

The determinants of life satisfaction among Chilean workers

Rodrigo Montero and Álvaro Miranda

Abstract

This article puts forward evidence to identify the different domains that contribute to life satisfaction among a sample of Chilean workers, using the two-layer model developed by van Praag, Frijters and Ferrer-i-Carbonell (2003). The results show that satisfaction in the domains of money, privacy, leisure, family life, health and work have a positive (and statistically significant) effect on life satisfaction, when controlling for a variable that attempts to measure workers' personality traits. The evidence reveals that the effects of family life, leisure, health and work outweigh those of money and privacy. Separate estimations were made by gender, age and educational level, to analyse heterogeneity in the relationship between degrees of satisfaction in the different life domains and overall life satisfaction. The results are robust to the different specifications used to explain satisfaction domains.

Keywords

Standard of living, living conditions, job satisfaction, quality of life, employees, measurement, surveys, Chile

JEL classification

C25, I31

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I. Introduction

Although research aimed at elucidating the complex process of subjective well-being, or happiness, has been increasing steadily over time, it has seldom targeted developing countries. Accordingly, the aim of this article is to explore subjective well-being in Chile.

Chile is an interesting country to analyse, since it is a middle-income economy that has experienced high levels of economic growth consistently over the last 30 years, although the pace has slackened recently. World Bank figures show that per capita gross domestic product (GDP) increased from US\$ 9,244 at purchasing power parity (PPP) in 1990 to US\$ 22,197 PPP in 2015, and the poverty rate dropped from 38.6% to 11.7% over the same period. As a result, the Chilean economy has approached the threshold between developing and developed States, and today exhibits relatively positive socioeconomic indicators. It is therefore to be expected that the trends of more subjective indicators should start to be measured, to gain a clearer understanding of what drives the well-being of the Chilean population (Stiglitz, Sen and Fitoussi, 2009). Indeed, over the last decade, questions related to subjective well-being have started to appear in Chilean national surveys, such as the first National Survey on Employment, Labour, Health and Quality of Life (ENETS) (2009/10)

The present study uses the data from the first ENETS to provide a more complete view of the determinants of life satisfaction in Chile. Using a two-layer model, it explores the dimensions that are most important in explaining life satisfaction, as well as heterogeneity by age, gender and education level.

This article is organized as follows. Section II discusses the recent literature on life satisfaction in both developed and developing countries. Section III describes the data and methodology used; and section IV reports on the main results and a robustness check. Lastly, Section V sets forth the main conclusions with final remarks discussing the limitations of the study and suggestions for future research.

II. Literature review

Evaluating human progress, defined in terms of economic performance, has been difficult because both material goods and their non-material counterparts contribute to an individual's overall well-being. This means that a higher (lower) GDP or income does not necessarily mean greater (lesser) subjective well-being (Fitoussi and Stiglitz, 2013).

Empirical evidence suggests that life satisfaction decreases as a result of losing a spouse or being fired, and that it increases with income (at a decreasing rate), and also with marriage and agency (Ambrey and Fleming, 2014; Frijters, Haisken-DeNew and Shields, 2004; Hojman and Miranda, 2018; Kahnemnan and Deaton, 2010). Income in absolute terms is less important than income relative to that of others: individuals that have a higher income than their reference group experience greater well-being (Clark and Senik, 2010; Ferrer-i-Carbonell, 2005; Senik, 2007).

1. Aggregation approach

Empirical analysis to study the determinants of life satisfaction frequently uses an aggregation approach. This model views an individual's overall life satisfaction as a combination of the levels of satisfaction he or she obtains in each of the domains considered relevant to the life of the average human being (including work, family life and health status). The main disadvantage of this approach is that it is impossible to control for unobserved heterogeneity.

A study by Rojas (2006), which uses an aggregation approach to analyse the determinants of life satisfaction in Mexico, found that satisfaction in the economic, health, work, family and personal domains are relevant predictors of overall life satisfaction. In a similar study, using data from the United States, Easterlin and Sawangfa (2007) find that how satisfied people are, on average, with their finances, health, work and family life are all important for individual life satisfaction.

Thus, when using this method, the empirical evidence suggests that the economic, health, family and work domains are important predictors of overall life satisfaction. However, the aforementioned studies did not analyse the relative importance of each domain in subjective well-being.

2. The two-layer model

Van Praag, Frijters and Ferrer-i-Carbonell (2003) propose an enhanced version of the aggregation approach, which they called “the two-layer model”. The first layer establishes that life satisfaction is the result of the satisfaction achieved in different domains of life (in other words, it adheres to the logic of the aggregation approach); then, the second layer posits that each domain is determined by a set of exogenous variables (gender, age, education and income, among others). The main advantage of this approach is that it allows unobservable variables to be measured, attenuating the omitted variable bias that can arise from ignoring personality traits as a determinant of life satisfaction.

Using the two-layer model and the German Socio-Economic Panel (GSOEP), van Praag, Frijters and Ferrer-i-Carbonell (2003) provide evidence to identify the main subjective domains in Germany. The authors found that satisfaction in the work, financial, housing, health, leisure and environmental domains are all important contributors to general satisfaction. They also found that the results are sensitive to inclusion or otherwise of the measure of unobserved heterogeneity.

Similarly, using the British Household Panel Survey (BHPS), Ferrer-i-Carbonell and van Praag (2008) find that satisfaction in the work, financial, housing, health, leisure-use, leisure-amount, marriage and social life domains all contribute to life satisfaction in the United Kingdom.

Accordingly, as the aggregation approach has demonstrated, the empirical evidence obtained using the two-layer model suggests that the economic, health and work domains are all very important for life satisfaction.

Applying an alternative methodology to data from Canada, Kant and others (2014) show that satisfaction in the social, cultural and land-use (SCLU) domains are the most important determinants of well-being. They also show that SCLU factors contributed to satisfaction in all other domains (education, employment, income, health and housing).

3. Evidence for developing countries

Efforts have recently been made to extend the two-layer model to less developed countries. Mahmud and Sawada (2015) apply this approach to explain overall happiness in Bangladesh as a function of different life domains and conventional explanatory variables such as income. Their results “suggest that income explains a large part of the variation in total happiness and that income is closely related with domain-specific happiness, even with non-economic domains”. In addition, financial and job satisfaction along with happiness in social life are also relevant to people’s overall life satisfaction.

Using a sample of Latin American countries, Amestoy, García-Muñoz and Egido (2016), also analyse dimensions of subjective well-being related to a very wide range of domains, such as institutional and social circumstances, satisfaction with access to health care and education, the availability of green areas and public spaces, municipal services, roads and paving, public transport, refuse collection,

sewerage services and the pension system. They also included domains related to satisfaction with democracy and with the economy. Their results suggest that these dimensions also help to explain happiness levels.

