

EVALUACIÓN DE UN MODELO DE CALIDAD DE VIDA CONSTRUIDO DESDE LOS DATOS

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Recibido, agosto 14/2014

Concepto evaluación, mayo 22/2015

Aceptado, diciembre 8/2015

Referencia: Cancino, N., González, C., Gallardo, I. & Estrada, C. (2016). Evaluación de un modelo de calidad de vida construido desde los datos. *Acta Colombiana de Psicología*, 19(1), 297-309. DOI: 10.14718/ACP.2016.19.1.13

Resumen

La calidad de vida (CV) es un concepto utilizado por diferentes disciplinas. Sin embargo, existen diversas definiciones del mismo, lo que puede llevar a problemas teóricos y aplicados. El objetivo de esta investigación es evaluar un modelo de calidad de vida construido desde los datos. En este trabajo se argumenta que una manera de atender a esta variedad es evaluar un modelo de CV que surja a partir de la aplicación simultánea de instrumentos tradicionalmente vinculados a este constructo. Por ello, se realizaron diferentes análisis factoriales para identificar un factor común a los ítems, y factores específicos en caso de ser necesario. Se presentan los resultados de dos estudios: el primero (n=550) midió diferentes aspectos objetivos y subjetivos relacionados a CV. Los datos generados llevaron a un modelo de seis factores de primer orden y uno de segundo orden, con adecuados indicadores de confiabilidad y validez. Este modelo se basa en variables relativas a los aspectos subjetivos de la CV. El segundo estudio (n=304) revela que la estructura planteada en el primer estudio muestra adecuados indicadores aun comparándola con otros modelos que incluyen dimensiones complementarias. Se discuten los resultados en función de su aporte a la investigación en CV, a la definición conceptual del constructo y a su efecto en la intervención social.

Palabras clave: bienestar, calidad de vida, indicadores sociales.

EVALUATION OF A CONCEPTUAL QUALITY OF LIFE MODEL BUILT FROM DATA

Abstract

Quality of Life (QL) is a concept used by different disciplines. However, there is a variety of definitions of QL, which might lead to theoretical and applied problems. The present work argues that a way to attend to this problem is by assessing a model of quality of life that arises from the simultaneous application of instruments traditionally associated with this construct. To evaluate this idea, several factor analyses were conducted in order to identify a common factor and specific dimensions in case it was needed. The first study (n=550) measured objective and subjective aspects related to QL. The resulting data generated a model with six first order factors and one second order dimension with appropriate indicators of reliability and validity. This model is based on variables related to the subjective aspects of QL. A second study (n=304) indicated that the aforementioned structure shows good psychometric indicators, even in comparison with other models that include complementary dimensions. Results are discussed in terms of their contribution to research in quality of life, the conceptual definition of the construct and its effect on social intervention.

Key words: quality of life, social indicators, well-being.

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Trabajo realizado con aportes de la Dirección de Investigación de la Universidad de Talca. Se enmarca dentro del Acuerdo de Colaboración en Investigación en Psicología Social realizado entre la Universidad de Talca y Universidad de Magallanes, al alero de los Convenios de Desempeño “Bicentenario” celebrados entre el Ministerio de Educación de Chile con la Universidad de Talca y la Universidad de Magallanes, respectivamente.

The concept of Quality of Life (QL) has been of special importance for the development of science and social intervention. It is frequently used in different disciplines such as economics, sociology, marketing or psychology (Juárez & Contreras, 2012; Sirgy et al., 2006). As a consequence, it has been placed as one of the most important issues within social sciences in the XXI Century (e.g., Moyano, 2010). In addition, this scientific interest in QL goes together with an increasing interest of public policies in different nations, transforming QL into an important indicator of social development (Land, Michalos & Sirgy, 2012).

One of the important limitations of the QL concept is the fact that there exists a vast diversity of meanings for the term according to the type of discipline that uses it. For example, in economics, QL is strongly associated to the idea that a country's national income (measured by the gross national product, GNP) is the most important measurement to evaluate its well-being (Moyano, 2010; Ryan & Deci, 2001). From this perspective, QL is evaluated according to the presence or absence of different domestic appliances at home, the addition of which leads to infer the QL of the person who has answered the survey. Examples of such approaches in Chile are the Survey on National Socio-Economic Characterization (CASEN, for its Spanish acronym) or the Urban Life Quality Index (IQLU, for its Spanish acronym; Orellana, Bannen, Fuentes, Gilabert & Pape, 2011).

