

Title: Contribution of temperament and family functioning on psychological well-being in Spanish emergent adults: A person-centered approach

ABSTRACT

There is a gap in the literature on relationships between temperament, family functioning, and psychological well-being from a eudamonic perspective in emerging adulthood. To shed light on this issue, the aim of our study was to analyze the effect of temperament and family functioning profiles on psychological well-being in a sample of Spanish university students (N=332). Results showed a positive association between the resilient temperament profile and psychological well-being, while the inverse relationship was observed for the non-desirable temperament profile. The reserved profile was not significantly associated with psychological well-being. On the other hand, the healthy family functioning profile (with moderate and high scores in cohesion and moderate scores in flexibility) was linked to higher levels of well-being, unlike the unhealthy functioning profile (with low scores in cohesion and extreme scores in flexibility). Finally, the joint effect of temperament and family functioning points to a buffering or protective effect of family functioning profiles in relation to potentially “dangerous” or “beneficial” temperamental profiles in university students. Practical and clinical implications are discussed.

Keywords: Temperament profiles; Family functioning profiles; Psychological wellbeing; Spanish culture; Emerging adulthood

INTRODUCTION

Positive Psychology has increased considerably in recent decades providing a scientific reference framework to study factors which bring greater well-being, or in other words, a “good life” (Park & Peterson, 2009). Interest in the notion of well-being has been constant since the time of Ancient Greece, giving rise to two differentiated concepts anchored in two different philosophical perspectives (Ryff et al., 2021). “Subjective well-being”, the result of the hedonic perspective, would be defined as a personal evaluation of positive/negative affect and degree of life satisfaction (Diener, 2000); while “psychological well-being” would focus on capabilities and personal growth of individuals (Ryan & Deci, 2001), from the eudamonic perspective. From the latter, satisfaction of desires and predominance of positive emotions would not necessarily lead to greater well-being, but instead be the result of development of personal strengths and achieving a purpose in life.

Psychological well-being in emerging adulthood

A psychological model proposed by Carol Ryff (1989) has extensive scientific and clinical support in evaluating psychological well-being. According to this author, psychological well-being would be a multidimensional concept with the following dimensions: (1) *self-acceptance*, understood as positive attitudes toward oneself, despite awareness of one's limitations; (2) *positive relationships with other people*, development of stable and lasting social relationships; (3) *autonomy*, or individual ability to maintain personal independence and authority; (4) *environmental mastery*, personal ability to choose or create environments favorable to satisfaction of needs; (5) *purpose in life*, the ability to set goals which provide meaning to one's existence; and (6) *personal growth*, understood as development of personal potential and capabilities. To measure the different dimensions, Ryff created an instrument called “*Scales of Psychological Well-being*” (SPWB; Ryff, 1989), which in its original version included 120 items (20 for each dimension), and from which smaller versions were proposed. One of the most influential by van Dierendonck (2004), comprises 39 items (between 6 and 8 items per scale) and has acceptable psychometric properties.

The dimensions in the psychological well-being model by Ryff have been related to a wide range of physical and mental health indicators in adulthood (Chen et al., 2019; Kim et al., 2022; Ryff, 2013), highlighting the importance of this construct for development and good adjustment of individuals. The role of psychological well-being can be quite significant in emerging adulthood, as this is a transition stage at developmental level involving important changes in social contexts and roles, and thus associated with greater risk of psychopathology and mental health disorders (Schulenberg et al., 2004). Emerging adulthood is defined by Arnett (2000) as a transition period between adolescence and adulthood (between 18 and 25 years) typical of Western societies, where young people are more independent but have not yet assumed traditional adult roles, such as having a job or starting a family.

University students best represent emerging adulthood in our culture, as the emergence of this developmental period is largely conditioned by prolongation of young people's formative stage. Some aspects associated with psychological well-being among these students are optimism (Burris et al., 2009), religion and spirituality (Burris et al., 2009), coping strategies (Freire et al., 2016), academic engagement (Kilgo et al., 2016), emotional intelligence (Costa et al., 2013), self-esteem (Wang & Castañeda-Sound, 2008) or perceived social support (Wang & Castañeda-Sound, 2008). In an extensive review of areas linked to psychological well-being, Ryff (2013) mentions (among others) two which may be particularly relevant for emerging adults, the individual's personality traits and family experiences.

Psychological well-being and temperament

As for the former, scientific evidence based on the Big Five model points to a close relationship between these traits and psychological well-being (Ryff, 2013). Openness to experience has been linked to the personal growth dimension, kindness to the dimension of positive relationships with others, and traits of conscientiousness, neuroticism and surgency to dimensions of mastery of environment. self-acceptance and purpose in life (Anglim et al., 2020; Hicks & Metha, 2018; Joshanloo & Rastegar, 2007).

Nevertheless, since personality is not fully defined until after the age of 30 (Caspi & Silva, 1995), temperament might be a more appropriate indicator in the search for individual traits which best explain a person's well-being at the emerging adulthood stage. Several studies have focused on analyzing the relationship between temperament and subjective well-being, assuming that temperamental predispositions have a direct relationship with the individual's perception of happiness and life satisfaction (Galián & Ato, 2023; Kornienko et al., 2018; Satıcı, 2019; Viñas et al., 2014; Wang et al., 2014; Zhao et al., 2012). Few studies have delved into the relationship between temperamental traits and psychological well-being (García & Moradi, 2013; García & Siddiqui, 2009), and none in the stage of emerging adulthood. The study of temperament at this stage can be key, as it enables evaluation of innate traits which are relatively stable in the individual, independent of cognitions, beliefs or values which make up the personality (Evans & Rothbart, 2007). Given that young people at this stage have already experienced a long process of socialization, the evaluation of more biological personal characteristics can offer very valuable and less "contaminated" information as regards their psychological well-being. Moreover, in the spectrum of personal characteristics which can affect the subject's adaptation to the environment, temperament has an important weight in the individual's response to environmental stressors. Temperamental traits such as effortful control, surgency or negative emotionality have proven to be important predictors of mental disorders like depression and/or anxiety, which have a strong impact on the psychological well-being of adults (Lawson et al., 2023).

From Rothbart's model, temperament has a biological basis and is defined as individual differences of constitutional origin in reactivity and self-regulation, which show relative stability over time (Rothbart & Bates, 1998). In adults, temperament would be explained by 4 constructs; *surgency/extraversion* (SE- sociability, pleasure in social interaction, enjoyment of intense stimulation and positive emotionality), *negative affect* (NA - heightened sensitivity to a broad spectrum of negative stimuli), *effortful control* (EC - ability to suppress a dominant response to perform a subdominant one), and *orienting sensitivity* (OS - ability to be aware of a neutral or low intensity emotional stimulation from surroundings). In the research field, the study of temperament has been

mostly approached from the *variable-centered approach*, which analyzes the independent effect of each construct or temperament dimension on some aspect of the individual's adjustment (Galián & Ato, 2023; Kornienko et al., 2018; Slobodskaya et al., 2019). However, in recent years, increasingly more studies have adopted a *person-centered approach* (Berry & Schwebel, 2009; Hirvonen et al., 2018; Komsí et al., 2006; Puonti et al., 2021), which allows defining temperament profiles where each construct acquires meaning as regards its role within the individual's general organization, thus offering a more holistic and complete perspective of impact on development (Bergman, 2002).