Lastly, Loewe and others (2014) evaluate the determinants of life satisfaction for a sample of 530 Chilean workers. They simultaneously tested the effects on overall life satisfaction of satisfaction in seven life domains, and found that an individual's financial situation was the dominant predictor of overall life satisfaction. They also found that satisfaction with self-worth, leisure-time and social relationships did not have statistically significant effects on life satisfaction.

The present study aims to complement those findings by performing a two-layer analysis of data from the first ENETS. It also includes a statistical analysis of the dimensions that are most important in explaining life satisfaction in Chile, and explores heterogeneity by age, gender, and educational level. The next section gives details of the data and methodology used to undertake this analysis.

III. Data and methodology

1. Data

This article aims to validate the two-layer model using data from a nationally representative sample of 4,157 Chilean workers aged between 15 and 65 years, employed in both white- and blue-collar jobs.¹ The data for this research come mainly from the first ENETS. This is a cross-sectional survey that seeks to describe and analyse the situation of Chilean workers in terms of employment conditions, work and health equity. It contains information on variables such as education, household income, job characteristics and quality of life, among others. It also measures personal satisfaction in domains that include the privacy of the place of residence, the amount of money in the household, the amount of fun the person has in his or her life, family life, health status and work. The survey poses the following question: How do you feel about your life in general? The response alternatives are: (1) very bad; (2) bad; (3) below average; (4) average; (5) above average; (6) good and (7) very good. The same criteria are used for each of the domains mentioned above.

Table 1 presents data on the average overall life satisfaction and domain-specific satisfaction reported by Chilean workers. Although average life satisfaction is rated as 5.8, this is higher than the simple average for the six domains (5.4). It can therefore be inferred that workers are overvaluing certain domains. Satisfaction with family life is the domain with the highest average in the sample (5.9), followed by satisfaction with the privacy of the place of residence (5.8), personal health status (5.6) and job satisfaction (5.6). Satisfaction with the amount of money in the household reports the lowest average at 4.6.

Table 1 also reports average life satisfaction and domain-specific satisfaction disaggregated by gender, age, education level and total household income quintile. For both men and women, the same hierarchical order of satisfaction is maintained for each of the domains (columns 2 and 3), where satisfaction with money is again ranked last.

The results suggest that men are relatively more satisfied with life than women. When comparing satisfaction levels for each of the domains, no significant differences are observed. However, there is a significant difference in favour of men in terms of job satisfaction. When analysing the age-specific data (columns 4 and 5), there are no significant differences among workers aged 15–39 years, and those in the 40–65 year age bracket, except for overall life satisfaction and job satisfaction, in which individuals in the younger group appear more satisfied.

¹ In Chile, individuals aged between 15 and 17 years can work subject to parental consent.

Table 1
Life satisfaction and domain satisfaction for Chilean workers
(On a scale of 1–7)

Satisfaction with:	All		Gender		Age			Education level			Total household income quintile				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
		Men	Women	15–39 years	40–65 years	Primary	Secondary	Tertiary	I	II	III	IV	V		
Life	5.82 (0.82)	5.88 (0.75)	5.72 (0.92)	5.90 (0.77)	5.74 (0.86)	5.67 (0.84)	5.86 (0.79)	5.86 (0.83)	5.55 (0.95)	5.72 (0.86)	5.85 (0.80)	5.87 (0.79)	6.02 (0.65)		
Money	4.62 (1.45)	4.62 (1.45)	4.60 (1.43)	4.75 (1.39)	4.47 (1.49)	4.10 (1.46)	4.57 (1.42)	5.06 (1.35)	3.76 (1.54)	4.26 (1.29)	4.50 (1.35)	4.79 (1.34)	5.39 (1.23)		
Privacy	5.75 (1.10)	5.72 (1.10)	5.82 (1.11)	5.71 (1.13)	5.80 (1.07)	5.74 (1.03)	5.68 (1.15)	5.89 (1.06)	5.60 (1.21)	5.63 (1.11)	5.80 (1.07)	5.72 (1.15)	5.95 (0.97)		
Leisure	5.25 (1.27)	5.37 (1.17)	5.03 (1.42)	5.38 (1.25)	5.10 (1.28)	5.04 (1.34)	5.30 (1.25)	5.30 (1.25)	4.91 (1.47)	5.15 (1.28)	5.33 (1.15)	5.34 (1.27)	5.40 (1.19)		
Family life	5.92 (0.83)	5.96 (0.76)	5.83 (0.94)	5.97 (0.80)	5.86 (0.86)	5.79 (0.87)	5.92 (0.83)	6.01 (0.79)	5.73 (0.86)	5.84 (0.83)	5.95 (0.84)	5.96 (0.81)	6.03 (0.81)		
Health	5.55 (1.19)	5.59 (1.14)	5.48 (1.26)	5.55 (1.20)	5.55 (1.17)	5.35 (1.24)	5.53 (1.21)	5.73 (1.08)	5.13 (1.49)	5.47 (1.12)	5.65 (1.07)	5.47 (1.26)	5.88 (0.87)		
Job	5.56 (1.12)	5.70 (1.00)	5.31 (1.27)	5.73 (1.08)	5.38 (1.14)	5.32 (1.10)	5.61 (1.05)	5.65 (1.22)	5.31 (1.16)	5.47 (1.11)	5.53 (1.17)	5.66 (1.16)	5.74 (0.96)		

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articulos-99630_recurso_1.pdf.

Note: Standard errors in parentheses.

The findings are also broken down by education level (columns 6–8). Individuals educated to the primary level report average satisfaction of 5.7, while those educated to the secondary and tertiary levels average 5.9. Individuals educated to the primary level consistently report a lower average in each domain than persons educated to the secondary and tertiary levels. For instance, in terms of satisfaction with the amount of money in the household, there is a large gap between individuals educated to the primary level and those who have completed tertiary education; and job satisfaction also increases significantly as education levels rise.

Lastly, the results are presented by total household income quintiles (columns 9–13). This reveals a correlation between income and satisfaction, both in life generally and in the specific domains. Individuals in the first income quintile report an average of 5.6, while those in the fifth quintile average 6.0. There is also a considerable gap between the extreme quintiles in the money domain: individuals in the first income quintile report an average of 3.8 in terms of satisfaction with money, while those in the fifth quintile have an average of 5.4.

