



Psicothema

ISSN: 0214-9915

psicothema@cop.es

Universidad de Oviedo  
España

Schnettler Morales, Berta; Denegri Coria, Marianela; Miranda Vargas, Horacio; Sepúlveda Maldonado, José; Mora González, Marcos; Lobos Andrade, Germán  
Satisfaction with life and with food-related life in central Chile  
Psicothema, vol. 26, núm. 2, abril-junio, 2014, pp. 200-206  
Universidad de Oviedo  
Oviedo, España

Available in: <http://www.redalyc.org/articulo.oa?id=72730459001>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System  
Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal  
Non-profit academic project, developed under the open access initiative

## Satisfaction with life and with food-related life in central Chile

Berta Schnettler Morales<sup>1</sup>, Marianela Denegri Coria<sup>1</sup>, Horacio Miranda Vargas<sup>1</sup>, José Sepúlveda Maldonado<sup>1</sup>,  
Marcos Mora González<sup>2</sup> and Germán Lobos Andrade<sup>3</sup>

<sup>1</sup> Universidad de La Frontera, <sup>2</sup> Universidad de Chile and <sup>3</sup> Universidad de Talca

### Abstract

**Background:** Eating is one of the most frequent human behaviors, but there are few studies that relate eating and subjective well-being. Typologies of people were distinguished and characterized according to their level of satisfaction with life and food in central Chile. **Method:** A survey was applied to a sample of 1,277 people in the main municipalities of this area, distributed proportionally by municipality. The questionnaire included the SWLS scales (Satisfaction with Life Scale), SWFL (Satisfaction with Food-related Life), Health-Related Quality of Life Index (HRQOL), Subjective Happiness Scale (SHS), and respondents' demographic characteristics and eating habits were also ascertained. **Results:** Using hierarchical cluster analysis, three typologies were distinguished with significant differences in the scores on the SWLS, SWFL, SHS, self-perception of health, days with physical or mental problems in the last month, sociodemographic characteristics and frequency with which the family eats together. **Conclusions:** The results suggest that a higher level of general subjective well-being, and eating is associated with better health, greater family interaction around meals, higher levels of happiness, and with some sociodemographic characteristics.

**Keywords:** Family meals, domains of life, life satisfaction, typologies.

### Resumen

**Satisfacción con la vida y la alimentación en la zona central de Chile.**

**Antecedentes:** la alimentación es uno de los comportamientos humanos más frecuentes, pero aun son escasos los estudios que relacionan la alimentación y el bienestar subjetivo. Se distinguieron y caracterizaron tipologías según su nivel de satisfacción con la vida y con la alimentación en la zona central de Chile. **Método:** se aplicó una encuesta a una muestra de 1.277 personas de las principales comunas de esta zona, distribuidas proporcionalmente por comuna. El cuestionario incluyó las escalas SWLS (Satisfaction with Life Scale), SWFL (Satisfaction with Food-related Life), el índice de calidad de vida relativo a la salud (ICVRS), la escala de felicidad subjetiva (SHS) y, se consultaron características demográficas y hábitos alimentarios de los encuestados. **Resultados:** mediante análisis de conglomerados jerárquicos se distinguieron tres tipologías con diferencias significativas en los puntajes de la SWLS, SWFL, SHS, auto percepción de la salud, días con problemas físicos o mentales en el último mes, características sociodemográficas y en la frecuencia de comidas junto a la familia. **Conclusiones:** los resultados sugieren que un mayor nivel de bienestar subjetivo general y con la alimentación se asocia con una mejor salud, superior interacción familiar en torno a la comida, mayor nivel de felicidad y con algunas características sociodemográficas.

**Palabras clave:** comidas en familia, dominios de la vida, satisfacción vital, tipologías.

The subjective well-being (SWB) construct is a tripartite category of phenomena, which includes: emotional responses (i.e., positive affect [joy, optimism] and negative affect [sadness, anger]), domain satisfactions (e.g., work satisfaction, relationship satisfaction), and global judgments of life satisfaction (Diener, Suh, Lucas, & Smith, 1999). In general, positive evaluations of life satisfaction are linked to happiness and the achievement of the 'good life', whereas negative evaluations of life satisfaction are associated with depression and unhappiness (Proctor, Linley, & Maltby, 2009).