The temperamental traits described in Rothbart's model have produced various temperament profiles closely related to the personality profiles described from the Big Five model (Hirvonen et al., 2018; Komsí et al., 2006; Puonti et al., 2021). The *resilient* one would correspond to subjects with high levels of surgency/extraversion and effortful control, and low levels of negative affect. The *reserved* profile by high levels of effortful control and low levels of surgency/extraversion and negative emotionality. Finally, the *non-desirable* profile would be associated with individuals with high levels of negative emotionality, and low levels of effortful control and extraversion. Some studies have found better adjustment and subjective happiness for the resilient and reserved profiles, and an inverse pattern for the non-desirable profile (Galián & Ato, 2023; Hirvonen et al., 2018), but no study has analyzed the effect of these profiles on psychological well-being in the emerging adulthood stage.

Psychological well-being and family functioning

As previously noted, the individual's family experiences are also closely related to psychological well-being. Some associated with a higher level of well-being are included in the review by Ryff (2013): level of involvement with different adult roles within the family (father, son, brother, husband), activities aimed at helping others in the family context, high degree of marital satisfaction, and raising children. In contrast, losing a child in adulthood, losing a parent, being a victim of abuse in childhood, or caring for elderly parents are associated with lower levels of psychological well-being. As well as family experiences, other aspects of the family context such as

family functioning can have a strong impact on individuals' psychological well-being. This refers to the structural and social properties of the global family environment, including interactions and relationships among members (Lewandowski et al., 2010).

The *Circumplex model* (Olson, 2000) is a theoretical and clinical paradigm which has extensive empirical support (García et al., 2017; Meeus et al., 2005) and explains family functioning through variables such as *cohesion* (emotional bonding of family members) and *flexibility* (quality and expression of leadership, role relationships and relationship rules). Based on these, the model proposes six scales of family functioning, divided into two groups: (1) “balanced” scales, which would collect moderate scores in cohesion and flexibility variables (*cohesion* and *flexibility* scales); and (2) “unbalanced scales”, for extreme scores (above or below) of these variables (*enmeshed*, *disengaged*, *rigid* and *chaos* scales). From this paradigm, moderate scores of cohesion and flexibility would be typical of a “healthy” family system while extreme scores of “unhealthy” families. This model proposes a measurement instrument that in its latest version (FACES-IV; Olson & Gorall, 2006) enables obtaining both independent scores for each scale, as well as family profiles based on these scores. Along these lines, it is expected that different levels of family cohesion and flexibility (and profiles derived from their combination) will affect individual well-being differently, to the degree that they contribute positively or negatively to perception of happiness and personal development.

Nevertheless, though research reveals a link between certain aspects of family functioning and subjective happiness or life satisfaction of individuals (Asici & Sari, 2021; Brannan et al., 2013; Galián & Ato, 2023; Schnettler et al., 2014; Xiang et al., 2020), no study has delved into how this functioning relates to the various dimensions of psychological well-being proposed by Ryff. Knowing this relationship can be of great help in the field of prevention and intervention in mental health problems in emerging adulthood, since the family still plays a large role in the daily lives of young people, contributing significantly to psychological well-being/discomfort.

Psychological well-being, temperament and family functioning

Finally, the concept of “*goodness of fit*” can be useful in understanding how temperament and family interact in the psychological well-being of individuals. Thomas and Chess (1977) consider goodness of fit as due to an agreement between personal characteristics and properties or demands of the environment. In our research framework, this would imply that the psychological well-being of young people is the result of the combination between their temperament profiles and family functioning, so that each temperament profile is expected to have a differential impact on the psychological well-being of the young person depending on their family type. Previous studies confirm that certain temperamental characteristics produce different outcomes in interaction with family variables, in previous stages such as childhood and adolescence (Kiff et al., 2011; Lahdelma et al., 2021; Lengua, 2006; Oldehinkel et al., 2006). Unfortunately, the study of this interaction pattern has not been studied in emerging adults to date. In this line, it would be useful to know what combination of temperament and family functioning profiles are associated with the best or worst psychological well-being of young people, for each of their scales. This would provide information for design of intervention programs aimed at optimizing the psychological well-being of emerging adults and allow working on both individual and contextual characteristics, seeking the highest level of well-being.

The present study

The main aim of our work is to analyze the impact (independent and joint) of temperament and family functioning profiles on each of the six psychological well-being scales of the Ryff (1989) model in a sample of Spanish university students. We propose the following hypotheses:

- *Hypothesis 1:* The resilient and reserved temperament profiles will be linked to greater psychological well-being, while the non-desirable profile with lower level of well-being in young people.
- *Hypothesis 2:* The healthy family profile will be linked to greater psychological well-being, while the unhealthy one will be associated with lower levels of psychological well-being in university students.

- *Hypothesis 3:* The combination of the resilient temperament profile and healthy family functioning will be associated with the highest level of psychological well-being, while the opposite will occur for combination of the non-desirable temperament profile and the unhealthy family functioning profile. The positive impact of the resilient and reserved profiles on well-being will decrease in families with an unhealthy profile, while the negative effect of the non-desirable profile on psychological well-being will be cushioned in families considered healthy.

METHOD

Participants and procedure

Three hundred and forty-nine Education students at Murcia University (Spain), volunteered for the study. From the original sample, fifteen were excluded for not meeting the age criteria of between 18 and 25 years and two for generalized non-response to all items. The remaining 332 students have an average age of 19.38 and standard deviation of 1.17. The pattern of 2% of missing responses was imputed by the median of cases. Distributed by gender, 75 respondents were male (22.53%) and 258 female (77.47%).

Ethical approval was obtained by the Murcia University ethics committee (ID3537/2021). Students were recruited at several information sessions offered at the Faculty of Education to provide information on the general aims of the research. On volunteering, each participant gave written informed consent before the study. Questionnaires in paper form were administered to each participant in class with the help of trained researchers, and any possible doubts regarding completion were answered.