2. Methodology

Van Praag, Frijters and Ferrer-i-Carbonell (2003) propose a model that views life satisfaction as the result of the levels of satisfaction obtained in each of the different dimensions that are relevant to the life of a human being (such as satisfaction with work, family life, health and the like). More formally:

$$LS=f(DS_1,DS_2,\dots,DS_J,Z) \quad (1)$$

where LS denotes life satisfaction; DS_1,DS_2,\dots,DS_J represent the life domains (work, health, family life and so forth); and Z is an unobservable variable that affects general satisfaction. An additive specification is commonly assumed for equation 1. To complete the model, the authors postulate that the domain-specific satisfaction depends on the individual's objective situation (X) and on his or her personality (optimism) or some other common unobservable variable (Z); these personality traits are unobservable and they co-determine both LS and DS . Hence:

$$DS_j = g(X_j;Z) \quad \forall_j = 1,\dots,J \quad (2)$$

Estimating equation (1) without controlling for Z generates endogeneity bias.

Van Praag, Frijters and Ferrer-i-Carbonell (2003) suggest instrumentalizing Z through the following procedure. After estimating the determinants of the J domains, the authors calculate the residuals to estimate the portion of Z that is common to all of them. The instrument is the result of the first principal component of the $J \times J$ error covariance matrix. This new variable can then be added as an additional covariate to the LS equation, allowing for the assumption that the remaining LS error is no longer correlated with the DS errors.

The first stage entails using ordinary least squares (OLS) to estimate the socioeconomic determinants of satisfaction in the different domains (equation (2)), and then predicting their residual vectors. A principal components analysis is then performed, and the first component is extracted, which is the instrument for Z .

The second stage consists of estimating equation (1) using the domains and the instrument for as covariates.

The procedure is as follows: first, the determinants of the J domains are estimated separately. Then, the residuals from these regressions are predicted, and a principal components analysis is performed on the residuals. The first principal component is chosen as an estimate of Z . Lastly, to avoid bias, Z is included in the estimation of equation (1).²

As noted above, the first step in the methodology involved estimating the sociodemographic determinants of each domain of satisfaction. According to empirical evidence and data availability, the following covariates were considered as determinants of domain satisfaction: a dummy variable representing women; years of schooling; age; age-squared; indigenous background; country of origin (Chilean=1); head of household; dummies for geographic area and marital status; logarithm of income (for all domains except work); logarithm of wage (for job satisfaction only); and a variable measuring household size (number of members).

Key variables for the actual analysis were wage and total income, because they are important determinants of domain satisfaction. Unfortunately, the data for these variables only existed in the form of intervals and participants were asked to self-classify in one of the 14 that were predefined. This caused two difficulties for this study: firstly, it made it necessary to incorporate 13 dummy variables in the econometric model; and secondly, it made it impossible to create a reference wage as a control variable in the job satisfaction domain, which the empirical evidence in this area shows is very important (Card and others, 2012; Clark, Kristensen and Westergård-Nielsen, 2009; Montero and Rau, 2016; Montero and Vásquez, 2015; Mumford and Smith, 2012).

To solve these problems, an interval regression analysis was performed, which made it possible to predict individual wages and household incomes. This strategy eliminates the need to include several dummy variables in the equations for the domains, and allows wages or income to be considered directly as covariates (for more details of the methodology see Montero and Vásquez, 2015).³

The job satisfaction domain received special treatment in this analysis, since there is a branch of economic research in this area that suggests a different model for explaining workers' job satisfaction (Assadullah and Fernandez, 2008; Booth and van Ours, 2008; Clark, Oswald and Warr, 1996; Clark, Kristensen and Westergård-Nielsen, 2009; López Bóo, Madrigal and Pagés, 2010; Montero and Rau, 2015; Montero and Vásquez, 2015; Sousa-Poza and Sousa-Poza, 2000). Moreover, the labour data were abundant, so the following covariates were added to explain job satisfaction: a dummy for first job; unionization; commute time; having a contract; formal self-employment; working in the public sector; contributing to a retirement pension; contributing to the social health system; outsourced workers; fixed wage; whether or not the individual works from home; logarithm of wage; logarithm of hours worked; dummies for tenure, satisfaction with promotion opportunities, workplace conditions, environmental conditions at work, economic sector and shift work; and a variable measuring the wage of the reference group (peer salary).⁴

² Variable Z can be interpreted as a measure of unobserved heterogeneity. It constitutes an alternative to fixed-effects models in panel-data settings. While Z may be a good proxy for fixed effects, it assumes that there is a common element to all the different domains that co-determine both life satisfaction and domain-specific satisfaction. Nonetheless, there might be other variables that determine some domains more than others, which may not be fully included in Z . This suggests that the Z variable can only attenuate the endogeneity bias, and there are still some sources of endogeneity that cannot be taken into account, such as non-constant variables correlated with both life and domain-specific satisfaction.

³ A key issue is the choice of variables that determine wages (or income) within the interval. Following Montero and Vásquez (2015), years of schooling, age, age-squared, and a dummy variable representing women, were used as covariates for wages. On the other hand, to estimate household income, information on the head of the household (years of schooling, age, age-squared, a dummy variable representing women) and household (number of people in a household, number of people who contribute to the household income, and geographical dummies) were used as covariates.

⁴ The level of satisfaction associated with promotion opportunities, workplace conditions and the environmental conditions of work, were measured by the following question: "How satisfied are you with:". The response alternatives were: (1) not satisfied at all; (2) not satisfied; (3) neither satisfied nor dissatisfied; (4) satisfied; (5) very satisfied.

The methodology proposed by Ferrer-i-Carbonell (2005) was used to generate a variable to measure the wage of the peer group. This entails constructing the peer group using information from key variables. For this study, information on economic activity (grouped into nine activities) and schooling were used. The schooling variable was split into five categories: no schooling or incomplete primary education; complete primary education; incomplete secondary education; complete secondary education; and complete and incomplete tertiary education. These two variables were combined to obtain 45 cells. The average wage for each cell was computed and used as the peer wage. It should be noted that the sign for the coefficient of this variable could be positive or negative, depending on whether the comparison effect or the information effect dominates.⁵ Having clarified the data and methodology used for this study, the next section presents the results of applying the methodology.

IV. Results

In general, the results show that levels of satisfaction with money, privacy, leisure, family life, health and work have a positive and statistically significant effect on overall life satisfaction among Chilean workers. They also reveal that family life, leisure and health are valued more highly than money, work and privacy. These results are robust to different functional forms. The empirical evidence presented in this study is thus in line with that found for other countries; but the estimates do not coincide with the results reported by Loewe and others (2014), where satisfaction with one's financial situation was the dominant predictor of life satisfaction. Indeed, the results reported in this article suggest that domains associated with money and work are less important than those pertaining to family life, leisure and health.

1. Sociodemographic determinants of satisfaction domains

Table 2 reports estimations of the sociodemographic determinants of each domain of satisfaction. Column (1) confirms that satisfaction with the amount of money in the household increases with the logarithm of income, as would be expected. Moreover, married persons, widows and widowers, and single individuals are more satisfied with the amount of money in the household than those who are separated. Lastly, women are less satisfied than men in this regard. This finding may be reflective of Chilean society, which is relatively sexist, and where the man is the main contributor to household income.

