.

The evaluation of the program will be carried out following the program assessment methodology. The program content, the implementation process, the results obtained and the impact generated will be evaluated. The resources to be used will include documents (records, meetings and protocols) and personnel (participants, trainers and indirect agents). Data collection techniques will consist of self-reports. To evaluate the program, criteria for implementation, results and outcomes will be established. The process will be considered during the implementation phase. Results will include the achievement of objectives, as well as participant satisfaction levels.