Instruments

Temperament. University students self-assessed temperament using the short form of the *Adult Temperament Questionnaire* (ATQ; Evans & Rothbart, 2007), 77 items on a 7-point Likert scale (1=extremely untrue, 7= extremely true), which measures the following four broad temperament

dimensions: effortful control (activation control, attentional control and inhibitory control subscales), negative affectivity (fear, frustration, sadness and discomfort subscales), surgency/extraversion (sociability, high intensity pleasure and positive affect subscales) and orienting sensitivity (neutral perceptual sensitivity, affective perceptual sensitivity and associative sensitivity subscales). For research purposes, effortful control, negative affect and surgency scales were used. Examples of items in the test for each scale would be: “Even if I don't feel like it, I can start doing a difficult task” (Effortful Control scale); “I feel frustrated or angry very easily” (Negative Affect scale); “I like conversations that involve several people” (Extraversion/Surgency scale).

We used R *lavaan* package (version 0.6-16; Rosseel, 2012) to perform a confirmatory factor analysis with RML (Robust Maximum Likelihood) estimator to test the four factor-model for ATQ. Using conventional criteria (Marsh et al., 2005, Kline, 2016), we obtained a satisfactory fit: $\chi^2(1739) = 2053.8; p > .01$, CFI = .918, TLI= .905, SRMR=0.073 and RMSEA=0.024 (90% CI: 0.022-0.028), $p > .05$. Measurement reliability of ATQ scales was obtained using R *psych* (version 2.3.9; Revelle, 2022) and R *semTools* (version 0.5-6; Jorgensen et al., 2022). Alpha reliabilities for ATQ scales were .79 (NA), .75 (EF), .71 (SE) and .68 (OS), and Omega 3 reliability were .73 (NA), .71 (EF), .69 (SE) and .59 (OS).

Family functioning. This was assessed using the *Family Adaptability and Cohesion Evaluation Scale* (FACES IV; Olson & Gorall, 2006), in its Spanish adaptation (Rivero et al., 2010). This version discarded some of the original 42 items, resulting in 24 items on a 7-point Likert Scale (1=completely disagree, 7= completely agree). Following the Circumplex model, the scale is divided into two delimited groups: two balanced scales (Cohesion and Flexibility) assessing the moderate and healthy regions of both dimensions, and four unbalanced scales (Disengaged, Enmeshed, Rigid and Chaotic) measuring the lower and upper extremes of Cohesion and Flexibility. Examples of test items for each scale would be: “We feel very close to each other” (Cohesion scale); “Our family tries to find new ways to deal with problems (Flexibility scale); “We spend too much time together” (Enmeshed scale); “When we are at home, we seem to avoid contact with each other” (Disengaged scale); “There

are strict consequences for those who break the rules in our family” (Rigid scale); “In our family we never seem to be organized” (Chaotic scale).

A confirmatory factor analysis with MLR estimation obtained a reasonable fit to the six factor-model for the Spanish version of FACES IV: $\chi^2(207) = 314.09; p < .05$, CFI = .953, TLI=.942, Robust RMSEA = .042 (90% CI: 0.032-0.051), $p > .05$ and SMSR = .053. Alpha reliabilities for FACES scales were .68 (FC1), .81 (FC2), .76 (FC3), .75 (FC4), .58 (FC5) and .77 (FC6), and Omega 3 reliability were .69 (FC1), .80 (FC2), .77 (FC3), .73 (FC4), .56 (FC5) and .76 (FC6).

Psychological Well-Being. To measure students’ PWB we used the Ryff scale of psychological well-being (Ryff, 1989; Ryff & Keyes, 1995, van Dierendock, 2004) in its Spanish version (Díaz et al., 2006) comprising 29 items on a 6-point Likert scale (from 1: totally disagree to 6: totally agree). This is a reduced version of the Ryff six-factor model which contributes to an individual’s psychological well-being. Factors are as follows: 1) Self-acceptance, 2) Positive relationships with others, 3) Autonomy, 4) Environmental mastery, 5) Purpose in life, and 6) Personal growth and development. Examples of test items for each scale would be: “In general I feel confident and positive about myself” (Self-acceptance); “Most people see me as loving and affectionate” (Positive relationships); “My decisions are not usually influenced by what everyone else is doing” (Autonomy); “In general I feel I am in charge of the situation in which I live” (Environmental mastery); “I have a sense of direction and purpose in life” (Purpose in life); “I have the sense that I have developed a lot as a person over time” (Personal growth and development”.

We also carried out a confirmatory factor analysis to test the six-factor model of the Psychological Well-Being scale obtaining a reasonable fit: $\chi^2(304) = 363.793; p > .01$, CFI = .977, TLI = .969, robust RMSEA = 0.027 (90% CI: 0.14- 0.37), $p > .05$ and SRMR = .054. Alpha

reliabilities of the PWB scales ranged from 0.64 (F3) to 0.78 (F1), and composite reliabilities between 0.68 (F3) and 0.76 (F1).

Following suggestions from the Diaz et al. (2006) paper, we also tested whether a second order factor model differed from a first order factor one. Scaled Chi-Square difference test was $\chi^2 = 1.972 (5) = .853$, showing that a general second order PWB factor could also be considered.

Data analysis

Factor scores of PWB scales were obtained using regression method transformed to equal the variance-covariance matrix of factor scores to the variance-covariance matrix of latent variables implied for the model. For descriptive statistics we used composite means and Pearson correlation coefficients with Holm's adjusted probabilities with R *psych* package (Revelle, 2022).

For the first two aims of this study, we use latent profile analysis (LPA) to identify temperament profiles from ATQ and family profiles from FACES IV questionnaires, however, we first eliminated scales of Orienting Sensitivity of ATQ and Rigid of FACES IV due to a very low reliability ($<.60$) and very low or null correlation with other scales and with outcome variable.

LPA is a form of Gaussian Mixture Modeling to identify groups, classes or clusters of individuals (latent profiles) from responses to a set of continuous items, treating the entire population of items as a mixture of subpopulations where individual elements are modeled by conditional probability distributions. For this purpose, we use R package *mclust* (version 6, see Scrucca et al., 2016), which provides functions for parameter estimation by means of EM (Expectation-Maximization) algorithm for maximum likelihood estimation of normal mixture models using 14 different within-group covariance structures (Scrucca et al, 2016, Table 3).

Table 1 is a summary of the best diagonal models obtained (the rest of possible models were discarded because assumed independence) to find an appropriate temperament profile solution, highlighted in bold, where the most relevant criteria used to select the best model were a more parsimonious BIC and ICL, a better Brier Score (a proper score function used to measure accuracy of probabilistic predictions, where lowest values are better; Gneiting & Raftery, 2007), the Averaged Posterior Class Probabilities, which also provide a measure of classification accuracy, where values $>.70$ are more desirable (Masyn, 2013), and the Bootstrapped Likelihood Ratio Test (BLRT; McLachlan & Rathnayake, 2014), where a nonsignificant result comparing adjacent classes supports the $k-1$ class over the k class model. No appropriate model was detected in our sample with BLR test, ($p > .05$) but we tested one to five classes using an elbow plot as suggested in Masyn (2013, p. 572), and a clear angle was detected with 3-class model. The best solution finally selected using the rest of criteria (EVI model, with diagonal distribution, equal volume and variable shape) identified three clusters: (1) a first cluster (106 cases) with scores well below average in Negative affect, above average in Effortful control and well above average in Surgency/Extraversion (“resilient”); a second cluster (81cases), with scores well below average in Negative Affect and Surgency/Extraversion, and above average in Effortful control (“reserved”); and a third cluster - (145 cases), with scores well below average in Effortful control and Surgency/Extraversion, and well above average in Negative affect (“non-desirable”). The profiles scored in the expected line at conceptual level.