Column (2) shows the sociodemographic determinants of the individual's satisfaction with the privacy of his or her place of residence. The results indicate that the logarithm of income and years of schooling increase satisfaction in this domain, possibly because both schooling and income enable a worker to access higher-standard housing. Conversely, a larger number of household members is associated with a lower level of satisfaction.

Column (3) in table 2 reports determinants of satisfaction with leisure. Here again, the results show that women are less satisfied than men with the amount of leisure available to them. Satisfaction with this domain increases with the logarithm of income and years of schooling, but it decreases with age and the number of individuals living at home. Lastly, married and single people are more satisfied with their amount of leisure time than those who are separated.

⁵ It seems reasonable to assume a negative relationship between relative wages and individual job satisfaction; this has been called the comparison effect (Card and others, 2012; Clark, Kristensen and Westergård-Nielsen, 2009; Mumford and Smith, 2012). However, Clark, Kristensen and N. Westergård-Nielsen (2009) also argue for a different potential relationship, such that a higher reference group wage level (something like a peer salary) could increase job satisfaction because it reveals valuable information about prospects. The higher the future prospective wage, the higher the level of job satisfaction. This phenomenon has been called the information effect (Manski, 2000).

Table 2
Sociodemographic determinants of satisfaction domains for Chilean workers
(On a scale of 1-7)

	Satisfaction with:					
	(1) Money	(2) Privacy	(3) Leisure	(4) Family life	(5) Health	(6) Job
Women=1	-0.155*** (0.0508)	-0.0135 (0.0439)	-0.400*** (0.0511)	-0.0936*** (0.0359)	-0.335*** (0.0414)	0.0321 (0.0414)
Years of schooling	0.00783 (0.00621)	0.0119** (0.00512)	0.0116** (0.00578)	0.00779** (0.00377)	0.00819 (0.00503)	0.000834 (0.00904)
Age	-0.0109 (0.0131)	0.00690 (0.0103)	-0.0733*** (0.0116)	-0.0260*** (0.00834)	-0.0184* (0.0101)	-0.0154 (0.00990)
Age-squared	0.000103 (0.000156)	-8.91e-06 (0.000119)	0.000755*** (0.000136)	0.000253*** (9.81e-05)	1.32e-05 (0.000121)	0.000188 (0.000116)
Number household members	-0.135*** (0.0133)	-0.0592*** (0.0125)	-0.0430*** (0.0132)	0.0128 (0.00874)	-0.0212** (0.0105)	-0.00363 (0.0106)
Head of household=1	-0.116** (0.0569)	0.00853 (0.0486)	-0.0244 (0.0564)	0.0137 (0.0388)	-0.00410 (0.0454)	-0.0365 (0.0417)
Married=1	0.260*** (0.0864)	0.134* (0.0740)	0.275*** (0.0878)	0.238*** (0.0626)	0.129* (0.0726)	0.0133 (0.0637)
Live together=1	0.121 (0.0972)	-0.0543 (0.0861)	0.160 (0.0980)	0.168** (0.0675)	0.0821 (0.0787)	-0.0414 (0.0732)
Widow/widower=1	0.444** (0.187)	0.0799 (0.164)	-0.0872 (0.189)	0.149 (0.146)	0.371** (0.148)	0.0520 (0.136)
Single=1	0.374*** (0.0949)	0.0857 (0.0824)	0.254*** (0.0963)	0.0520 (0.0698)	0.191** (0.0789)	0.0183 (0.0704)
Indigenous=1	-0.120 (0.0833)	-0.0365 (0.0681)	-0.169** (0.0805)	0.0474 (0.0424)	-0.125** (0.0614)	0.0364 (0.0527)
Chilean=1	0.225 (0.238)	-0.197 (0.215)	0.0921 (0.206)	-0.0412 (0.174)	-0.267** (0.130)	-0.316*** (0.121)
Urban=1	-0.233*** (0.0603)	-0.171*** (0.0467)	-0.00946 (0.0581)	-0.0353 (0.0360)	-0.0547 (0.0451)	-0.0288 (0.0511)
Log (income)	1.040*** (0.0421)	0.292*** (0.0358)	0.278*** (0.0394)	0.181*** (0.0260)	0.259*** (0.0343)	-
Log (wage)	-	-	-	-	-	0.245*** (0.0353)
First job=1	-	-	-	-	-	0.0888**
Unionized=1	-	-	-	-	-	0.0538 (0.0424)

Table 2 (concluded)

	Satisfaction with:					
	(1) Money	(2) Privacy	(3) Leisure	(4) Family life	(5) Health	(6) Job
Contract=1	-	-	-	-	-	0.180*** (0.0607)
Formal self-employment=1	-	-	-	-	-	-0.153* (0.0815)
Log (hours worked)	-	-	-	-	-	0.0265 (0.0738)
Public sector=1	-	-	-	-	-	0.171** (0.0781)
Contributes to retirement pension=1	-	-	-	-	-	-0.0670 (0.0960)
Social health system=1	-	-	-	-	-	0.225* (0.124)
Promotion opportunities=1	-	-	-	-	-	0.281*** (0.0175)
Workplace=1	-	-	-	-	-	0.193*** (0.0283)
Environmental conditions at work	-	-	-	-	-	0.149*** (0.0217)
Individual outsourced=1	-	-	-	-	-	-0.0289 (0.0541)
Fixed wage=1	-	-	-	-	-	0.0296 (0.0458)
Works from household=1	-	-	-	-	-	0.239* (0.139)
Log (reference wage)	-	-	-	-	-	-0.105 (0.117)
Constant	-7.925*** (0.618)	2.227*** (0.518)	3.259*** (0.574)	4.098*** (0.402)	3.402*** (0.481)	1.914 (1.484)
Observations	4 157	4 157	4 157	4 157	4 157	4 157
R ²	0.207	0.050	0.072	0.049	0.089	0.262

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articulos-99630_recurso_1.pdf.

Note: OLS estimation. (***) p<0.01, (**) p<0.05, (*) p<0.1. Robust standard errors in parentheses. The model for job satisfaction also includes dummies for economic sector, shift work, geographical location, and tenure. The models for other domains also include dummies for geographical location.

Determinants of satisfaction in relation to family life are presented in column (4) of table 2. Life satisfaction increases with the logarithm of income and years of schooling, but decreases with age. Moreover, married people and cohabiting couples are more satisfied with their family life than those who are separated. Once again, women are less satisfied than men in this domain.

Column (5) of table 2 reports determinants of satisfaction in relation to health. Higher-income individuals are more satisfied with their health status, which is to be expected since wealthier individuals can afford better health care. In contrast, satisfaction with health decreases as the number of household members rises, possibly because fewer resources are available for each family member's health care due to the large number of people in the family. Women also express less satisfaction than men in this domain.

