




# Initial Proposal of an Explanatory Model of the Sense of Life in University Students

## *Propuesta inicial de un modelo explicativo del sentido de vida en universitarios*

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### Abstract

The purpose of this study was to examine an explanatory model of the meaning of life based on subjective happiness and life satisfaction in young university students in Tacna. A non-probabilistic convenience sampling was carried out, recruiting 150 participants between 18 and 34 years of age in the city of Tacna. Three measurement instruments were applied: the Sense of Life test, the Subjective Happiness Scale and the Satisfaction with Life Scale. The results revealed that the model varied according to the estimator used, the most appropriate being the WLSMV, which showed acceptable indexes ( $X^2/df=0.19$ ; CFI=1.00; TLI=1.02; PFNI=0.79; SRMR=0.03; RMSEA=0.00), making it the most appropriate option. In addition, some values higher than one were observed, possibly attributable to the amount of data used in the analysis. Consequently, it is concluded that both subjective happiness and life satisfaction act as predictors of meaning in life.

**Keywords:** meaning of life, subjective happiness, life satisfaction, structural model.

### Resumen

El propósito de este estudio fue examinar un modelo explicativo del sentido de la vida basado en la felicidad subjetiva y la satisfacción con la vida en jóvenes universitarios de Tacna. Se llevó a cabo un muestreo no probabilístico por conveniencia, reclutando a 150 participantes de entre 18 y 34 años en la ciudad de Tacna. Se aplicaron tres instrumentos de medición: la prueba de Sentido de Vida, la Escala de Felicidad Subjetiva y la Escala de Satisfacción con la Vida. Los resultados revelaron que el modelo variaba según el estimador utilizado, siendo el más apropiado el WLSMV, que mostró índices aceptables ( $X^2/df=0.19$ ; CFI=1.00; TLI=1.02; PFNI=0.79; SRMR=0.03; RMSEA=0.00), lo que lo convierte en la opción más adecuada. Además, se observaron algunos valores superiores a uno, posiblemente atribuibles a la cantidad de datos empleados en el análisis. En consecuencia, se concluye que tanto la felicidad subjetiva como la satisfacción con la vida actúan como predictores del sentido de la vida.

**Palabras clave:** sentido de la vida, felicidad subjetiva, satisfacción con la vida, modelo estructural.

## INTRODUCTION

As research has progressed, various areas related to the growth and functional development of the individual have been explored in greater depth. From the psychological perspective, the importance of addressing aspects related to mental health has been emphasized, as well as understanding the interaction of variables that can influence well-being, quality of life, and general state of health (Rubio, 2015).

The concept of the meaning of life occupies a central place in Logotherapy, developed by Viktor Emil Frankl, who considers it fundamental in his theory and therapeutic approach. The meaning of life is related to the primary motivation of the human being and the constant search for answers to the questions that arise in the life of each individual, as well as the way he/she faces and resolves various daily circumstances (Bernardez, 2018).

The characteristics of the life cycle itself can influence the presence of the meaning of life. According to Avellar et al. (2017), as people progress through the different stages of life, it is common for them to find greater purpose and meaning in their lives, while the need to search for that meaning tends to diminish. In addition, they observed that adults and the elderly tend to experience a deeper sense of meaning in the present compared to the young.

In addition, it has been observed that people with a low sense of life are more likely to experience psychopathology, psychological stress, drug use, clinical problems, and more destructive behaviors than those with higher levels of sense of life (Paredes, 2021). Therefore, the presence of a sense of life provides orientation, promotes emotional well-being, increases resilience and happiness, and contributes to overall well-being (Sanchez, 2023).

In this sense, young university students with a sense of life can find meaning in their academic activities, establish goals and commitments, and enhance their learning capacity to overcome the challenges inherent to academic, personal, and professional life, always maintaining a positive attitude. The sense of life from the beginning

of their entry into higher education is crucial to support their adaptation and transition to this new stage, as it constitutes a tool for the comprehensive formation of students and allows the development of their skills and talents (Chan Chi, 2021).