PLEASE, PLACE TABLE 1 HERE

A similar procedure was used to find an appropriate profile solution for FACES scales. Table 2 is a summary of the best models highlighted in bold. We finally selected the VVE model (ellipsoidal distribution, variable volume and shape), with the best Brier and Mean Uncertainty criteria, and Bootstrap LMR was significant testing 3 versus 2 profiles (with $P > .01$). The selected solution identified a first cluster (238 cases), with scores above average on the balanced cohesion and flexibility scales, and on the unbalanced enmeshed scale, and below average on the unbalanced disengaged and chaos scales (for healthy family) and a second (94 cases), with scores well below

average on the balanced cohesion and flexibility scales, below average on the unbalanced enmeshed scale and well above average on the unbalanced disengaged and chaos scales (for unhealthy family).

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The general linear model was used to analyze the relationship between latent profiles and Psychological Well-Being including gender as covariate. We first assessed the criteria of linear models with R *gvlm* package (Peña & Slate, 2006). Post-hoc analyses were run using R package *emmeans* (version 1.8.8; Lenth et al., 2023), to estimate population marginal means, pairwise comparisons and effect sizes for factor combinations of models used, as suggested by Searle et al. (1980).

Overall, in this research we used an explanatory cross-sectional design with latent variables (LVD) (Ato et al, 2013, p. 1051) with SEM and latent profile analysis and a predictive cross-sectional design (XPD) to explore the relationship between latent profiles and the outcome variable.

We did not run an a priori power analysis, as we had planned the original study with a moderate sample size (350) to use with SEM, latent profile analysis and general linear modeling. However, we did run a post-hoc power analysis with R *semPower* program (version 2.1.0, Moshagen & Bader, 2024) with the compromise of balance by matching the alpha and beta error risks, following suggestions by Moshagen & Erdfelder (2016). With $N=320$ and $df=304$, the power to detect misspecifications of our SEM models corresponding to a $RMSEA=.05$ and $\alpha=.05$ was 99.2%. Similarly, for a recommended power of 0.8, the minimum sample size required to estimate the most complex general linear model used in this research was 118.

Results

Descriptive statistics of composite scores (means and standard deviations, global and by gender), Pearson (or point biserial) correlations and Holm's corrected probabilities between all scales

of Psychological Well-Being (PWB) and proportions for dummy variables for ATQ and FACES latent profiles are shown in Table 3. Examination of the correlation matrix revealed that all correlations between means of PWB factor scores and resilient latent profile were significant, but reserved were non-significant with all factors, except PWB 6 (Personal Growth and Development), whereas an opposite pattern was observed for non-desirable. FACES latent profile correlations were not significant with PWB factors 6 and 3 (Autonomy) nor with reserved ATQ profile.

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A general linear analysis was conducted to know the individual and additive effects of ATQ and FACES profiles on a 2nd order factor of Psychological Well-Being (PWB-2). Though our original approach did not include analysing the effect of gender, given the imbalance between the number of men and women in our sample, we felt it necessary to include it as a covariate. After confirming its effect was not significant, we once again replicated the analyses without its inclusion. After testing the fulfilment of assumptions of linear models, we found sound additive effects of ATQ and FACES profiles on PWB-2: $F(3,328)=36.16$; $P<.001$, $\eta^2 = 0.24$, and significant effects of individual ATQ: $F(2,329)=38.45$; $P<.001$, $\eta^2 = 0.19$, and FACES profiles: $F(1, 330) = 38.41$; $P < .001$, $\eta^2 = 0.10$. The same analyses were performed with all six first-order factors of PWB, as shown in Table 4.

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A post hoc analysis estimated marginal means with 95% CI, paired contrasts between individual effects of ATQ (Table 5) and FACES latent profiles (Table 6) with Tukey t-test and Holm-adjusted probability for multiple comparisons also including an effect size measure (Cohen's delta). We found significant differences in pairwise contrasts of FACES latent profiles, and for all ATQ latent profiles, except for differences between reserved and non-desirable for factors 2, 5 and 6 of PWB.

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We tested the joint effects of ATQ and FACES profiles on PWB. We found that interaction was not significant, and then proceeded to test the additive effects of both profiles. Table 7 shows the marginal estimated means, paired contrasts between levels of profiles with Tukey t-test Holm-adjusted probabilities for main comparisons and Cohen's delta effect sizes. For healthy families, the trend is similar to that in the general case, positive and highest for resilient, followed by reserved and negative and lowest for non-desirable. This trend is also similar, but much more reduced, for resilient and non-desirable temperaments in unhealthy families. In the case of reserved students, an opposite trend was observed in unhealthy families, with negative scores in all PWB factors. Pairwise differences between reserved and non-desirable profiles were again not significant for PWB factors 2, 5 and 6.

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DISCUSSION

Our study aims to explore the effect (independent and joint) of temperament and family functioning on the psychological well-being of a sample of Spanish emergent adults. Results show that resilient temperament significantly predicted higher scores in psychological well-being, unlike the non-desirable profile. Regarding the reserved temperament profile, its contribution to the psychological well-being of young people was not significant, except for the Personal growth and development dimension, where it was negative. As for the impact of family functioning profiles on young people's psychological well-being, the healthy profile was associated with higher scores in psychological well-being, while the unhealthy profile showed the opposite pattern. Interaction between temperament profiles and family functioning was not significant in explaining psychological well-being, though the analysis of means suggests that the combination of the non-desirable

temperament profile and the unhealthy family profile are associated with lowest scores on all psychological well-being scales.

For the first aim of our study, we performed latent profile analysis resulting in three types of temperament profiles, considering constructs of surgency/extraversion, effortful control and negative emotionality. These profiles are similar to those in prior studies on personality and temperament (Grumm & von Collani, 2009; Hirvonen et al., 2018; Komsí et al., 2006; Rammstedt et al., 2004) classified into: (1) *resilient*, with high scores in surgency /extraversion and effortful control, and low in negative emotionality; (2) *reserved*, with high scores in effortful control, and low in surgency /extraversion and negative emotionality; and (3) *non-desirable*, with high scores in negative emotionality, and low in surgency/extraversion and effortful control. Analysis of the effect of temperament profiles on psychological well-being showed significant differences among all. In line with expectations, the “resilient” temperament profile was linked to a higher level of well-being for all scale dimensions unlike the “non-desirable” profile, which in all dimensions associated negatively with psychological well-being.