Lastly, column (6) of table 2 reports on the determinants job satisfaction. The higher the wage that individuals earn, the more satisfied they tend to be. Moreover, individuals with an employment contract are more satisfied than those without a formal job. On the other hand, formally self-employed individuals are less satisfied than those who do not have a formal job. Job characteristics are also found to be relevant to enjoying greater satisfaction. Having promotion opportunities, a good workplace and better environmental conditions at work are correlated with greater job satisfaction. It is also found that the higher the wage of the peer group, the lower the satisfaction with work, although this effect is not statistically significant. As noted above, there are two opposing effects in play here: the comparison effect and the information effect. The fact that the coefficient is not statistically significant may be because the comparison effect predominates for some workers, while the information effect predominates for others, with the two effects cancelling each other out in net terms. Lastly, it is interesting to note that Chilean workers are less satisfied with their jobs than immigrant workers.

In summary, women are generally less satisfied than men in the different domains; and higher-income individuals experience a higher level of satisfaction, as do married people. Members of large households experience lower levels of subjective well-being.

It is also important to note that the goodness-of-fit of the regressions for each of the domains was within the expected range. For instance, van Praag, Frijters and Ferrer-i-Carbonell (2003) report R^2 values ranging between 2% and 20%. In the present analysis, R^2 varied from 5% to 26%. This helps to ensure that the data contained in the error term were unobserved variables.

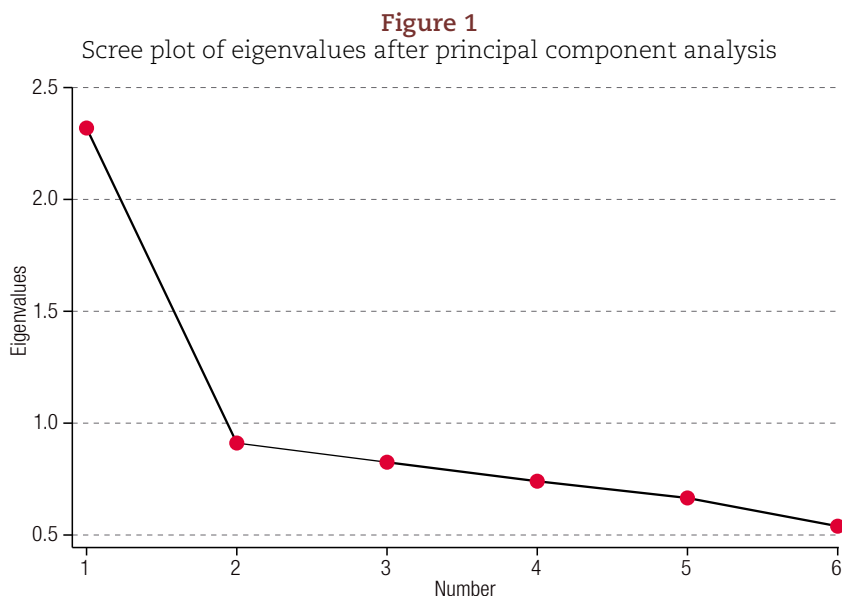
After estimating the determinants of each satisfaction domain, the residuals of each regression were predicted. The correlations between the residuals of each regression are shown in table 3 and vary between 15% and 38.2%, suggesting that there were common unobservable variables in the residuals.

Table 3
Correlation between residuals from the estimation of determinants
in each satisfaction domain

Satisfaction with:	(1) Money	(2) Privacy	(3) Leisure	(4) Family life	(5) Health	(6) Job
Money	1					
Privacy	0.293	1				
Leisure	0.316	0.262	1			
Family life	0.212	0.350	0.382	1		
Health	0.246	0.180	0.306	0.339	1	
Job	0.216	0.150	0.214	0.184	0.260	1

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articulos-99630_recurso_1.pdf.

Next, the principal components analysis was performed on the residuals of each regression. In figure 1, a scree plot illustrates the components chosen to be a proxy for personality traits (Z). The breakpoint of the trend is clearly associated with the second component, so the first principal component was used as the estimator of Z . Column (1) in table 4 shows the correlation of each residual with the first component, which were high and varied between 27% and 45%.



Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articles-99630_recurso_1.pdf.

Table 4
Correlation between the first principal component and the residuals of the estimation of each satisfaction domain

Satisfaction with:	All	Gender		Age		Education			Total household income quintile				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		Men	Women	15–39 years	40–65 years	Primary	Secondary	Tertiary	I	II	III	IV	V
Money	0.41	0.38	0.42	0.41	0.39	0.40	0.37	0.46	0.41	0.39	0.44	0.38	0.38
Privacy	0.36	0.39	0.40	0.40	0.38	0.36	0.42	0.34	0.39	0.37	0.40	0.38	0.41
Leisure	0.44	0.44	0.46	0.46	0.45	0.47	0.44	0.45	0.41	0.43	0.49	0.50	0.40
Family life	0.42	0.44	0.47	0.46	0.45	0.44	0.46	0.45	0.42	0.46	0.45	0.43	0.50
Health	0.41	0.36	0.28	0.39	0.44	0.40	0.43	0.38	0.43	0.43	0.36	0.42	0.43
Job	0.41	0.43	0.40	0.32	0.33	0.37	0.31	0.36	0.40	0.35	0.27	0.31	0.31

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articles-99630_recurso_1.pdf.

Using the methodology described above, it was possible to construct a variable to partially control for the influence of the unobservable factors in the model (Z).

2. Domains and life satisfaction

Equation (1) is estimated by OLS, using the domains as covariates (satisfaction with money, privacy, leisure, family life, health and work), and controlling for Z with the newly created instrument. The results are reported in column (1) of table 5.