In psychology, QL is understood as personal well-being and it considers areas related to the achievement of pleasure (e.g., Diener, 1984) and personal growth (Ryff, see Díaz et al., 2006; Gallardo & Moyano, 2012; Ryan & Deci, 2001). Likewise, QL would be the result of the addition of satisfaction as experienced in the different domains of a person's life (Felce & Perry, 1995; Urzúa & Caqueo-Urizar, 2012) or the self-report on personal well-being (Land, et al., 2012). Similarly, marketing indicates that the consumers' QL is determined by improvement mechanisms for business plans, prices, and product distribution (Lee & Sirgy, 2012; Sirgy et al., 2006).

Another way of analyzing QL is by considering objective or subjective components. From this point of view, approaches such as the economic or marketing would focus on the former component, whereas psychology would be an example of the latter. On the other hand, there is a type of approach that integrates both objective and subjective areas, considering QL as a multidimensional construct (Ardila, 2003; Cummins & Cahil, 2000; Moyano & Ramos, 2007).

There are different examples of this type of conceptual models. One of them has been drafted by the Organization for Economic Co-operation and Development (OECD),

which considers that QL must be determined by factors such as family income and housing quality among others (OECD, 2015). Regarding these dimensions, some are defined under strictly objective indicators (e.g., the family's net income) or subjective ones (e.g., the family's satisfaction with their housing). Similar examples can be found in Felce & Perry's works (1995) or in Verdugo, Gómez & Arias's Integral QL model (2007).

Regardless of the social discipline or the objective-subjective focus, all the conceptual proposals on QL use a hypothetical-deductive strategy to set up the variables determining it. Based on these theories, models are evaluated using data from different samples. It is a classical strategy in the generation of knowledge and its evaluation, but it is not exempt from limitations. It is possible that there exists a theoretical model that is well constructed and accepted by the scientific community but that, once it is accepted, will not be criticized or questioned.

Regarding the latter, Greenwald, Pratkanis, Leippe & Baumgardner (1986) and Greenwald & Pratkanis (1988) proposed that this phenomenon is due to a way of processing data that is consistent with the ideas suggested by the theory which, consequently, reduces the probability of questioning it. Within the context of the study of QL (as understood from the psychological point of view) there are models that are theoretically well constructed and which are systematically used in research and in social intervention.

Such consistence has led to the generation of explanations on how people gear themselves toward well-being (e.e., Ryff, 1989) and to the generation of national indicators that are relevant for public policy based on such conceptualizations (e.g., the National Development Survey of Middle Age in the United States, MIDUS (MIDUS, 2015)). Nonetheless, some researchers have shown that the theoretical strategy proposed to understand psychological well-being is not the most adequate to account for the data collected. More so, it has been found that "absurd" theoretical models show better indicators of theoretical adjustment than the original (Springer & Hauser, 2006; Springer, Hauser & Freese, 2006).

To overcome such a problem, Greenwald, et al., (1986) have suggested complementing an approach based purely on the theory with one based on results. That is, to evaluate the existence of phenomena and theories as a function of the data collected, leaving aside potential *a priori* theories. In this way, the bias regarding confirmation which could be found by the use of certain theories might be diminished since an *a priori* conceptual model that is to be researched is inexistent.

Given the prevailing conceptual problems in the field of QL and the potential advantages of a results-based

approach, this paper seeks to evaluate the existence of regularities in different measures used to estimate QL. Thus, it is expected to obtain a QL theoretical structure founded on an approach based on results. In this way, a conceptual proposal is developed based on the data obtained.

To obtain a QL model from data, an approach will be carried out that implies gathering a great amount of information on variables which traditionally have been related to QL. For example, the economic income is considered quite a relevant variable to evaluate QL in the economic sphere (Sirgy et al., 2006). Psychological and subjective well-being are understood as ways to comprehend QL in psychological terms, taking into account mainly subjective aspects such as satisfaction with life and personal growth (Ryff, 1989; Ryff & Keyes, 1995; Ryff & Singer, 1998). Similarly, dispositional optimism has been strongly related to QL from a psychological viewpoint (e.g., Concha et al., 2012), showing that the greater the optimism, the better the quality of well-being.

On the other hand, people who consider the future consequences of their actions tend to think of alternative ways to get out of situations that generate on them negative emotional effects, thus reducing their impact on well-being (Strathman, Gleicher, Boninger & Edwards, 1994). Even though from the different disciplines QL may not include these variables as part of its conceptual structure, the fact is that the diversity of definitions may lead to think that it is possible that better factors than the current ones exist to describe it. In an attempt to add variability to the resulting potential data structure, the latter variables are included.