Despite extensive literature connecting personality traits and psychological well-being (Joshani & Rastegar, 2007; Ryff, 2013; Schmutte & Ryff, 1997), studies are scarce which analyze the relationship between temperament and well-being from a eudamonic viewpoint. A study by García and Siddiqui (2009) found adolescents with a “self-actualizing” profile (high positive affect and low negative affect) scored significantly higher in psychological well-being, while the “self-destructive” profile (low positive affect and high negative affect) was linked to lower well-being scores. Similarly, our study corroborates that the combination of high positive affect and low negative affect contributes significantly to psychological well-being, contrary to the reverse pattern. It also highlights the importance of effortful control in the well-being of young people. An explanation for these data is that temperamentally, young people who show greater ease in regulating their emotional arousal, enjoy relationships and positive stimuli, exhibit fewer negative emotions, can be expected to adapt better to their environment, possess a larger, more solid social network and fewer adjustment problems. This will help them accept themselves better, have more positive relationships, be more autonomous, feel

greater mastery of their environment, and more easily identify and develop both capabilities and potential and purpose in life. The opposite will occur in young people who struggle to regulate their arousal and who exhibit more negative emotions, since this temperament profile will cause adjustment problems and difficulties in relationships, ultimately decreasing psychological well-being in all areas.

As it was quite unexpected, it is worth mentioning the relationship reported in our study between the reserved temperament profile and students' psychological well-being. This profile was only significantly associated with well-being in the area of personal growth, and not with the rest of dimensions of psychological well-being. This single association was also negative, meaning young people with this profile reported significantly lower scores on this scale. In previous research, the reserved profile (or equivalent) was linked to fewer behavioral problems (Grumm & von Collani, 2009; Janson & Mathiesen, 2008), average levels of subjective health (Kinnunen et al., 2012), good social adjustment (Dollar et al., 2017) and better socioemotional functioning (Hirvonen et al., 2018), among other adjustment indicators. In our sample, a more "neutral" or even potentially negative profile resulted in its contribution to the adjustment of individuals.

In deeper analysis of this result, it is expected that reserved students' high levels of self-regulation and low levels of negative emotionality act as a protective mechanism at a psychological level, helping them adapt and adjust to their environment. Nevertheless, low levels of surgency/extraversion associated with this profile seem to affect individuals negatively, decreasing psychological well-being when compared to resilient individuals, who score high in this dimension. This leads us to believe surgency/extraversion significantly contributes to the perceived well-being of young people in Spanish culture which is unsurprising as a large part of Spanish identity is constructed on the number and quality of the individual's social relationships. Although in emotional and self-regulatory terms, reserved young people would perform well, they would not reach cultural expectation regarding relationships and "social life", which would decrease their perceived well-being. Surgency/extraversion might also be an important trait in emerging adulthood, this being a stage where important relationships are built (partner, co-workers, friends, etc.), which can put the reserved temperament at risk of lower psychological well-being.

As for the second aim, the analysis of latent profiles for family functioning enabled us to discriminate two profiles : (1) *healthy*, with scores above average on cohesion and flexibility scales, scores slightly above average on the enmeshed scale, average scores on the rigidity scale and below average and very below average on chaos and disengaged scales respectively; (2) *unhealthy*, with scores well above average on the disengaged scale, above average on chaos scale, average scores on rigid scale, scores slightly below average on enmeshed scale and very below the average in cohesion and flexibility scales. In configuration of these profiles, it is striking that the enmeshed scale, considered a priori unbalanced, behaves within the profile as a balanced scale, to the degree that it is associated with more positive family functioning. Olson's paradigm proposes that if cultural norms and expectations support “extreme” patterns, the family can work properly depending how it adapts to expectations (Olson et al., 2019). This hypothesis would help explain this unexpected data, since beliefs and social expectations in the Mediterranean culture regarding attachment and family ties would support this “extreme” family functioning. As Spanish culture has collectivist roots, relationships between parents and children stimulate and encourage dependence and intense cohesion, this being understood as a sign of love and bonding, not toxic or intrusive. The opposite would occur in cultures such as the Anglo-Saxon where young people at these ages often live outside the family home, and relationships with parents are less dependent and close (Manzi et al., 2006).

As expected, the healthy family functioning profile was significantly and positively associated with all dimensions of psychological well-being, while the unhealthy profile showed the opposite pattern. Prior studies have linked aspects of family functioning, such as cohesion or involvement to subjective well-being (Asici & Sari, 2021; Brannan et al., 2013; Schnettler et al., 2014, Xiang et al., 2020). However, to our knowledge, no studies have analyzed the relationship between family functioning and psychological well-being in the emerging adulthood stage. These data enable discriminating between good and poor family functioning in Spanish culture, and corroborate the continuing importance of family at this development stage as regards psychological well-being. It appears families with a close connection and flexible but not chaotic structuring of roles and tasks,

contribute to young Spaniards' greater well-being at all levels. The opposite occurs for individuals in disengaged and/or chaotic families.

Our work aimed to analyze the joint effect of temperament and family functioning profiles on the psychological well-being of emerging adults, although no interaction effect was found. There are some possible explanations for this result. Firstly, the combination of dimensions needed for creation of profiles might mask the independent interaction effect of specific dimensions on psychological well-being. Kiff et al. (2011), state that such effects in psychology tend to be small as the effect of measurement error is amplified when compared to first-order predictors. This causes underestimation of the effect size for interactive effects, those much larger being favored (Aiken & West, 1991). However, we consider that exploring this interaction from the profile approach, even when not significant, offers essential information in understanding how different "types" of temperament and family functioning behave together in explaining the adjustment of individuals. In this line, analysis of psychological well-being averages for each temperament profile separated by parental profile indicates that individuals with resilient profiles show significantly lower levels of psychological well-being in families with an unhealthy profile, compared to resilient temperament in a positive family environment. The opposite pattern emerges in the non-desirable temperament profile. Thus, the combination of non-desirable temperament and unhealthy family functioning is associated with the worst scores in psychological well-being. In the case of reserved students, the centered means indicates a change in trend as regards perception of well-being, the mean being positive when combined with healthy family functioning, and negative in families with an unhealthy profile. Therefore, a cohesive and flexible environment is especially relevant for reserved young people, perhaps as close emotional bonding and a structured but flexible environment make them feel more protected and compensated for their "social insecurity."