Table 5
Determinants of life satisfaction among Chilean workers
(On a scale of 1–7)

Satisfaction with:	All		Gender		Age			Education			Total household income quintile					All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
		Men	Women	15-39 years	40-65 years	Primary	Secondary	Tertiary	I	II	III	IV	V	CES ^a		
Money	0.0632*** (0.0153)	0.0471** (0.0192)	0.0840*** (0.0248)	0.0623*** (0.0204)	0.0564*** (0.0200)	0.0238 (0.0249)	0.0555*** (0.0185)	0.153*** (0.0586)	0.0379 (0.0289)	0.0743** (0.0351)	0.0359 (0.0351)	0.0717* (0.0430)	0.0423 (0.0305)	0.409** (0.194)		
Privacy	0.0709*** (0.0243)	0.0290 (0.0277)	0.146*** (0.0433)	0.0910*** (0.0328)	0.0398 (0.0358)	0.0747* (0.0439)	0.0842** (0.0354)	0.0325 (0.0464)	0.0746 (0.0631)	0.140** (0.0657)	0.0122 (0.0469)	0.00129 (0.0573)	0.0800 (0.0516)	0.309** (0.120)		
Leisure	0.147*** (0.0222)	0.120*** (0.0316)	0.171*** (0.0329)	0.132 (0.0316)	0.156*** (0.0290)	0.177*** (0.0412)	0.143*** (0.0265)	0.126** (0.0569)	0.182*** (0.0394)	0.218*** (0.0493)	0.134*** (0.0420)	0.136** (0.0631)	0.0350 (0.0353)	0.784*** (0.262)		
Family life	0.317*** (0.0399)	0.320*** (0.0463)	0.289*** (0.0657)	0.303*** (0.0515)	0.317*** (0.0556)	0.244*** (0.0855)	0.365*** (0.0464)	0.339*** (0.0839)	0.300*** (0.0835)	0.307*** (0.102)	0.354*** (0.0798)	0.298*** (0.0841)	0.256*** (0.0714)	1.272*** (0.343)		
Health	0.176*** (0.0309)	0.127*** (0.0337)	0.227*** (0.0488)	0.176*** (0.0469)	0.170*** (0.0441)	0.260*** (0.0616)	0.127*** (0.0369)	0.171** (0.0684)	0.268*** (0.0562)	0.178*** (0.0652)	0.0944 (0.0622)	0.111 (0.0769)	0.227*** (0.0514)	0.882*** (0.265)		
Job	0.118*** (0.0279)	0.144*** (0.0303)	0.0889** (0.0440)	0.0935** (0.0401)	0.143*** (0.0345)	0.213*** (0.0494)	0.0762** (0.0308)	0.184*** (0.0611)	0.257*** (0.0444)	0.0930* (0.0495)	0.0454 (0.0421)	0.0307 (0.0508)	0.158*** (0.0525)	0.606*** (0.200)		
Z	-0.0903*** (0.0344)	-0.0613 (0.0412)	-0.121*** (0.0524)	-0.0639 (0.0472)	-0.0985** (0.0474)	-0.198** (0.0856)	-0.0521 (0.0449)	-0.135 (0.0848)	-0.257*** (0.0787)	-0.139 (0.0902)	0.0169 (0.0732)	0.0405 (0.105)	-0.0482 (0.0700)	-0.201** (0.0895)		
ε														0.762*** (0.0452)		
σ														2.177*** (0.527)		
Observations	4 157	2 805	1 352	2 031	2 126	1 070	2 131	956	832	831	832	831	831	4 157		
R ²	0.413	0.364	0.486	0.437	0.386	0.342	0.457	0.446	0.414	0.373	0.385	0.465	0.447			

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articles-99630_recurso_1.pdf.

Note: (***) p<0.01, (**) p<0.05, (*) p<0.1. Robust standard errors in parentheses.

^a CES stands for "constant-elasticity-of-substitution".

Three features stand out in these results. Firstly, variable *Z*, which makes it possible to control for the influence of unobservable factors, is very important in the model; omitting it would generate a bias in the coefficients that are estimated for each of the domains. In fact, the estimated coefficient for this variable is negative and statistically significant at 1%. Secondly, each of the six domains used to explain overall life satisfaction among Chilean workers has a positive effect which is statistically significant at 1%. Lastly, it is worth noting the goodness-of-fit shown by the model, given that the estimation used cross-sectional data.

An interesting feature of the relationship between domain-specific satisfaction and overall life satisfaction is the relative effect of each domain; in other words, which domain has the greatest effect on overall life satisfaction.

Table 6 reports the values of a *t*-test to assess whether the effect of one domain is statistically different from that of another. For example, in panel A the value 4.13 indicates rejection of the null hypothesis, which suggests that the effects of the leisure and family domains are the same, since the effect of family on life satisfaction was greater than that of leisure. It can therefore be concluded that family life has a greater effect than other domains.

Table 6
Comparison of the effects of the domains on life satisfaction

Satisfaction with:	(1) Family life	(2) Leisure	(3) Health	(4) Job	(5) Money
Panel A	All (OLS)				
Leisure	4.13				
Health	2.91	-0.74			
Job	4.00	0.77	1.47		
Money	6.34	3.63	3.19	1.53	
Privacy	5.28	3.02	2.84	1.35	-0.27
Panel B	Men				
Leisure	4.07				
Health	3.63	-0.14			
Job	3.03	-0.54	-0.38		
Money	5.94	2.35	2.10	2.46	
Privacy	5.48	2.87	2.45	3.08	0.55
Panel C	Women				
Leisure	1.81				
Health	0.75	-0.91			
Job	2.55	1.41	2.12		
Money	3.04	2.48	2.58	0.08	
Privacy	1.80	0.59	1.20	-0.94	-1.27
Panel D	Age: 15–39 years				
Leisure	3.01				
Health	1.79	-0.75			
Job	3.14	0.76	1.41		
Money	4.64	2.23	2.27	0.62	
Privacy	3.40	1.30	1.55	0.05	-0.79
Panel E	Age: 40–65 years				
Leisure	2.86				
Health	2.38	-0.28			
Job	2.70	0.25	0.51		
Money	4.52	3.07	2.25	1.99	
Privacy	4.24	3.00	2.52	2.11	0.40
Panel F	Primary education				
Leisure	0.83				
Health	-0.20	-1.45			
Job	0.33	-0.57	0.60		
Money	2.60	4.01	4.01	3.38	
Privacy	1.77	2.14	2.78	2.14	-1.18

Table 6 (concluded)

Satisfaction with:	(1) Family life	(2) Leisure	(3) Health	(4) Job	(5) Money
Panel G	Secondary education				
Leisure	4.35				
Health	3.97	0.38			
Job	5.14	1.62	1.24		
Money	6.56	3.13	1.78	0.55	
Privacy	4.78	1.78	1.10	-0.18	-0.81
Panel H	Tertiary education				
Leisure	2.42				
Health	1.55	-0.45			
Job	1.45	-0.81	-0.13		
Money	2.43	-0.46	0.20	0.33	
Privacy	3.04	1.71	1.60	2.60	1.55
Panel I	Quintile I				
Leisure	1.40				
Health	0.29	-1.43			
Job	0.44	-1.23	0.15		
Money	3.23	3.59	3.88	3.97	
Privacy	2.14	1.82	3.04	2.59	-0.58
Panel J	Quintile II				
Leisure	0.85				
Health	1.25	0.55			
Job	2.17	1.90	1.12		
Money	2.35	2.70	1.64	0.33	
Privacy	1.39	1.32	0.49	-0.66	-1.06
Panel K	Quintile III				
Leisure	2.72				
Health	2.52	0.49			
Job	3.75	1.44	0.66		
Money	4.28	2.28	0.72	0.16	
Privacy	4.29	2.16	1.11	0.74	0.42
Panel M	Quintile IV				
Leisure	1.85				
Health	2.30	0.27			
Job	2.62	1.28	0.89		
Money	2.63	1.10	0.52	-0.55	
Privacy	3.35	2.59	1.49	0.40	1.20
Panel N	Quintile V				
Leisure	3.30				
Health	0.34	-3.44			
Job	1.13	-2.09	1.07		
Money	2.89	-0.17	3.26	1.96	
Privacy	2.22	-0.95	2.71	1.14	-0.67
Panel L	All (CES) ^a				
Leisure	2.37				
Health	1.79	-0.51			
Job	2.61	0.89	1.37		
Money	3.74	2.63	2.50	1.06	
Privacy	2.86	2.02	2.25	1.44	0.52

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articles-99630_recurso_1.pdf.