Numerous studies have addressed overall satisfaction with life (Moyano & Ramos, 2007; Gómez, Villegas de Posada, Barrera, &

Cruz, 2007; Moyano, Flores, & Soromaa, 2011; Puente & Cavazos, 2013) in Latin America. These investigations have generally found positive levels of satisfaction with life in the study samples consistent with cross-national data examining life satisfaction in different countries around the world (Proctor et al., 2009). At the same time, several studies have dealt with satisfaction in certain domains, such as work (Gómez et al., 2007; Moyano & Ramos, 2007; López-Cabarcos, Vázquez-Rodríguez, & Montes-Piñero, 2010), family (Gómez et al., 2007; Moyano & Ramos, 2007; Domínguez, Salas, Contreras, & Procidano, 2011), marital status (Gómez et al., 2007; Guzmán & Contreras, 2012) or health (Gómez et al., 2007; Moyano & Ramos, 2007; Puente & Cavazos, 2013), among others, but to date, very little research has been done in relation to eating. For a long time, eating and drinking behavior has been studied very little by psychology, although it is one of the most important human behaviors and certainly the most frequent (Köster, 2009). Indeed, there is a lot of research into the effects of nutrition on physical health, but hardly any research into the effects of diet on satisfaction with life (Veenhoven, 2008).

Received: January 10, 2013 • Accepted: January 8, 2014

Corresponding author: Berta Schnettler Morales  
Facultad de Ciencias Agropecuarias y Forestales  
Universidad de La Frontera  
478000 Temuco (Chile)  
e-mail: berta.schnettler@ufroterra.cl

Food as a domain can be expected to be related to satisfaction with life for several reasons. Food is an essential component of quality of life; an unacceptable or unpalatable diet can lead to poor food and fluid intake, resulting in weight loss and malnutrition and a series of negative health effects (American Dietetic Association's, 2005). Although food fulfills a utilitarian function for the body, at the same time, it acts as a product for pleasure and social construction, supporting the construction of personal identity (Hausman, 2005). Hargreaves, Schlundt, and Buchowski (2002) stress the emotional dimension of food associated with celebrations and social interaction. Other investigations demonstrate that eating is an important source of happiness (Berenbaum, 2002; Macht, Meininger, & Roth, 2005).

In view of the importance of food for satisfaction or dissatisfaction with life, Grunert, Dean, Raats, Nielsen, and Lumbers (2007) developed and tested the Satisfaction with Food-related Life Scale (SWFL) in three studies in eight European countries. These authors determined relationships between SWFL and other quality of life indicators, including satisfaction with life. Schnettler, Miranda, Sepúlveda, Denegri, Mora, and Lobos (2012) found a positive relation between people's food-related satisfaction and their satisfaction with life. Recently, Schnettler et al. (2013a) evaluated the psychometric properties of the SWFL and its relation to the Satisfaction with Life Scale (SWLS) using a confirmatory factor analysis. The results obtained showed an adequate level of internal consistency and a good fit to the SWFL data. The evaluation of a causal covariance structure analysis model composed of the SWFL as the antecedent construct and the SWLS as the consequent construct indicates a medium level of relationship between the two constructs.

The aims of this study were: to distinguish consumer typologies according to their satisfaction with life and satisfaction with their food-related life, and to characterize the typologies according to sociodemographic characteristics, level of subjective happiness, health and eating habits with the family. According to the results from previous studies (Grunert et al., 2007; Schnettler et al., 2012; Schnettler et al., 2013a), we expected to confirm the existence of a positive relation between satisfaction with life and satisfaction with food-related life. Also, considering the relation between health and food (American Dietetic Association's, 2005), between social interaction and food (Hargreaves et al., 2002), and between happiness and food (Berenbaum, 2002; Macht et al., 2005), the present work is intended to demonstrate that the level of satisfaction with life and with food-related life are related to happiness and other domains of life, such as health and family.

## Methods

### Participants

Personal interviews were conducted with a sample of 1,277 people from the Valparaíso, Metropolitan, Libertador Bernardo O'Higgins and Maule Regions in central Chile. The surveys were conducted in the principal municipalities of these regions (more than 100,000 inhabitants), with the number of respondents set proportionally to the number of inhabitants of the municipalities of Valparaíso, Viña del Mar (Valparaíso Region), El Bosque, La Florida, La Pintana, Las Condes, Maipú, Ñuñoa, Peñalolen, Pudahuel, Puente Alto, Recoleta, San Bernardo, Santiago (Metropolitan Region), Rancagua (Libertador Bernardo O'Higgins Region) and Talca (Maule Region).