Once these data have been collected the theoretical structure will be generated with support from statistical procedures. After it is obtained, it will be compared with others that might be potential alternative explanations or with already existing conceptual models.

As a consequence, three possible results could be expected from this analysis: Firstly, that those elements related to the objective component of QL will be grouped under one factor. Secondly, that only subjective elements share something in common and that, as a whole, conform QL. Lastly, it could happen that both objective and subjective elements converge into a common factor, thus becoming a latent variable that would be called QL.

GENERAL METHOD

Overall description

Two cross-sectional studies with a correlational reach were conducted to meet the research objective. Under the first one, data from different measurements of quality of life in its subjective and objective dimension were collec-

ted, as well as other additional information that could be relevant taking into account its relation to the dimensions mentioned. Later on, various statistical analyses were made to get a structure of factors that adjusts better to the data. That structure will be compared with other theoretical models that, in light of the proposed theory, may provide better results from the collected information.

The resulting model could be called, for the purposes of this research, a Quality of Life Model. In the second study, the resulting structure is evaluated in a sample different from the original one, and compared with conceptual structures that include new dimensions that could provide additional information to the model. However, if the evaluated structure is stable, it should not be modified depending on the sample or the new dimensions included. It is important to mention that, taking into account the number of variables and factors to be evaluated, short versions of most of the instruments utilized have been used.

STUDY 1

In Study 1, the aim was to formulate a quality of life model as of a series of its measurements, both subjective and objective, as well as of variables that have been related to such a construct.

METHOD

Participants

A non-probabilistic sample was used, composed by 550 persons, workers, who participated voluntarily in the research. 66% were women and 34% were men (28% of the sample did not answer this question), aged between 17 and 80 years ($M = 39$; $SD = 12,5$). Ninety nine percent of participants came from the *VII Región del Maule*, in Chile.

Instruments

Psychological Well-being (PW). It is one of the quality of life dimensions under the psychological viewpoint. It is measured using Ryff's QL scale (1989; Ryff & Keyes, 1995), which is composed of six factors: autonomy (AUTO), positive social relations (PSR), control of the environment (CE), personal growth (PG), self-acceptance (A), and life purpose (LP). An abbreviated version of the instrument was used, drafted as of the data obtained in previous researches (Gallardo & Moyano, 2012). Following the criteria proposed in previous works (Ryff & Keyes, 1995), a version with 18 items was created, organized in a Likert-like scale which goes from 1 (Totally disagree) to 6 (Totally agree), as of those that had a higher item-total correlation. Previous studies show that the scale created in function of this methodolo-

gical strategy has adequate psychometric indicators (Ryff & Keyes, 1995). For this study the total reliability of the scale (by Cronbach's Alpha) was .91.

Subjective Well-being (SW): It is another one of the dimensions of quality of life under the psychological viewpoint. Diener (1994) proposed a SW model composed of three dimensions: Satisfaction with life (SL), Positive Affect (PA), and Negative Affect (NA). For the first one an SL scale was used (Diener, 1994) under a Likert format, with ranges from 1 (Totally disagree) to 6 (Totally agree).

For the items of positive and negative affect, a happiness item has been used, taking into account that some authors have suggested that happiness is formed by the subtraction between positive and negative affect (e.g. Diener, 1994). This global happiness item has been used in different researches showing high correlations with various scales of subjective well-being and happiness (Bradburn, 1969; Lyubomirski & Lepper, 1999). Concretely, "all in all, I consider that I am a happy person," in a 1 to 7 scale (Totally disagree-Totally agree). The SW model is considered by several studies as a stable model regarding the validity of its construct, evidencing also a good general reliability (Diener, Emmons, Larsen & Griffin, 1985; Moyano & Ramos, 2007).

Economic indicators: It is one of the ways to evaluate quality of life from the economic and objective point of view. Economic indicators were collected through items, in which the person answers on a quintile scale their approximate monthly income. This way of collecting economic income data is used to know income distribution in the CASEN survey analysis (Government of Chile, 2009). A second indicator is built up by summing the selection made by the person of another list of ten household items that they may have in their home (e.g., microwave oven, refrigerator), also used in the same survey. A greater number of household items selected suggest a higher income within the family group.