Note: The value shown corresponds to a *t*-test to assess whether the effect of one domain is statistically different from those of others. For example, the value 4.13 indicates rejection of the null hypothesis, which suggests that the effects of satisfaction in the leisure and family domains are the same, since the family has a greater effect on life satisfaction than leisure does.

^a CES stands for "constant-elasticity-of-substitution".

Similarly, leisure has a greater effect on life satisfaction than money and privacy, while health proves more important than either of these two domains. In contrast, the parameters associated with job satisfaction, money and privacy are not statistically different.

The evidence thus shows that all domains have positive and statistically significant effects on life satisfaction; but satisfaction in the domains of family life, leisure and health are more important to overall life satisfaction than those of money, work and privacy.

3. Heterogeneity by gender, age, schooling and household income quintile

This section explores heterogeneity in the relationship between domain satisfaction and overall life satisfaction by gender, age, educational level and total household income quintile.⁶

Columns (2)–(13) of table 5 report estimations of the effect of each domain on life satisfaction when controlling for unobservable heterogeneity.⁷ The results for men, displayed in column (2),⁸ show that all domains are important for life satisfaction (money, leisure, family life, health and work), except privacy. In this case, the variable *Z* is not statistically significant. On the other hand, analysis of the data reported in table 6 (panel B) shows that the effects of family life, leisure, health and work are more important than the those of money and privacy.

For women too, the results reported in column (3) of table 5 show that all domains are relevant. In this case, the variable *Z* is statistically significant at 1%. According to the information provided in table 6 (panel C) family life, leisure and health have the most important effects.

Differences by age were also explored. The sample was split into two groups, consisting of individuals aged between 15 and 39 years and those aged from 40 to 65. For the younger group, all domains are important for life satisfaction, as shown in columns (4) and (5) of table 5. As is the case with men, personality traits are not statistically significant. Meanwhile table 6 (panel D) shows that family life, leisure and health have a greater effect on life satisfaction than work, money and privacy. For individuals aged between 40 and 65 years, satisfaction with privacy has no effect on life satisfaction; in contrast, satisfaction with money, leisure, family life, health and work are very important. Variable *Z* is statistically significant at 5%. Table 6 (panel E) shows that the main contributors to overall life satisfaction are family life, leisure, health and work.

Differences by educational level were also studied (see columns (6)–(8) in table 5). For individuals educated to the primary level, only four domains are important for life satisfaction, namely leisure, family life, health and work. According to table 6 (panel F), family life, leisure, health and work have the strongest effects on life satisfaction. In contrast, for individuals educated to the secondary level, table 5 shows that all domains are important. The greatest effects are obtained from family life and leisure (see panel G in table 6). Lastly, for individuals educated to the tertiary level, satisfaction with privacy is the only domain that is not important. Panel H shows that family life and work have the greatest effects on life satisfaction. It is worth noting that the variable summarizing personality traits is only statistically significant at 5% for workers educated to the primary level.

Lastly, differences according to household total income quintile were analysed (see columns (9)–(13) of table 5). These findings are similar to those obtained in respect of education level, with the results in

⁶ Columns (2)–(13) in table 4 show the correlation of each residual with the first principal component used to estimate *Z*. Here again, the correlations are high which suggests that the principal component is a good instrument for variable *Z*.

⁷ The first stage of each of the regressions and the principal components analysis are available upon request.

⁸ Instead of dividing the sample, dummy variables could have been included in the model to maintain the estimation's efficiency. Nonetheless, the estimates remain efficient, and the domains that are not statistically significant reflect the fact that the point estimates are very close to zero.

income quintile I actually consistent with those for individuals educated to the primary level. In particular, family life, leisure, health and work are the most important domains for explaining their life satisfaction. On the other hand, individuals in income quintile V, derive life satisfaction from their satisfaction with family life, health and their job. It is also worth noting that only those in quintiles II and IV recognize a degree of importance for satisfaction with money, and Z is only statistically significant in income quintile I. Three features stand out in the results presented in tables 5 and 6. First, some domains —namely leisure, family life, work and health— are important for nearly all groups of workers analysed. Second, the domains with the greatest effect on life satisfaction are family life, leisure, health and work. Lastly, in most cases it is important to control for the variable Z , since it is statistically significant (either at 1% or at 5%).

4. Robustness analysis

An initial concern with the methodology employed in this study is the fact that the relationship between life satisfaction and domain satisfaction is assumed to be linear. To address this issue this study follows Rojas (2006) by estimating a constant-elasticity-of-substitution (CES) production function for life satisfaction.⁹ Column (14) of table 5 reports the results. As with the linear approach, all domains appear significantly correlated with life satisfaction. The relative importance of each domain is also explored; and panel L of table 6 reports the results of the linear combination tests. The results of the CES estimation are consistent with the ranking of the linear estimation; that is, satisfaction with family life, leisure and health are the most important domains, in decreasing order. In summary, the results are robust to different specifications of the relationship between overall life satisfaction and domain satisfaction.¹⁰

A second concern about the robustness of the results relates to the construction of Z . The two-layer methodology developed by van Praag, Frijters and Ferrer-i-Carbonell (2003) entails constructing a variable Z that summarizes the information on individuals' personality traits. As explained above, the authors proposed instrumentalizing Z through a procedure in which the determinants of the domains are estimated, and then the residuals are calculated to estimate the portion of that is common to all the residuals. Lastly, the instrument is the result of the first principal component of the x error covariance matrix.

Accordingly, this procedure may be sensitive to the econometric specification used to model each of the domains. The model proposed thus far assumes that the determinants (covariates) of domains related to money, privacy, leisure, family life and health are the same. Nevertheless, the model proposed for job satisfaction is different, and it includes variables related to the characteristics of employment. This section studies the robustness of the results by estimating alternative specifications for the determinants of domain satisfaction.