Of the entire sample (Table 1), the largest proportion were women, married or living with a partner, resident in urban areas, from families with three to four members, without children, with university studies, employed, belonging to socioeconomic level ABC1 (high and upper-middle), with a man being the main breadwinner. The average age of the participants was 37.4 years ( $SD = 13.6$ ).

### Instrument

The questionnaire applied included the following scales:

- SWLS (Satisfaction with Life Scale): developed by Diener et al. (1985), this is a scale consisting of 5 items grouped into a single factor to evaluate overall cognitive judgments about a person's own life. The reliability estimate (Cronbach's alpha) in various studies has ranged between 0.79 and 0.89 and a one-factor structure (Pavot & Diener, 1993). Studies conducted in Spain also report a high internal consistency of the scale in its Spanish-language version with a Cronbach's  $\alpha$  values between 0.82 and 0.84 (Atienza, Pons, Balaguer, & García-Merita, 2000; Chico & Ferrando, 2008). Studies performed in Mexico, Brazil and Colombia have reported Cronbach's  $\alpha$  between 0.77 and 0.84 (Gómez et al., 2007;

*Table 1*  
Demographic characteristics (%) of the sample. July 2011

Sample		Total
Gender	Female	59.9
	Male	40.1
Marital status	Single, separated, divorced, widowed	55.5
	Married or in a conjugal relationship	44.5
Area of residence	Urban	99.6
	Rural	0.4
Family size	1-2 family members	19.1
	3-4 family members	54.0
	5 family members or more	26.9
Presence and age of children	Without children	51.8
	Children < 5 years	13.1
	Children 5-12 years	19.4
	Children 13-17 years	15.7
Education	Without studies	1.3
	Elementary	5.8
	High school	31.3
	University	61.6
Occupation	Independent worker	18.7
	Businessperson	4.3
	Private-sector worker	51.8
	Public-sector worker	16.6
	Retired	5.8
	Unemployed	0.9
Gender of the home's main breadwinner	Other situation	1.8
	Male	69.9
	Female	30.1
Socioeconomic status	ABC1	55.5
	C2	26.7
	C3	13.8
	D-E	4.1

Gouveia, Milfont, Nunes da Fonseca, Peçanha de Miranda, & Coelho, 2009; Domínguez et al., 2011; Puente & Cavazos, 2013). The SWLS presented adequate levels of internal consistency (Cronbach's  $\alpha$ : 0.82-0.88) and the existence of a single factor for all the items in previous studies in Chile (Moyano & Ramos, 2007; Moyano et al., 2011; Schnettler et al., 2012; Vera-Villarreal, Urzúa, Pavez, Celis-Atenas, & Silva, 2012; Schnettler et al., 2013b).

- SWFL (Satisfaction with Food-related Life): SWFL was proposed and tested by Grunert et al. (2007) in eight European countries, showing adequate levels of internal consistency (Cronbach's alpha varying between 0.81 and 0.85); the five items of the scale are grouped in a single dimension: Food and meals are positive elements. I am generally pleased with my food. My life in relation to food and meals is close to ideal. With regard to food, the conditions of my life are excellent. Food and meals give me satisfaction in daily life. The SWFL scale presented adequate levels of internal consistency (Cronbach's  $\alpha$ : .82-.88), and the existence of a single factor for all the items in previous studies in Chile (Schnettler et al., 2012; Schnettler et al., 2013b).

In SWLS and SWFL the respondents must indicate their degree of agreement with these statements using a 6-point Likert scale (1: disagree completely, 6: agree completely). In the case of SWLS and SWFL scales with no midpoint (i.e., 6-point Likert scales), were used as previous testing of the instruments suggested a tendency by respondents to concentrate answers at the midpoint. In order to avoid the indecisive answers that tend to be concentrated at the midpoint, the scales that originally contained seven levels (SWLS and SWFL) were changed to six. In this study, the SWLS and SWFL scales presented adequate levels of internal consistency (Cronbach's  $\alpha$ : .861 and .873, respectively). A principal axis factor analysis detected the existence of a single factor for all the items in each scale (explained variance: 64.7 and 66.5%, respectively).