GHQ-12: The General Health Questionnaire (GHQ-12) drafted by Goldberg and Williams in 1988 was used, validated for the Spanish population (Rocha, Pérez, Rodríguez-Sanz, Borrel & Obiols, 2011). It is an instrument that detects psychological morbidity and possible cases of psychiatric disorders, and that has been used as a quality measurement in the health sector (e.g., Malley et al., 2012; Montaezri et al., 2003). It is composed by 12 items measured under a scale from 0 (much less than habitual) to 3 (much more than habitual), and its reliability ranges between .82 and .86 (Rocha et al., 2011).

Work and Family (WF): A reduced version of the SWING scale on WF conflict was used, validated for the Spanish population and adapted for the Chilean population

(Riquelme, Rojas & Jiménez, 2012), which uses a measure from 0 (Never) to 3 (Always). These studies show that the scale has adequate psychometric indicators, and its reliability ranges between .77 and .89, and a construct validity that shows the four-factor theorized structure.

Optimism: The revised version of the *Life-Orientation Test (LOT-R)* was used, made up of six items. This scale evaluates individual differences between optimism and pessimism; it goes from 0 to 4, a range within which the person must evaluate statements considering their degree of agreement or disagreement with them. The reliability indicators (Cronbach's Alpha) are higher than .75 (Scheier, Carver & Bridges, 1994).

Considering future consequences: This variable was measured through the future-consequences scale (Strathman, et al., 1994) adapted for this study. It allows establishing individual differences between the considerations the persons have regarding future consequences that would result from present behaviors, and the extent to which such behaviors are influenced by potential results. The scale is composed by 12 items, measured from 1 (Not at all characteristic) to 7 (Fully characteristic). This scale shows only one theoretical dimension (Petrocelli, 2003), and its reliability (Cronbach's Alpha) for this study was of .71.

Procedure

1. A group of trained surveyors provided the participants with a self-applied instrument built with the aforementioned instruments.

2. All the participants read an informed consent where the research general objective was explained, as well as its ethical aspects.

3. Once the document was signed, the participants read the instructions along with the surveyors, who solved any doubts that could come up when responding.

4. Once the survey was ended, every person was thanked for their participation.

Analysis Plan

Due to the fact that the metrics for each scale applied varied among them (which could affect the factor weights), it was decided to standardize the scores for the total of participants, which were used for later analyses. Secondly, factor analyses were carried out to establish the dimensions summing up the data collected. To do so, two random sub-samples from the total sample were selected in order to reduce random capitalization. This phenomenon tends to bias estimates and statistics towards the higher extremes (Cudeck & Brown, 1983). Because of this it is not recommended to use exploratory and confirmatory factor analyses with the same participants. Therefore, as a way to avoid this problem, a second independent sample is utilized to test the model (Batista-Fouget, Cohenders &

Alonso, 2004; Carrasco, Delgado, Barbero, Holgado & del Barrio, 2011; Leiva & Gallardo, 2013).

Once the samples had been set, different steps for the creation of the conceptual models were followed. Firstly, to set up a common factor that puts together those items sharing a variance. To do so, an exploratory factor analysis was made on one of the samples selected, setting, *a priori*, two factors as a result of the clustering procedure. The items loaded onto the first factor are selected assuming that they sum up what they share with the QL construct.

The data reduction procedure was of maximum likelihood estimation with varimax extraction. Previously, the feasibility of grouping the data in a factor analysis through measures of sampling adequacy was evaluated. Both the KMO (0,829) and Bartlett (16,849; $p < .01$) tests results showed indicators that allow carrying out the analysis. Fourthly, an Exploratory Factor Analysis was made in the second sub-sample to analyze the structure of the factor obtained, using the same procedures already described. This in order to evaluate the possibility that the factor found could be divided into more specific factors.

Finally, to evaluate the degree of adjustment to the data of the model found (e.g., the validity of its construct, Ruiz, Pardo & San Martin, 2010), different analyses of structural equations were made using the AMOS 16.0 program. According to what is proposed by Hu & Bentler (1999) and

by Schreiber, Stage, King, Nora & Barlow (2006), a different set of indicators must be used in order to evaluate the adequacy of the model, whose simultaneous analysis must deduce the benefit of the adjustment of the model studied.

The analysis used the maximum likelihood procedure and considering the recommendations of the literature, the following indicators were utilized: Chi square (values higher than .05 indicate a better adjustment to the model), AIC (Akaike Information Criterion), where the lower values indicate a better adjustment), RMSEA (Root Mean square error of approximation, values lower than .05 are optimal, those between .06 and 0.8 are considered acceptable; see Díaz et al., 2006; Gallardo & Moyano, 2012).