To summarize, our study confirms the importance of an individual's temperamental profile on their psychological well-being, with resilient profiles predicting greater well-being, in contrast to non-desirable profiles. Similarly, children from families with moderately cohesive and flexible family functioning profiles scored higher in well-being compared to those with extreme levels of flexibility

and low cohesion. In addition, our data corroborate the independent effect of temperament and family functioning on the psychological well-being of emerging adults. Overall, this pattern of results has key practical and clinical implications. Firstly, it highlights the significance of temperamental characteristics on development, especially when combined to configure profiles which are roughly “adjusted” to the individual's culture. In this line, it is necessary to continue working on the surgency/extraversion trait in Spanish families, as this has implications for the psychological well-being of emerging adults mainly when associated with low negative emotionality and high effortful control. For that purpose, educational institutions and professionals should recognize the importance of surgency temperamental trait for well-being, implementing appropriate actions to address it in educational and clinical settings, and within the family environment. Additionally, understanding which temperamental profiles put individuals at risk for lower well-being allows for the design of preventive and intervention strategies aimed at shaping temperamental traits into the most beneficial combination for the individual.

Furthermore, our study highlights the contribution of the family to psychological well-being beyond adolescence, a stage many consider loses importance as regards the individual's adjustment. It also provides information on how cultural beliefs affect perception of optimal family functioning, which in Spanish culture, unlike other cultures, appears linked to higher levels of cohesion. In the field of intervention, these data would advocate helping families to actively work on cohesion among members, while favoring structured but flexible environments where young people find balance between control and autonomy. Finally, our study suggests the design of programs to work on psychological well-being of emerging adults must attend to the combined action of temperament and family, especially in reserved temperaments, since its combination with optimal family functioning can better protect these temperaments. In conclusion, we believe that the findings provided by this study may be very useful for university departments focused on addressing the mental health issues of students, as it offers valuable information on protective and risk factors that can contribute to improving the psychological well-being of university students.

As for limitations of and areas for improvement of our work, it must be stressed our data analysis does not enable establishing a causal relationship between variables considered, thus interpretation of results should be taken with caution. A longitudinal design where evolution of different profiles and their effect on well-being over time is analyzed, would better help determine how variables are related. A further limitation is that our study sample of university students may entail bias related to participants' socioeconomic and cultural status. For future studies, a more heterogeneous sample regarding socioeconomic status and training would be useful, as this would allow us to analyze how sociodemographic variables affect the psychological individual well-being in the emerging adulthood stage.

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Table 1.

Summary of statistical criteria used to select a latent profile solution for ATQ scales between diagonal models for multivariate data

Model,# clusters	Cluster size	BIC	ICL	df	Brier Score	Averaged PCP	Mean Uncertainty	Bootstrapped LMR test	P(LMR)
EEI, 2	139/193	-9361	-9422	31	.020	.93/.92	.078	314.0	<.001
EEI, 3	117/103/112	-9298	-9391	42	.032	.90/.87/.88	.116	127.5	<.001
EEI, 4	75/68/76/113	-9262	-9381	53	.042	.86/.83/.88/.85	.146	96.0	<.001
VEI, 2	139/193	-9367	-9426	32	.020	.93/.92	.077	314.5	<.001
VEI, 3	110/111/111	-9301	-9390	44	.030	.88/.90/.88	.112	135.2	<.001
VEI, 4	78/68/79/107	-9269	-9384	56	.040	.85/.85/.87/.87	.141	102.0	<.001
EVI, 2	145/187	-9401	-9463	40	.022	.93/.92	.078	326.8	<.001
<u>EVI, 3</u>	<u>106/81/145</u>	<u>-9345</u>	<u>-9438</u>	<u>60</u>	<u>.032</u>	<u>.88/.88/.89</u>	<u>.116</u>	<u>171.8</u>	<u><.001</u>
EVI, 4	68/88/89/87	-9353	-9459	80	.036	.84/.87/.91/.85	.132	108.7	<.001
VVI, 2	142/190	-9406	-9468	41	.022	.93/.91	.078	327.0	<.001
VVI, 3	103/79/150	-9352	-9441	62	.033	.88/.88/.90	.111	176.1	<.001
VVI, 4	63/90/89/90	-9358	-9463	83	.036	.87/.86/.90/.85	.130	115.3	<.001

Diagonal models used differ in the geometric characteristics of within-group covariance matrices: *volume* (equal for EEI and EVI and variable for VEI and VVI) and *shape* (equal for EEI and VEI and variable for EVI and VVI). *BIC*: Bayesian information criterion; *ICL*: Integrated complete-data likelihood criterion; *Averaged PCP*: Averaged Posterior Class Probabilities; *Mean Uncert*: Mean Uncertainty, *BLR test*: Bootstrapped Likelihood Ratio test.

*Bold indicates the most appropriate temperament profile solution for each of the diagonal models

*Underline indicates the final chosen model for temperament profiles

Table 2.

Summary of statistical criteria used to select a latent profile solution for FACES scales between diagonal and ellipsoidal models for multivariate data

Model	Cluster size	BIC	ICL	df	Brier Score	Averaged PCP	Mean Uncert.	Bootstrap LMR test	P(LMR)
VEI, 2	218/114	-4435	-4461	20	.008	.97/.96	.033	651.4	<.001
VEI, 3	173/52/107	-4332	-4394	28	.022	.93/.94/.90	.079	149.7	<.001
VEI, 4	139/64/44/85	-4306	-4400	36	.033	.87/.86/.91/.90	.120	71.6	<.001
VEI, 5	78/69/136/44/5	-4307	-4400	44	.033	.88/.85/.89/.91/.99	.118	46.1	<.001
VVI, 2	210/122	-4414	-4442	25	.010	.97/.95	.036	700.7	<.001
VVI, 3	109/89/134	-4341	-4308	38	.022	.92/.96/.88	.086	149.0	<.001
VVI, 4	102/85/94/51	-4394	-4492	51	.033	.85/.85/.96/.78	.122	22.1	0.409
VEE, 2	243/89	-4303	-4364	35	.020	.93/.91	.079	145.2	<.001
VEE,3	166/107/59	-4316	-4424	43	.035	.88/.88/.89	.135	33.9	0.006
VEE,4	133/46/102/51	-4339	-4484	51	.050	.81/.77/.88/.79	.176	23.7	0.055
<u>VVE 2</u>	<u>238/94</u>	<u>-4311</u>	<u>-4368</u>	<u>40</u>	<u>.018</u>	<u>.94/.89</u>	<u>.074</u>	<u>166.0</u>	<.001
VVE,3	101/98/133	-4335	-4455	53	.041	.85/.89/.82	.151	51.8	0.016
VVE,4	107/63/72/90	-4380	-4511	66	.045	.87/.86/.90/.85	.161	30.3	<.253
VVV,2	221/111	-4335	-4400	55	.022	.92/.90	.084	229.8	<.001
VVV,3	173/81/78	-4461	-4555	83	.031	.90/.90/.81	.120	36.6	0.938
VVV,4	79/139/68/46	-4525	-4635	111	.041	.80/.89/.92/.82	.136	NA	NA

Within group covariance matrix of diagonal models (VEI and VVI) differ in shape (equal for VEI and variable for VVI). Ellipsoidal models (VEE, VVE and VVV) differs in shape (equal for VEE and variable for VVE and VVV). VVE and VVV differ in orientation (coordinate axes are equal in VVE and variable in VVV). *BIC*: Bayesian information criterion; *ICL*: Integrated complete-data likelihood criterion; *Averaged PCP*: Averaged Posterior Class Probabilities; *Mean Uncert*: Mean Uncertainty, *BLR test*: Bootstrapped Likelihood Ratio test.