- SHS (Subjective Happiness Scale): Developed by Lyubomirsky & Lepper (1999). An instrument that consists of four items on a 7-point Likert scale. These authors found that the four items showed good to excellent internal consistency, revealing comparability across samples of varying ages, occupations, languages, and cultures. The alphas ranged from .79 to .94 ( $M = 0.86$ ). In this investigation the SHS had a Cronbach's alpha of .81.
- HRQOL (Health related quality of life index) developed by Hennessy, Moriarty, Zack, Scherr, & Brackbill (1994), consists of four items that explore the self-perception of health, recent physical health, recent mental health and recent limitations on activity. According to Hagerty et al. (2001), the HRQOL-4 is satisfactory as a measure of quality of life for the health domain. Since the 1990s, studies funded by the Centers for Disease Control (CDC) have established the validity and reliability of the HQROL-4 in various adult populations in the United States (Moriarty, Zack, & Kobau, 2003). The construct validity for adult populations has also been established by studies in Canada (Ounpuu, Krueger, Vermeulen, & Chambers, 2000) and other countries such as Sweden and Puerto Rico (Moriarty et al., 2003) and Turkey (Ummuhan, Ugur, Nesrin, & Emer, 2010). Toet, Raat and van

Ameijden (2006) validated the Dutch version of the CDC HQROL-4, reporting good reliability (Cronbach's alpha of three of the four items was .77) and concurrent validity as well as excellent construct validity. In this investigation Cronbach's alpha of three of the four items was .75.

Two bilingual translators translated all the original items of the SWLS (Diener et al., 1985), SWFL (Grunert et al., 2007), SHS (Lyubomirsky & Lepper, 1999) and the HRQOL (Hennessy et al., 1994) from English to Spanish. Subsequently a different bilingual translator translated the Spanish versions of the scales back into English. The differences found were resolved by discussion, with all the translators arriving at agreed final versions of the scales. Despite there being Spanish-language versions of the SWLS available (Atienza et al., 2000; Díaz Morales, 2001), the choice was made to translate this scale from Diener et al.'s (1985) original version in English so that the four scales used in this study would be expressed in similar language adapted to Chilean culture.

In addition, questions were included regarding the frequency of meals in the home together with the family group (breakfast, lunch, afternoon tea and dinner). Classification questions were included to establish gender, marital status, age, area of residence, family size, presence and age of children in the home, gender of the main breadwinner in the home, occupation and level of education of the head of the household, and ownership of ten domestic goods. The combination of these two latter variables in a matrix determines socioeconomic status, classified as ABC1 (high and upper middle), C2 (middle-middle), C3 (lower middle), D (low) and E (very low). These variables, conceptually, are related to income, cultural level and the stock of wealth accumulated by the family group, allowing a simple but adequate estimate to be made of the socioeconomic level of Chilean households (Adimark, 2004).

#### Procedure

The survey was conducted personally by trained interviewers in malls with a supermarket and a food court, located in different socioeconomic areas of the cities included in the study in May and July 2011. The interviewers intercepted people as they were coming out of the malls, explained the objectives of the survey to them and the strictly confidential treatment of the information obtained, and then asked if they were prepared to answer the questionnaire. The response rate was 56%. Prior to the application of the survey, the questionnaire was validated by a preliminary test with 5% of the survey sample. The preliminary test was done using the same method of addressing the participants as in the definitive survey. As the validation of the instrument proved satisfactory, no changes were required in either the questionnaire or the interview procedure. The participants signed informed consent statements before responding. The execution of the study was approved by the Bio-ethics Committee of the Universidad de La Frontera.

#### Data analysis

The results were analyzed using the SPSS 16.0 program for Windows in Spanish. A cluster analysis (hierarchical conglomerates) was used to determine typologies of consumers according to their satisfaction with life and satisfaction with food-related life, with linkage by Ward's method and the squared Euclidian distance as the measure of similarity between objects (Hair, Anderson,

Tatham, & Black, 1999). The number of groups was obtained by the percentage change of the recomposed conglomeration coefficients. To describe the segments, Pearson's  $\chi^2$  test was applied to the discrete variables, and analyses of variance for the continuous variables (99% confidence level). Because the Levene's statistic indicated non-homogeneous variances in all the continuous variables analyzed, the variables for which the analysis of variance resulted in significant differences ( $P < 0.001$ ) were subjected to Dunnett's T3 Multiple Comparisons test.

### Results

The mean SWLS score of all the participants was 22.5 ( $SD = 4.4$ ). The mean SWFL score of all the participants was 22.9 ( $SD = 4.5$ ). The Pearson correlation between SWLS and SWFL was 0.513 ( $p < .01$ ). The mean SHS score of all the participants was 5.1 ( $SD = 0.78$ ). In the first question that considers the HRQOL, it is worthy of note that most participants perceive their health as good or very good. In terms of the number of days with health problems or limitations in the last 30 days, the average was 10.1 days ( $SD = 16.9$ ). Of the entire sample, participants who have breakfast and lunch with their family only on weekends predominated. Participants mainly have afternoon tea with their family daily and alone on weekends, whereas the greatest proportion have dinner with the family every day (Table 2).