RESULTS

Below, the descriptive statistics of the dimensions involved in the study, the factor analysis procedures and the evaluation of the adjustment of the model obtained from previous analyses by means of structural equations can be found.

Table 1 shows the means and typical deviation of the scales used in the first study. Different from the rest of variables in general, a bias is observed in the answers about well-being and happiness, suggesting that the persons have a positive perception about themselves in these dimensions.

Table 1.
Descriptive statistics of scales used in Study 1

	M	SD
Psychological Well-being	4,1	0,96
Positive Relations	3,8	1,18
Self-Autonomy	3,8	1,3
Control of the Environment	3,7	0,93
Purpose in Life	4,2	1,5
Self-acceptance	4,1	1,3
Personal growth	4,5	1,4
SWING		
Negative equilibrium Work and Family	.95	.6
Negative equilibrium Family-Work	.62	.68
Positive equilibrium Work-Family	1,6	.68
Positive equilibrium Family-Work	1,9	.73
Optimism	2,2	.47
CFC	4	.7
GHQ - 12	1,7	.37
Happiness	5,7	1,1

Using the first of the study's sub-samples, an Exploratory Factor Analysis was made, forcing two factors with all the items of the total applied. To maximize the variance explained with the fewer number of items as possible, those whose factor loads were similar or higher than 0.50 were selected. The first factor obtained explains a 14.4% of the total variance and it includes 21 items. The second factor represents a 10% of the explained variance and includes 11 items, all of them related to family-work equilibrium. In this sense, it is understood that the first factor represents a phenomenon different from the second one.

After identifying that within the first factor obtained its items represented different theoretical dimensions (described in their own instruments), this possible multi-dimensionality was evaluated through an Exploratory Factor Analysis (carried out on the second sub-sample). From this analysis three factors were obtained, whose items belong to the SW scales (five items), PW (12 items), and WF (4 items) (see instruments section). As a whole, they explain a 55% of the common factor total variance.

To avoid random capitalization, this procedure was carried out in a cross-like manner in two samples selected at

random from the total sample. In both instances, the items selected for the analysis were the same. Interestingly, it shows that income and household items (e.g., the objective QL dimension) are not part of the first factor.

Evaluation of the model by means of Structural Equations

To evaluate the adjustment of the QL model found, its data were compared with five combinations of the dimensions given by the factor analysis procedure. The first model proposes QL as a latent variable made up of SL, PW, WF (see annex on instruments), and the addition of income and household items (IHI)¹. The second model proposes QL as a latent variable whose components are SL and the six dimensions of PW: PL, A and CE; WF and the addition of IHI. The third model includes the same dimensions as model 2 but without the economic component. The fourth, proposes QL as a latent variable whose factors are, separately, SL, four dimensions of PW (PL, A, PG and CE), WF and the addition of the report on income and household items. Lastly, model 5 (see figure 1) found in the AFE already described, considers QL as a latent variable made up of SL, four dimensions of PW (PL, SA, and CE) and WF.

Table 2.
Adjustment indicators of QL, models analyzed

Model	Square Chi	AIC	RMSEA	CFI
Model 1	19.3	43.304	.118	.965
Model 2	56.467	104.467	.054	.983
Model 3	34.371	76.371	.049	.990
Model 4	48.47	90.478	.063	.982
Model 5	26.74	62.74	.056	.991

As can be seen in Table 2, model 5 is the one showing the best indicators for the adjustment, analyzing together both absolute and relative indexes.

¹ Due to the low factor load sent by the self-report on income and household items, it was decided to do the following analyses with the addition of both variables, considering that, together, they are a reflection of the dimension of the so called QL economic component.