In the field of research, the happiness variable is a relatively modern concept, which has led scholars to recognize that its meaning is not uniform and may vary among different studies (Dinner & Biswas-Diener, 2008). According to Lyubomirsky et al. (2005), subjective happiness is characterized by the presence of more emotionally positive moments, a high frequency of life satisfaction, and a lower incidence of moments with negative emotions. It is a subjective outcome influenced by the perception and individual experience of each individual. In this sense, subjective happiness refers to the personal evaluation that each person makes about his or her degree of happiness, whether in the present, the past, or the future (Salgado & Duque, 2018).

In the field of psychology, subjective happiness and meaning in life are related. According to Rubio (2015), positive associations, mostly statistically significant, have been identified between a sense of life and psychological well-being, as well as with life satisfaction and happiness. Coinciding with this, Paredes (2021) found in his research a highly positive relationship between these variables, indicating that the greater the sense of life, the higher the happiness scores. On the other hand, Caballero-García and Sánchez (2018) conducted a study with university students, where they found no significant differences in the perception of happiness according to gender, age, or choice of studies; however, they observed that the application of an intervention program on positive emotions was effective in significantly increasing the subjective happiness of students in the experimental group compared to the control group.

Considering the above, it can be observed that life satisfaction is closely related to both meaning in life and subjective happiness. Satisfaction with life is based on the evaluation that a person makes about his or her own life, either in its totality or in specific aspects, through a process of subjective comparison with an established

standard (Diener et al., 2012). This concept has been explored from two main perspectives: emotional or affective and cognitive. From the first perspective, life satisfaction is understood as a balance between positive and negative effects, reflecting that a person is happier when positive emotions predominate over negative ones. On the other hand, the cognitive perspective focuses on how people evaluate their lives based on their standards, involving a comparison between the achievements obtained and the expected expectations (García-Viniegras & González, 2000).

According to Zubieta and Delfino (2010), it has been found that young students who experience life satisfaction and psychological well-being show a change in their perception of social well-being. A notable lack of perception of progress and social change is evidenced, as well as a belief in society's ability to control its destiny and intentionally set its future goals, in addition to its ability to generate well-being. These findings are related to the dimensions of meaning in life, including the perception of meaning, the experience of meaning, goals, and tasks, and the dialectic of destiny and freedom (Noblejas, 1994).

On the other hand, Steptoe et al. (2015) in their research refer to subjective well-being as a construct that can be divided into three components: evaluative well-being, related to life satisfaction; hedonic well-being, associated with feelings of happiness, sadness, anger, stress, and pain; and eudaimonic well-being, which encompasses the sense of purpose and meaning in life. These three research variables are integrated into a single construct.

In this context, the present study aims to evaluate the explanatory model of a sense of life based on subjective happiness and life satisfaction in university students from the city of Tacna. This allows us to explore the complexity of the relationships between the variables, which provides a more complete understanding of the phenomena studied.

Finally, the information obtained from this research work will allow for the obtaining of new perspectives and the generation of hypotheses, approaches, and theoretical models related to these aspects. In addition, both current and future researchers will be able to familiarize

themselves with the university reality in Tacna in relation to these aspects since studies in this locality are scarce. Therefore, Tacna society will mainly benefit from the research article by having access to innovative intervention proposals.

## METHOD

### Research Design

The present research study constitutes a proposal for an explanatory model. Consequently, by adopting a structural equation modeling approach, a non-experimental design is adopted, given that the researchers carried out no interventions or manipulations of the variables. In other words, the variables were evaluated as they were in reality. Furthermore, it is characterized as a cross-sectional study since the evaluation was carried out within a defined period (Lai et al., 2008).

Furthermore, due to its approach, this study is classified as quantitative, as it involves the use of measurement instruments and statistical techniques to collect and analyze the data (Hernández-Sampieri & Mendoza, 2018).

### Participants

The study population consisted of students belonging to various university institutions located in the city of Tacna, aged 18 years or older, covering both genders (male and female).