*Bold indicates the most appropriate temperament profile solution for each of the diagonal models

*Underline indicates the final chosen model for temperament profiles

Table 3.

Composite means (for PWB factors), proportions (for ATQ and FACES profiles), and correlations (lower) and Holm's adjusted probabilities (upper).

	<i>Mean (SD)</i>			<i>Correlations (down) and Holm's corrected probabilities (up)</i>										
	<i>Male n=75</i>	<i>Female n=257</i>	<i>Total n=332</i>	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>	<i>(8)</i>	<i>(9)</i>	<i>(10)</i>	<i>(11)</i>
<i>(1) PWB1</i>	4.63 (0.83)	4.40 (0.92)	4.45 (0.91)		.00	.00	.00	.00	.00	.00	1.0	.00	.00	.00
<i>(2) PWB2</i>	4.63 (0.89)	4.57 (1.03)	4.58 (1.00)	.41		.00	.00	.00	.00	.00	.63	.00	.00	.00
<i>(3) PWB3</i>	4.11(0.80)	3.88 (0.94)	3.93 (0.91)	.41	.37		.00	.00	.00	.00	1.0	.00	.25	.25
<i>(4) PWB4</i>	4.19 (0.74)	4.09 (0.85)	4.11 (0.83)	.56	.39	.41		.00	.00	.00	1.0	.00	.00	.00
<i>(5) PWB5</i>	4.49 (0.82)	4.54 (0.84)	4.53 (0.84)	.68	.31	.27	.62		.00	.00	1.0	.00	.00	.00
<i>(6) PWB6</i>	4.79 (0.71)	4.99 (0.81)	4.94 (0.79)	.48	.31	.26	.33	.50		.00	.01	.51	.25	.25
<i>(7) ATQ1</i>	0.28 (0.45)	0.35 (0.58)	0.32 (0.47)	.37	.33	.27	.36	.35	.27		.00	.00	.01	.01
<i>(8) ATQ2</i>	0.37 (0.49)	0.18 (0.38)	0.24 (0.41)	.01	-.09	-.01	.02	-.06	-.18	-.38		.00	1.0	1.0
<i>(9) ATQ3</i>	0.35 (0.48)	0.47 (0.50)	0.44 (0.50)	-.36	-.23	-.25	-.36	-.28	-.10	-.64	-.47		.00	.00
<i>(10) FA1</i>	0.71 (0.42)	0.74 (0.43)	0.72 (0.43)	.27	.25	.13	.34	.28	.13	.19	.03	-.21		.00
<i>(11) FA2</i>	0.29 (0.42)	0.26 (0.43)	0.28 (0.43)	-.27	-.25	-.13	-.34	-.28	-.13	-.19	-.03	-.21	-1.0	

PWB1: Self-acceptance; PWB2: Positive relations; PWB3: Autonomy; PWB4: Environmental mastery; PWB5: Purpose in life; PWB6: Personal growth and development

ATQ1: Resilient; ATQ2: Reserved; ATQ3: Non-desirable

FA1: Healthy; FA2: Unhealthy

Table 4.

ANOVA effects of ATQ and FACES-IV latent profiles on factors scores of Psychological Well-Being scale

<i>Factors</i>	<i>F Additive</i>	<i>Adj. η^2</i>	<i>F for ATQ Profile</i>	<i>F for FACES Profile</i>
PWB-2	F (3,328) = 36.16 ***	0.242	F(2,329) = 38.45 ***	F(1,330) = 38.41 ***
PWB-F1	F (3,328) = 33.88 ***	0.237	F(2,329) = 23.61 ***	F(1,330) = 23.40 ***
PWB-F2	F (3,328) = 15.87 ***	0.152	F(2,329) = 23.90 ***	F(1,330) = 15.74 ***
PWB-F3	F (3,328) = 13.94 ***	0.135	F(2,329) = 24.65 ***	F(1,330) = 12.54 ***
PWB-F4	F (3,328) = 31.07 ***	0.267	F(2,329) = 45.52 ***	F(1,330) = 40.97 ***
PWB-F5	F (3,328) = 23.02 ***	0.210	F(2,329) = 32.41 ***	F(1,330) = 36.70 ***
PWB-F6	F (3,328) = 10.82 ***	0.106	F(2,329) = 18.44 ***	F(1,330) = 11.23 ***

PWB-2: factor scores for a general, second order factor; PWB-F1 to F6: factor scores for the six first order scales of PWB.

***: $P < .001$; **: $P < .01$; *: $P < .05$

PWB-F1: Self-acceptance; PWB-F2: Positive relations; PWB-F3: Autonomy; PWB-F4: Environmental mastery; PWB-F5: Purpose in life; PWB-F6: Personal growth and development

Table 5.*Post hoc analysis of ATQ profiles on Psychological Well-Being factor scores*

	<i>ATQ profiles</i>	<i>Means (C.I. 95%)</i>	<i>Contrast</i>	<i>Tukey t (df)</i>	<i>Holm's adjusted P</i>	<i>Cohen's δ (C.I.95%)</i>
PWB1	1 (Resilient)	0.426 (0.30/0.55)	1-2	4.69 (329)	<.001	0.706 (.41/1.01)
	2 (Reserved)	-0.043 (-0.20/ 0.11)	1-3	8.75 (329)	<.001	1.097 (.85/1.34)
	3 (Non-desirable)	-0.303 (-0.41/-0.20)	2-3	2.73 (329)	<.05	0.391 (.11/.68)
PWB2	1 (Resilient)	0.541 (0.35/0.74)	1-2	4.47 (329)	<.001	0.672 (.41/1.01)
	2 (Reserved)	-0.157 (-0.40/0.08)	1-3	6.72 (329)	<.001	0.842 (.60/1.09)
	3 (Non-desirable)	-0.334 (-0.50/-0.17)	2-3	1.19 (329)	>.05	0.170 (-0.11/.45)
PWB3	1 (Resilient)	0.204 (0.13/0.28)	1-2	2.96 (329)	<.001	0.181 (.06/.29)
	2 (Reserved)	-0.015 (-0.06/0.11)	1-3	6.90 (329)	<.001	0.353 (.25/.45)
	3 (Non-desirable)	-0.163 (-0.23/-0.09)	2-3	2.94 (329)	<.05	0.172 (.06/.29)
PWB4	1 (Resilient)	0.523 (0.38/0.67)	1-2	4.35 (329)	<.001	0.490 (.27/.71)
	2 (Reserved)	0.014 (-0.17/0.19)	1-3	9.51 (329)	<.001	0.892 (.71/1.08)
	3 (Non-desirable)	-0.405 (-0.53/-0.28)	2-3	3.76 (329)	<.05	0.402 (.19/.62)
PWB5	1 (Resilient)	0.289 (0.20/0.38)	1-2	4.48 (329)	<.001	0.316 (.18/.46)
	2 (Reserved)	-0.039 (-0.15/0.07)	1-3	8.01 (329)	<.001	0.470 (.35/.59)
	3 (Non-desirable)	-0.200 (-0.28/-0.12)	2-3	2.31 (329)	>.05	0.155 (.02/.29)
PWB6	1 (Resilient)	0.247 (0.15/0.35)	1-2	4.90 (329)	<.001	0.375 (.23/.53)
	2 (Reserved)	-0.143 (-0.27/-0.02)	1-3	5.48 (329)	<.001	0.350 (.22/.48)
	3 (Non-desirable)	-0.117 (-0.20/-0.03)	2-3	-0.35 (329)	>.05	-0.025 (-.17/.12)