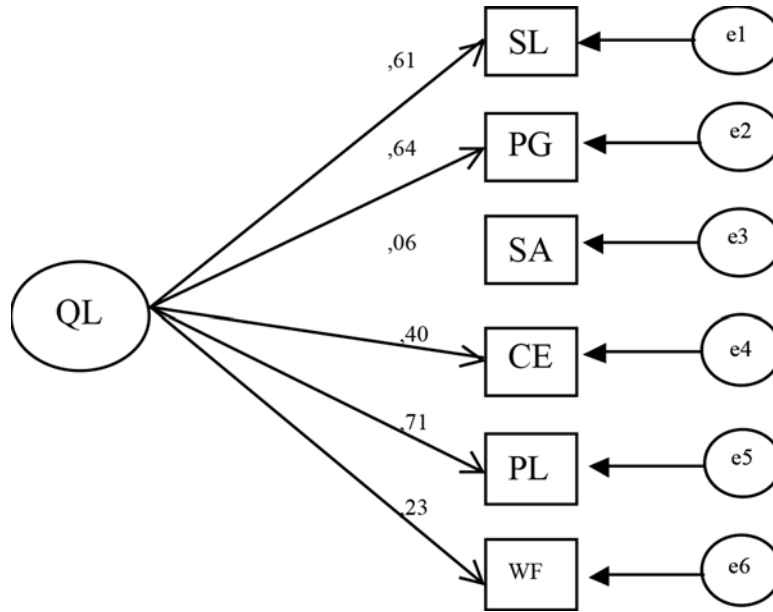


Figure 1. Quality of Life model with six factors observed

Reliability analysis

To evaluate the internal consistency of the six-factor model, Cronbach’s Alpha Method was used complemented with the split-half method, due to the fact that the scale has

more than 20 items and its reliability could be affected by the amount of items of the scale. Also, it is used given the fact that the factor model produced a multidimensional composition of the construct (Oviedo & Campo-Arias, 2005).

Table 3.

Analysis of the internal consistency of the QL scale

	Dimension	α	Dimension	α	Division by Split-half Method	
Cronbach’s Alpha method	CE	.49	SA	.73	Correlation between parts	.82
	PG	.81	SL	.89	Spearman –Brown Correction	.90
	PL	.80	WF	.81		

*Note: α (Coefficient value) CE (Control of Environment), PG (Personal Growth), PL (Purpose in Life), SA (Self-acceptance), SL (Satisfaction with life), WF (Work-Family Equilibrium).

Table 3 shows that the scale has good indicators for total reliability and per dimension, except the Control of the Environment factor, which produces a low coefficient of internal consistency. Nonetheless, this result has already been observed in previous researches using the same method of item reduction employed in the present study (Ryff & Keyes, 1995).

DISCUSSION

The results of this first study show that QL’s subjective aspects are those that can provide better information about

the data collected. The model obtained is better adjusted to data than any other of the models evaluated. Consequently, the theoretical structure obtained will be called *Quality of Life Model*.

These first results are relevant at the moment of considering the contribution to QL of the subjective and objective aspects. The structure thus obtained is consistent with the idea psychology has about QL and with psychological models that include both hedonic and eudaimonic models (Ryan & Deci, 2001). It is also consistent with the central aspect of the definition of

QL given by the World Health Organization, regarding the perception that people have of different aspects of their life. In an important and novel way, the family and work component appears as a factor within this model, something not found in previous works.

Notwithstanding these results, some limitations exist. For example, the sample used corresponds to workers, which leads to the question whether the models and their dimensions are circumscribed to this type of population (for instance, the work and family dimension). On the other hand, the territorial zone where this information was gathered has physical and environmental characteristics that do not necessarily appear in other zones of the country or of the world such as, for example, regions subjected to telluric conditions. This could affect the overall conformation of the model proposed; for example, the sample could be more affected by subjective aspects (and less by objective ones) due to the need to constantly face serious environmental problems. Because of these two reasons, a second study was done with a heterogeneous sample of inhabitants of Punta Arenas City, Chile, 2750 kilometers away at the south of the Maule zone. If the type of persons answering or if the kind of environment are responsible for the results obtained through this first study, the factor structure proposed should show worse adjustment indicators than other conceptual alternatives.

Secondly, it is possible that economic aspects are important for the person, yet not so in their objective aspect, but in the subjective one. That is, the perception of their economic reality instead of the situation itself. An antecedent for this idea was provided by Wolbring, Keuschningg & Negele (2011). They found that the relative income has a higher relationship with the satisfaction with life (a psychological QL indicator) than the absolute income. If this is so, the model proposed in Study 1 should show a better data adjustment than in Study 2 when a dimension relative to the subjective perception of the person's financial/economic standing is introduced.

STUDY 2

Taking into account the previous antecedents, the second study aimed to evaluate, on the one hand, the theoretical structure found in Study 1 using a different sample of persons. On the other, it aimed to evaluate its adjustment in comparison with the same models of Study 1, plus an additional one that included the subjective perception of the economic impact on every-day life. The procedure followed was identical to the one described in Study 1.

METHOD

In Study 2 the adjustment of the model obtained as of the results of Study 1 was evaluated through structural equations, and it was compared with another model to which a subjective component was incorporated regarding economic income.

Participants

A non-probabilistic intentional sampling was used, composed by 304 persons from Punta Arenas City, Chile, who participated voluntarily in this study. 41% were men and 59% were women, whose ages ranged from 17 years to 79 years ($M = 34$; $SD = 14,5$). The procedure and analysis plan were the same as those referred to in Study 1.