In terms of the delimitation of the population, this was carried out following the inclusion and exclusion criteria described below: Participants had to be of legal age (over 18 years of age), be enrolled in a university institution in the city of Tacna, and express their voluntary willingness to participate in the study. No exclusions were made based on university career, gender, level of education, professional occupation, or socioeconomic status.

The sample consisted of 150 university students residing in the city of Tacna, of whom 53 were women and 47 were men. The selection of the participants was carried out by means of the non-probabilistic intentional sampling technique.

## Instruments

### Sense of Life Test (Crumbaugh & Maholick, 1969).

The instrument adapted to the Spanish language by Noblejas (1994) and García-Alandete et al. (2012) aims to assess the presence of meaning in life as opposed to existential emptiness. This questionnaire comprises four dimensions: perception of meaning, experience of meaning, goals and tasks, and dialectical destiny/freedom. It consists of 20 items that are scored on a 7-point Likert scale. In addition, it can be administered both individually and in groups to people from 16 years of age.

Regarding the original psychometric properties of the instrument, the following values were found:  $\chi^2/df=4,170$ ; GFI= 0.853; RMSEA= 0.103; RMR= 0.073; SRMR= 0.0488; CFI= 0.927; TLI= 0.904; IFI=927 and NFI=906.

In the Peruvian context, according to Luna (2020), the following properties were observed:  $\alpha=0.954$ ; RMR= .073; SRMR= 0.048; TLI= .904 and CFI= .904. This instrument also consists of 20 items and is evaluated on a Likert-type scale ranging from 1 to 7, representing two extremes of feelings and one neutral.

### Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)

The instrument focuses on assessing subjective happiness as a complete psychological phenomenon from the perspective of the perception of the individual participating in the measurement (Lyubomirsky & Lepper, 1999). This unidimensional scale consists of four items that are scored on a Likert scale from 1 to 7. The first two items ask participants to self-assess themselves. In comparison, the last two items describe happy or unhappy people and ask them to indicate the extent to which they identify with those descriptions.

In terms of its psychometric properties, it demonstrated a strong internal consistency that remained stable across all samples tested. Test-retest and peer correlations indicated a level of reliability that ranged from good to excellent. In addition, construct validation analyses, both convergent and discriminant validity, supported the suitability of this scale to assess the concept of subjective happiness.

In the Peruvian context, Huamani and Mendoza (2022) observed values considered acceptable for a single factor ( $\chi^2/df= 4.909$ , RMSEA= .112 SRMR= .016, CFI= .991, TLI=0.974). Correlations were performed with the subjective happiness scale, as well as with the life satisfaction scale and the defeat scale, evidencing convergent validity in both. In addition, it was determined that both Cronbach's alpha coefficient ( $\alpha$ ) and omega ( $\Omega$ ) exceeded the value of .70, indicating adequate reliability, maintaining the same characteristics of the original instrument.

### Life Satisfaction Scale (Diener, 1996)

The instrument aims to capture the overall perception that an individual has of his or her life as a whole, covering aspects such as family, studies, work, health, social relations, and free time. The scale consists of a single dimension composed of 5 items, which are scored on a 7-point Likert scale.

In relation to the adaptation made by other researchers (Calderón-De la Cruz, 2018 & Oliver et al., 2018) in the Peruvian context, adjustments were made that allowed for improvement in the indices of the instrument. This adaptation implied the reduction of two items, leaving a total of 5 items on the scale. Regarding psychometric properties, a Cronbach's alpha coefficient of 0.78 was obtained, and acceptable fit indices were observed after the elimination of the two items:  $\chi^2(5) = 19.464$ ,  $p = .001$ , CFI = .985, RMSEA = .075 [.042-.111].

## Procedure

First, to carry out this study, instruments were selected that met the validity and reliability standards necessary to ensure accurate and reliable results. Second, a questionnaire was designed and distributed through a Google online form. In addition to facilitating access to the questionnaire, this form provided participants with informed consent, clearly detailing the purpose, objectives, and procedures of the research. Students from various universities in Tacna who met the established participation criteria were contacted through social networks to complete the form.

Once the data collection phase was completed, data cleaning was carried out, which consisted of reviewing and cleaning all the answers and scores

provided by each participant. Subsequently, the corresponding statistical analysis was performed to interpret the data obtained.