The first robustness check consisted of estimating all domains of satisfaction using the same covariates. Hence, the job-satisfaction model included the same covariates as in the other five domains. This is called the reduced model. In the second check, the covariates originally included in job satisfaction were considered for other domains. This is referred to as the extended model. The estimates of the effects of the domains on life satisfaction are reported in table 7.

Column (1) reports the estimates for the reduced model. All domains have effects on life satisfaction that are statistically significant at 1%. Variable Z (representing personality traits) is also statistically significant at 5%. Column (2) presents the estimates of the effects of the different domains for the extended model, which are similar to those obtained from the reduced model. Table 8 shows the values of a t -test to assess whether the effect of one domain is statistically different from that of another, for both the reduced and the extended models. The results show that, for the reduced model, the effects of family life, leisure and

⁹ Formally, the following equation is estimated: $LS = \left(\sum_{i=1}^n \alpha_i DS_i^\sigma \right)^{\frac{1}{\sigma}}$ with α_i ($i=1, \dots, n$), ε and σ as parameters.

¹⁰ The same relationship is also estimated using an ordered Probit. The main qualitative results, which are available upon request, remained unchanged.

health are more important than those of money, job and privacy. These are identical to the results found previously with the original model (see panel A in table 6). Analysis of the results of the extended model show that the effects of family life, leisure and health are the most important.

Table 7

The determinants of life satisfaction: the reduced model and the extended model
(On a scale of 1-7)

Satisfaction with:	Reduced model	Extended model
	(1)	(2)
Money	0.0624*** (0.0153)	0.0592*** (0.0153)
Privacidad	0.0679*** (0.0245)	0.0583*** (0.0223)
Leisure	0.145*** (0.0222)	0.135*** (0.0207)
Family life	0.312*** (0.0394)	0.304*** (0.0377)
Health	0.173*** (0.0310)	0.166*** (0.0289)
Job	0.124*** (0.0282)	0.101*** (0.0273)
Z	-0.0841** (0.0334)	-0.0621** (0.0287)
Constant	0.888** (0.446)	1.226*** (0.339)
Observations	4 157	4 157
R ²	0.413	0.413

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articulos-99630_recurso_1.pdf.

Note: OLS estimation. (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors in parentheses.

Table 8

Comparison of the effects of the different domains on life satisfaction

Satisfaction with:	(1) Family life	(2) Leisure	(3) Health	(4) Job	(5) Money
Reduced model					
Leisure	4.056				
Health	2.851	-0.734			
Job	3.855	0.580	1.285		
Money	6.277	3.571	3.148	1.707	
Privacy	5.243	3.048	2.853	1.611	-0.192
Extended model					
Leisure	4.084				
Health	2.843	-0.780			
Job	4.058	0.915	1.676		
Money	6.304	3.398	3.095	1.150	
Privacy	5.254	3.065	2.938	1.213	0.032

Source: Prepared by the authors, on the basis of Ministry of Health (MINSAL), "Primera encuesta nacional de empleo, trabajo, salud y calidad de vida de los trabajadores y trabajadoras en Chile (ENETS 2009-2010)", 2011 [online] https://www.dt.gob.cl/portal/1629/articulos-99630_recurso_1.pdf.

In short, it can be concluded that the results obtained are not sensitive to changes to the functional form or the econometric specification used to model the different domains. All domains had a statistically significant effect on life satisfaction, with family life, leisure and health being the most important.

V. Conclusions

This study has implemented the two-layer model methodology developed by van Praag, Frijters and Ferrer-i-Carbonell (2003), in which life satisfaction is viewed as the aggregate of domain-specific happiness components. The article presents evidence for a country, namely Chile, that has reached the threshold between developing and developed States, and therefore needs to gain a better understanding of the complex phenomenon of the subjective well-being of its population. As such, it makes a good attempt to identify the drivers of life satisfaction among Chilean workers.

Using data from a sample of Chilean workers, the study found that levels of satisfaction with money, privacy, leisure, family life, health and work each have a positive and statistically significant effect on life satisfaction. The evidence also reveals that the effects of family life, leisure and health are more important to life satisfaction than those of money, work and privacy. These results are robust to different specifications for the domains. The empirical evidence presented in this study is in line with that found for other countries (both developed and developing). However, another finding is that the domains associated with money and work are apparently less important than family life, leisure and health status. The results presented in this paper are robust to changes in the production function used to model life satisfaction.

These results are at odds with prior evidence from Chile, however. In particular, Loewe and others (2014) found that satisfaction with one's financial situation was the dominant predictor of overall life satisfaction; and that satisfaction with one's self-worth, leisure time and social relationships did not have statistically significant effects.

There may be several reasons for these the differences. Firstly, the dataset used by Loewe and others (2014) is not representative of Chilean workers, unlike the one used in this study. Secondly, the number of observations in that study is considerably smaller (530) than the number available in this study (4,157). Thirdly, this research uses a different estimation methodology which takes unobserved heterogeneity explicitly into account. Nonetheless, the findings of the present study should be considered with caution given its limitations (which are also present in Loewe and others, 2014). In particular, it is possible to identify at least two shortcomings. First, this study has exogenously imposed the domains that determine Chilean workers' life satisfaction. It would be interesting to question individuals themselves about the domains that they consider relevant to their lives. Secondly, it would be useful to perform this type of analysis (to understand the determinants of life satisfaction) using longitudinal instead of cross-sectional data. This would certainly enrich the econometric analysis of the relationship between domain satisfaction and overall life satisfaction; and it would afford better control over the role of unobservable characteristics in the determination of life satisfaction.

Despite these limitations, this article reports new results that contribute to the empirical literature on subjective well-being, by validating the two-layer model using data from Chile. It has been observed that, for an economy in transition, it is important to investigate the drivers of life satisfaction, since non-pecuniary factors (family life, leisure) are relevant to people's subjective well-being. Since Chile is in this transitional phase, it is essential to understand these drivers properly, so that public and managerial policies can be designed to promote more efficiently the subjective well-being of workers and the population at large. In particular, business managers may be interested in investing in some of these areas in order to improve their workers' productivity, with which happiness is correlated (Oswald, Proto and Sgroi, 2015). Since Chilean workers value family life and leisure more than other domains, it may be appropriate to design policies that give workers greater flexibility to achieve a better work-life balance. For instance, allowing individuals to work remotely may improve both performance (Harker and MacDonnell, 2012) and subjective well-being (Anderson, Kaplan and Vega, 2015). It could also help them to save commuting time, which, for instance, averages 1 hour and 40 minutes per day in

Santiago (Ministry of Social Development, 2015). Long commutes have been shown to reduce subjective well-being (Stutzer and Frey, 2008; Lorenz, 2018). In addition, the importance of health to life satisfaction suggests that attempts by policymakers and/or managers to provide better conditions at work that could result in better health will have a positive effect on an individual's well-being.

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