Instrument

Based on the structure defined in Study 1, a Likert-type scale was created made up of 21 items whose extremes correspond to "Totally disagree" (1) and to "Totally agree" (7).

The instrument has 6 dimensions: PG (personal growth, 3 items), Self-acceptance (SA, 3 items), CE (Control of the environment, 2 items), PL (purpose in Life, three items), VS (Vital Satisfaction, 5 items), WF (Work Family, 4 items), A (Autonomy), report on income and household ownership (see section on instruments in study 1). Additionally, an item of the SW Autonomy section was added, in order to add more variability to the measure of that dimension ("*I have confidence in my opinions even if they are contrary to the general opinion*"). This adjustment was made due to the similarity of the beneficial adjustment indicators produced for models 3 and 4 of study 1 (see Table 1) Together with this, two additional items, corresponding to the subjective perception of the impact of economic income were added; concretely: "*I have the economic resources that I need to satisfy my needs,*" and "*I am pleased with what I own materially.*"

Procedure

The same procedure as in Study 1 was used here.

RESULTS

To evaluate the adjustment made of the QL Model, together with the adjustment of other models proposed empirically, the QL scale was compared with 5 alternative models using the same procedure as in Study 1. The first factor model proposes QL as a latent variable with the following variables: VS, PG, PL, A, CE, WF, and the Subjective Perception of Income (SP). Models 2, 3, 4 and 5 are identical to those evaluated in Study 1.

Table 4.
Indicators of adjustment benefit of QL models analyzed in Study 2

Model	Chi Square	AIC	RMSEA	CFI
Model 1	75.458	117.458	.094	.924
Model 2	45.902	87.902	.068	.960
Model 3	35.178	77.178	.055	.970
Model 4	55.390	103.390	.06	.956
Model 5	26.080	62.080	.062	.976

As can be seen in Table 4, model 5 (see Figure 1) is the one that shows better adjustment indicators, analyzing as a whole both absolute and relative indexes (Hu & Bentler, 1999).

Reliability analysis

The same as in the Study 1, an internal consistency of the instrument was made which reflects the model with the better adjustment (see Table 5). Results are conceptually similar to the ones in Study 1.

Table 5.
Internal consistency of the proposed QL scale, Study 2

	Dimension	α	Dimension	α	Division by Split-half method	α
Cronbach's Alpha Method	CE	.22	SA	.77	Correlation between parts	.79
	PG	.77	SL	.84	Spearman –Brown Correction	.88
	PL	.77	WF	.76		

*Note: α (Coefficient value) CE (Control of Environment), PG (Personal Growth), PL (Purpose in Life), SA (Self-acceptance), SL (Satisfaction with life), WF (Work-Family Equilibrium).

DISCUSSION

The results of this second study show that the QL model proposed shows better data adjustment indicators compared with alternative models. It is observed, once again, that the objective dimension of QL is left outside the factor structure of the model. It also seems not to be relevant for the model formulated the perception that people have about their financial or economic standing. Even though it is a merely subjective component, the object it refers to seems to be outside of what people understand by QL.

Lastly, it must be highlighted that the stability of the model persists although the persons answering may or may not be workers. Likewise, the sample's geographical location does not seem to be an adequate explanation to understand the structure of the model provided, since the persons answering it are at a great distance from one another and the geographic conditions are different. Nevertheless, the structure is kept.

OVERALL DISCUSSION

The results of the two studies presented show that there exists commonality between the different constructs listed previously in the QL literature. This common factor obtained has been called the Quality of Life Model, and is the result of the reduction of diverse items that evaluate this construct in various disciplinary areas. This structure's dimensions account better for the data collected than alternative models containing both subjective and objective indicators of Quality of Life.

The QL model obtained has conceptual similarities with the one proposed by Keyes, Shmotkin & Riff (2002), where Well-being is composed of aspects relative both to Subjective and Psychological Well-Being. In Keyes and colleagues research, it is acknowledged that, even though both approaches assess well-being, they are differentiated concepts that are somehow related to some of its dimensions.

In this work it is considered, nonetheless, that the construct obtained implies wider aspects than those relative to the hedonic and eudaimonic spheres. Also, that not all of the well-being dimensions are relevant for it. Even though it is possible that this might be due to the strict criteria of item selection used, the truth is that an adequate variability can be obtained through only some items, which can also help social intervention.