### Data analysis

To carry out the statistical analysis, the Jamovi 2.3.28 software was used, and the Weighted Least Squares Mean and Variance adjusted (WLSMV) estimator was used to estimate the data. To evaluate the normality of the data, the Shapiro-Wilk test was applied, which determines whether the data come from a normal distribution (Romero, 2001).

As for the empirical verification of the model, the Chi-square statistic was applied with a significance level of 0.05 in order to examine whether the data obtained fit the model specifications (Pardo & Ruiz, 2002; Quezada Lucio, 2017).

Several fit indicators were used, including the TLI, RMSEA, GFI, and IFI. The Tucker-Lewis coefficient (TLI) is used to assess the adequacy

of the data, where a value close to 1 indicates a good fit. This index may occasionally exceed 1 or fall below 0. Regarding the RMSEA indicator, a value of 0 indicates a perfect fit, while values below 0.08 are considered acceptable and above 0.1 unacceptable. As for the GFI indicator, values close to 1 are expected to reflect a good fit for the proposed model. Finally, the IFI indicator, proposed by Bollen and also known as the incremental fit index, is interpreted in a similar way, where values close to 1 indicate a good fit (Arbuckle & Wothke, 1999).

## RESULTS

The WLSMV (Weighted Least Squares Mean and Variance adjusted) estimator was used as a criterion to obtain the final model (Figure 1). Taking the results obtained by JAMOVI, the goodness-of-fit measures are obtained, as shown in Table 1.

**Table 1**

*Explanatory model of sense of life based on subjective happiness and life satisfaction.*

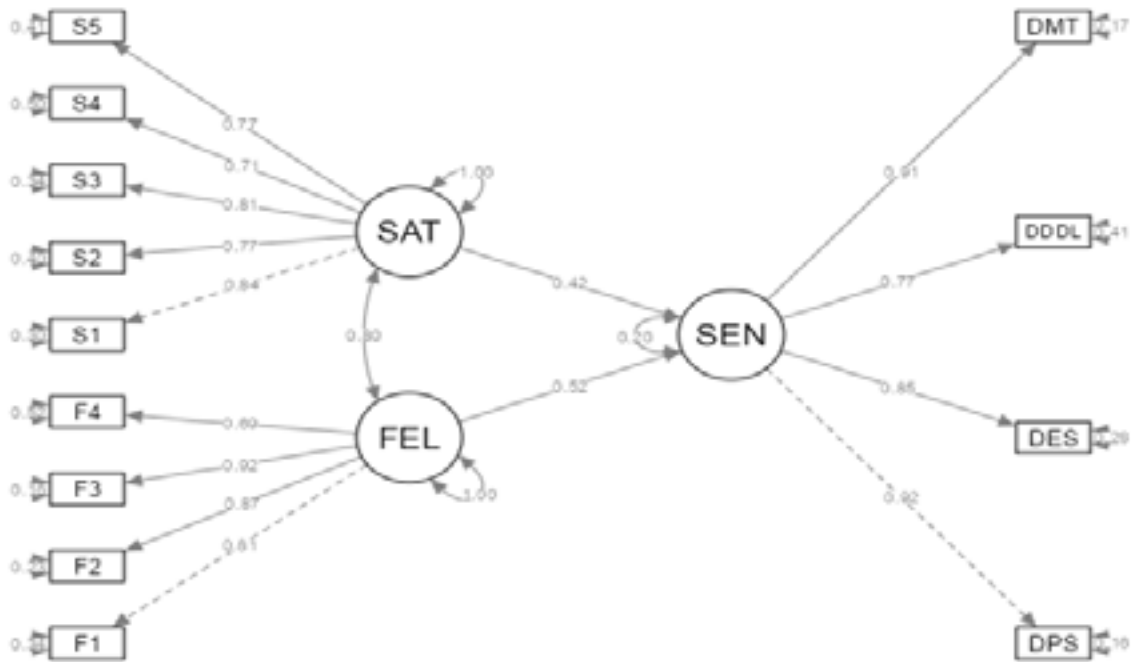
MODEL	Incremental adjustment indexes			Parsimony adjustment indexes		Absolute adjustment indexes	
	X <sup>2</sup> /gl	CFI	TLI	PNFI	AIC	SRMR	RMSEA
<b>1a</b>	1.44	0.97	0.96	0.73	4342.48	0.04	0.067
<b>1b</b>	0.19	1.00	1.02	0.79	-	0.03	0.00