PWB1: Self-acceptance; PWB2: Positive relations; PWB3: Autonomy; PWB4: Environmental mastery; PWB5: Purpose in life; PWB6: Personal growth and development

Table 6.*Post hoc analysis of FACES profiles on Psychological Well-Being factors*

	<i>FACES profiles</i>	<i>Means (C.I. 95%)</i>	<i>Contrast</i>	<i>Tukey t (df)</i>	<i>Holm's P</i>	<i>Cohen's δ (C.I.95%)</i>
PWB1	1 (Healthy)	0.127 (0.04/0.21)	1-2	5.85 (330)	<.001	0.750 (0.50/1.00)
	2 (Unhealthy)	-0.400 (-0.55/-0.25)				
PWB2	1 (Healthy)	0.160 (0.03/0.29)	1-2	4.84 (330)	<.001	0.949 (0.56/1.34)
	2 (Unhealthy)	-0.506 (-0.74/-0.27)				
PWB3	1 (Healthy)	0.047 (-0.01/0.10)	1-2	3.54 (330)	<.001	0.288 (0.13/.45)
	2 (Unhealthy)	-0.153 (-0.25/-0.06)				
PWB4	1 (Healthy)	0.164 (0.06/0.27)	1-2	6.40 (330)	<.001	0.968 (0.67/1.27)
	2 (Unhealthy)	-0.516 (-0.70/-0.33)				
PWB5	1 (Healthy)	0.094 (0.03/0.16)	1-2	6.06 (330)	<.001	0.559 (0.37/.74)
	2 (Unhealthy)	-0.298 (-0.41/-0.19)				
PWB6	1 (Healthy)	0.057 (-0.01/0.13)	1-2	3.35 (330)	<.001	0.336 (0.14/.53)
	2 (Unhealthy)	-0.179 (-0.30/-0.06)				

PWB1: Self-acceptance; PWB2: Positive relations; PWB3: Autonomy; PWB4: Environmental mastery; PWB5: Purpose in life; PWB6: Personal growth and development

Table 7.

Estimated marginal means, contrasts and effect sizes of ATQ and FACES-IV latent profiles on Psychological Well-Being factors

	<i>ATQ Profiles: Means (C.I. 95%)</i>	<i>Contrasts: t (Holm's P)</i>	<i>Cohen's δ (SE)</i>		<i>ATQ Profiles: Means (C.I. 95%)</i>	<i>Contrasts: t (Holm's P)</i>	<i>Cohen's δ (SE)</i>
PWB-F1	1: 0.474 (.352/.596)	1-2: 4.44; <.001	0.48 (.11)	PWB-F4	1: 0.584 (.443/.726)	1-2: 4.08; <.001	0.51 (.13)
Healthy families	2: 0.041 (-.113 /.194)	1-3: 7.79; <.001	0.72 (.09)	Healthy families	2: 0.122 (-.056 /.300)	1-3: 8.51; <.001	0.91 (.11)
	3: -0.173 (-.294 /-.054)	2-3: 2.30; <.05	0.24 (.10)		3: -0.237 (-.375/-.098)	2-3: 3.31; <.01	0.40 (.12)
Unhealthy families	1: 0.091 (-.098/-.144)			Unhealthy families	1: 0.090 (-.130/.310)		
	2: -0.342 (-.540/.102)				2: -0.372 (-.602/-.142)		
	3: -0.556 (-.708/-.403)				3: -0.731 (-.908/-.554)		
PWB-F2	1: 0.604 (.411/.796)	1-2: 4.23; <.001	0.72 (.17)	PWB-F5	1: 0.326 (.237/.415)	1-2: 4.22; <.001	0.33 (.08)
Healthy families	2: 0.048 (-.290 /.194)	1-3: 5.86; <.001	0.85 (.15)	Healthy families	2: 0.026 (-.086 /.138)	1-3: 7.02; <.001	0.47 (.07)
	3: -0.165 (-.353/.024)	2-3: 0.79; >.05	0.13 (.16)		3: -0.099 (-.186/-.012)	2-3: 1.84; >.05	0.14 (.08)
Unhealthy families	1: 0.105 (- 0.194/ 0.404)			Unhealthy families	1: 0.028 (- 0.110/ 0.166)		
	2: -0.547 (-.859/-.234)				2: -0.272 (-.416/-.128)		
	3: -0.663 (-.904/-.423)				3: -0.397 (-.508/-.286)		
PWB-F3	1: 0.220 (.411/.796)	1-2: 2.78; <.01	0.20 (.07)	PWB-F6	1: 0.268 (.169/.367)	1-2: 4.27; <.001	0.41 (.09)
Healthy families	2: 0.043 (-.290/.194)	1-3: 6.28; <.001	0.38 (.06)	Healthy families	2: 0.107 (-.232/.018)	1-3: 4.85; <.001	0.36 (.08)
	3: -.0121 (-.353/.024)	2:3: 2.69; <.01	0.18 (.07)		3: -0.062 (-.157/.037)	2-3: -0.62; >.05	0.00 (.08)
Unhealthy families	1: 0.105 (-.194/.404)			Unhealthy families	1: 0.101 (-.053/.255)		
	2: -0.547 (-.859/-.234)				2: -0.274 (-.435/-.234)		
	3: -0.663 (-.904/-.423)				3: -0.227 (-.351/-.103)		

PWB1-PWB6: first-order factor scores of Psychological Well-Being scale

PWB-F1: Self-acceptance; PWB-F2: Positive relations; PWB-F3: Autonomy; PWB-F4: Environmental mastery; PWB-F5: Purpose in life; PWB-F6: Personal growth and development