Related to the above, the model formulated group together some aspects associated to the WF equilibrium, something that does not happen in the more classical models. Specifically, the positive interaction between WF, where the family well-being experienced by the persons would positively influence and promote their satisfaction at work. These results coincide with previous works that show the relevance of family aspects for people at the moment when they assess their satisfaction with life or happiness, regardless of their place of origin, age, or gender (Diener, Suh, Lucas & Smith, 1999; Edwards & Rothbard, 2000; Moyano & Ramos, 2007). Likewise, they coincide in the idea that interaction between work and family life is reciprocally influenced (Casas, Repullo & Cañas, 2002), and that emotions and behavior within a (family or work) circle are transferred into the other, so that if a person has had a good day at work, they will transfer their well-being to their home, and vice versa (Moyano, Pepullo & Cañas, 2002).

On the other hand, even though there exists a wide conceptual framework regarding the relation between economic growth and QL (e.g., Easterlin & Angelescu, 2012), the results obtained in this study have not provided a better measurement of QL considering the economic standing of those who have answered (measured through the indicators habitually used to identify this variable in an objective way), neither through the perception that the person has of their economic standing (Wolbring et al., 2011).

This strongly suggests that the economic sphere is not relevant to determine QL, which can be seen also in the Chilean population data. According to World Bank data, the country's income *per capita* is above 15 thousand dollars per year (<http://datos.bancomundial.org/pais/chile>). This is an important issue given that, according to different studies, income and well-being tend to be more related when the former is below USD 15.000. However, a person's well-being is not related to their income when the latter is above USD 15.000 (Diener & Seligman, 2004); Easterling, 1992; Oishi, Kesebir & Diener, 2011; Smith, Diener & Wedell, 1989). There are researches that even say that a country's increase in economic growth generates a backward step in the population's well-being since it is strongly related to an increase in the suicide rate (Moyano & Barria, 2006).

This work is not exempt from limitations. Firstly, in Study 2 both the dimension of subjective perception about income and the dimension of autonomy are composed of few items, which reduces the variance explained for a potential dimension given the low amount of variability in the answers (see Batista & Coenders, 2000). Future studies can overcome this limitation by including a higher number of items per dimension. Nonetheless, it is assumed that the inclusion of new variables should not generate substantive differences regarding general indicators already observed. One of the main reasons is that each item selected has a high factor weight in determining its dimension. That is why an increase in the number of items should complement the present and total variance explained. However, this is an aspect to be explored in the future

Another limitation has to do with some indicators of internal consistency whose values are under the minimum accepted value. Such is the case of the Control of the Environment, which has a low or deficient reliability in both studies. Gallardo & Moyano (2012) propose that the items of the Control of the Environment and Purpose in Life can collapse, thus creating a new factor with better reliability indicators. Using the data collected for the studies described above, the proposed analysis was carried out, and an improvement in reliability for the combined variable was found. Still, when the confirmatory factor analysis was done, with a five-dimension model (where domain and purpose are collapsed) it can be seen that the adjustment indicators do not improve significantly and, even more so, some of them get worse (see Table 3).

Future works ought to deal with this problem by incorporating new measurement items. Finally, even though the variables (and scales) considered in the design of Study 1 where selected based on researches that have systematically related to QL (Land, Michalos & Sirgy, 2012), others have not done so. For instance, a measure for Social Well-being complements the traditional vision about well-being with the human being's social environs (Blanco & Díaz, 2007). Similarly, an additional measure of objective QL (e.g., urban QL, Orellana et al., 2011) could inform about complementary aspects not considered in the objective measure of the present studies.

It is considered that the results of this work allow a discussion about the pertinence not only of the quality of life measurements in different academic and professional disciplines but also about the construct itself. The data collected suggest that a measure of QL based on subjective aspects seems to provide better accounts of the data collected that a subjective-objective combination. This leads to discussions regarding the analysis procedures (like the one

already reviewed) but of greater transcendence, to important theoretical discussions (e.g. Kahneman, Krueger, Schkade, Scharz & Stone, 2006).

For example, it could be understood that the concept of quality of life in its subjective and objective components is damaging for its conceptual and applied advancement. In this work, considering such aspects does not explain in an adequate manner the data collected, which suggests that perhaps it would be more useful to call the subjective aspects of quality of life “Well-being” (according to the psychological tradition) and the objective aspects “Condition of Life” (according to the economic tradition). This would lead to a better clarity of the definition of what is supposed to be studied (the objective and subjective, separately), and as a consequence, the social intervention strategies.

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