Nota: X<sup>2</sup>: chi cuadrado; gl: grados de libertad; CFI: índice de ajuste comparativo TLI: índice de ajuste de Tucker-Lewis; PNFI: índice de ajuste normado de parsimonia; AIC: criterio de información de Akaike; SRMR: residuo cuadrático medio estandarizado; RMSEA: error cuadrático medio de aproximación.

Table 1 shows that the original model (1a), using the MLR estimator, presents inadequate goodness-of-fit indicators due to higher AIC values. For this reason, the WLSMV estimator was used in the same model (1b), where better indicators were obtained: X<sup>2</sup>/gl (0.19), CFI (1.00), TLI (1.02), PNFI (0.79); SRMR (0.03); RMSEA (0.00).

**Figure 1**

*Explanatory model of the meaning of life based on subjective happiness and life satisfaction.*



In Figure 1, the final model, the variables contained in the SEN correspond to the perception of meaning (DPS), experience of meaning (DES), dialectic, destiny, freedom (DDDL), goals, and

tasks (DMT). The variables corresponding to the SAT are the items of the instrument because they are unidimensional, and, as for the FEL, they are also the items of the instrument itself.

**Table 2**

*Influence of subjective happiness and life satisfaction on the meaning of life.*

Predicted	Predictor	$\beta$	z	p
SEN	FEL	0.52	2.47	0.013
SEN	SAT	0.42	2.39	0.017

Note=SEN=Sense of life FEL=Subjective Happiness; SAT=Satisfaction with life

In Table 2, regarding the influence of subjective happiness (FEL) and life satisfaction (SAT) on sense of life (SEN), it can be observed that FEL and SAT independently predict sense of life since the p-value in both cases is less than 0.05, being a significant influence. Regarding the intensity

with which they predict, subjective happiness (FEL) better predicts a sense of life (SEN) because  $\beta = 0.52$ .

The Shapiro-Wilk test of the variables does not follow the normality of data, representing a p-value of less than 0.05.



**Table 3**  
Correlation matrix

Variables	Sentido de vida	Felicidad subjetiva	Satisfacción con la vida
Meaning of life	Rho	—	—
	gl	—	—
	p-value	—	—
Subjective happiness	Rho	0.807	—
	gl	98	—
	p-value	<.001	—
Satisfaction with life	Rho	0.79	0.751
	gl	98	98
	p-value	<.001	<.001

Table 3 shows the correlations between the variables through Spearman’s test. Sense of life and subjective happiness present a strong correlation (rho value:0.807; p-value <0.001), likewise, sense of life and life satisfaction (rho value:0.79; p-value: <0.001). And likewise, subjective happiness with life satisfaction (rho:0.751; p-value <0.001).

**Figure 2**  
Correlation between the dimensions of meaning of life with subjective happiness and life satisfaction.



In Figure 2, significant correlations are observed between the dimensions of meaning of life with subjective happiness and life satisfaction ( $p < .001$ ).

## DISCUSSION

The established purpose was to develop an explanatory model of a sense of life based on subjective happiness and life satisfaction in Tacna University students, in addition to identifying possible relationships between these variables. For this purpose, subjective happiness and life satisfaction were considered as predictor variables and sense of life was the variable to be predicted.

Two explanatory models were proposed, differentiated by the estimator used. In the first model (1a), where the Multiple Linear Regression (MLR) estimator was used, it was rejected because it did not meet the sufficiency criteria according to the Tucker-Lewis (TLI), the Comparative Fit Indices (CFI), the Average Residual Model Error Measure (SRMS) and the Root Mean Square Error of Approximation (RMSEA) (Arbuckle & Wothke, 1999).

In contrast, switching to the Weighted Least Squares by Weighted Least Squares Mean and Variance Adjustment (WLSMV) estimator in the model (1b) yielded better fit indices, indicating an acceptable model according to Arbuckle and Wothke (1999). This suggests that subjective happiness and life satisfaction are predictor variables of sense of life in Tacna university students by employing a more accurate estimator.

Research exploring the relationships between the variables above has been found (Zubieta & Delfino, 2010; Obiols & Pérez-Escoda, 2011; Pereira, 2021; Baghino & Cortelletti, 2021 & Sánchez, 2023), revealing direct links between life satisfaction and sense of life, as well as between subjective happiness and sense of life. However, these studies have been associative, which motivates the interest in proposing an initial explanatory model of a sense of life based on subjective happiness and life satisfaction, given that these concepts are fundamental for human development and well-being.

According to Steptoe and Deaton (2014), subjective well-being is related to health and varies according to the age of the population, highlighting two crucial points. From their perspective, subjective well-being includes life satisfaction, feelings of happiness or sadness, and meaning in life, factors that explain human well-being without a clear primacy among them. This study seeks to explore this dynamic, especially in young university students, to understand the predictability of meaning in life based on subjective happiness and satisfaction with life.

On the other hand, Rubio (2015) investigated the sense of life as a predictor of psychological well-being, life satisfaction, and happiness, finding a direct and statistically significant relationship, concluding that the sense of life is a predictor of these constructs. Although this study addresses the same variables as the present work, it differs in the way it situates them in the research, providing valuable information for understanding the influence between a sense of life, subjective happiness, and life satisfaction.

In relation to the predictive ability of each variable on the sense of life, it was observed that subjective happiness has a higher predictive ability ( $Rho = 0.807$ ) compared to satisfaction with life ( $Rho = 0.79$ ), as proposed by Sanchez (2023). The search for pleasurable emotions stands out as a fundamental motive for achieving happiness since existential emptiness, a notable and widespread phenomenon in society, can manifest itself in behaviors that compromise personal values and authenticity, thus having a greater implication on the meaning of life.

According to Blanco and Diaz (2005), life satisfaction is related to participation in society, social contribution, and personal development. An increase in life satisfaction is observed when personal acceptance, competence in the environment, and the perception of a meaningful purpose in life are strengthened. These aspects encompass both the intra- and interpersonal, unlike happiness, which is considered more intrinsic to the person (Zubieta & Delfino, 2010).

Given these considerations, this study becomes important in addressing a gap in knowledge by examining how subjective happiness and life satisfaction can predict the sense of life experienced by an individual. In general, we are able to demonstrate the feasibility of an adequate



explanatory model, observing statistically significant relationships between each predictor variable and sense of life.

Finally, it is hoped that the findings of this study will stimulate interest and research on other variables and populations in order to identify the elements that influence the presence of meaning in life.

Regarding the limitations of the study, the main difficulty was the scarcity of literature that examined the proposed variables as a whole. However, the antecedents found had solid theoretical support. In addition, the proposed model should be explored in larger samples and with different age groups to obtain more solid and comparable results.

## CONCLUSIONS

The model proposed to explain the meaning of life in Tacna University students, based on subjective happiness and life satisfaction, has demonstrated its validity. Both subjective happiness and life satisfaction can independently predict meaning in life. Furthermore, it is observed that subjective happiness exhibits a greater predictive ability of a sense of life compared to life satisfaction. A strong correlation is evident between sense of life and subjective happiness, as well as between sense of life and life satisfaction, and between subjective happiness and life satisfaction. Significant correlations have been identified between the various dimensions of sense of life, subjective happiness, and life satisfaction.

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## AUTHOR CONTRIBUTIONS

CSQH: data collection and processed the database.

SBYV: data collection and analyzed the statistical results and interpretation.

SLHN: collected the data and analyzed and interpreted the data.

SBA: Writing and proofreading.

## COMPETING INTERESTS

The authors declare under oath that they have no conflict of interest in conducting this research.

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