Cluster analysis distinguished three typologies of participants with significant differences in the average values of the SWLS and SWFL scales ( $p \leq 0.001$ ). The typologies presented significant differences according to the score on the SHS and in the total number of days with physical or mental problems in the last month ( $p \leq 0.001$ ) (Table 3). In addition, the typologies differed in the gender of the main breadwinner, the frequency with which the participant has lunch, afternoon tea or dinner together with their family ( $p \leq 0.05$ ), socioeconomic status and in the self-perception of health ( $p \leq 0.001$ ) (Table 4). The composition of each typology is shown below.

Satisfied with their life and their food-related life: Group 1 ( $n = 894$ ), which represented 70.0% of the sample surveyed. This typology presented the highest scores on the SWLS and SWFL, significantly higher than Groups 2 and 3 (Table 3). This typology was composed of the highest proportion of male breadwinners, belonging to socioeconomic status ABC1 (Table 4). The score corresponding to the SHS was significantly higher than the other groups; whereas the total number of days with physical or mental problems was significantly lower (Table 3). Group 1 had the highest proportion of participants with a self-perception of their health that was very good or excellent (Table 4). A greater proportion of these participants only eat lunch with their family

on the weekends, and have afternoon tea and dinner with their family every day (Table 4).

Moderately satisfied with their life, unsatisfied with their food-related life: Group 2 ( $n = 116$ ), which represented 9.1% of the sample. This typology presented the lowest scores on the SWLS and SWFL (Table 3). In this typology the greatest proportion of breadwinners are women, belonging to socioeconomic status C3 (Table 4). The score on the SHS and the number of days affected by physical or mental health problems was statistically similar to Group 3 (Table 3). In this typology, most people have a very bad or fair perception of their health (Table 4). The majority of participants in this group only occasionally have lunch with their family and have afternoon tea alone or not at all (Table 4).

Moderately satisfied with their life and with their food-related life: Group 3 ( $n = 267$ ), which represented 20.9% of the sample. The scores on the SWLS and SWFL differed significantly from Groups 1 and 2 (Table 3). This typology contains the highest proportion of female breadwinners, belonging to the lowest

Table 2  
Eating habits (%) and self-perception of health of the sample. July 2011

Food		
Frequency of breakfast together as a family	Daily	26.4
	2-3 times per week	8.6
	Only on weekends	37.7
	Occasionally	22.1
	Has breakfast alone or not at all	5.6
Frequency of lunch together as a family	Daily	14.5
	2-3 times per week	11.6
	Only on weekends	59.8
	Occasionally	11.7
	Has lunch alone or not at all	2.4
Frequency of tea ("once") together as a family	Daily	33.3
	2-3 times per week	17.7
	Only on weekends	29.4
	Occasionally	15.5
	Has tea alone or not at all	4.1
Frequency of dinner together as a family	Daily	36.8
	2-3 times per week	9.4
	Only on weekends	16.8
	Occasionally	21.1
	Has dinner alone or not at all	15.8
Self-perception of health (HRQOL)	Very bad	0.6
	Normal	15.4
	Good	37.8
	Very good	35.8
	Excellent	10.4

Table 3  
SWLS, SWFL, age, SHS and total days with physical and mental problems mean values for the three clusters and overall, in Temuco, Chile

Scale	Total sample ( $n = 1,277$ )	Group 1 ( $n = 894$ )	Group 2 ( $n = 116$ )	Group 3 ( $n = 267$ )	F	P-value
SWLS	22.5	24.5 a	16.6 c	18.4 b	596.446	0.000
SWFL	22.9	24.9 a	12.7 c	20.8 b	1,091.077	0.000
SHS	5.1	5.8 a	4.8 b	4.7 b	44.937	0.000
Total days with physical and mental problems	10.6	8.1 b	16.1 a	16.6 a	32.104	0.000

Different letters in the line indicate significant differences according to Dunnett's T3 multiple comparison test ( $p \leq 0.05$ ). "a" is significantly higher than "b". "b" is significantly higher than "c"



socioeconomic status (Table 4). In this typology, most people have a fair perception of their health (Table 4). With respect to meals with the family, the proportion of people that have dinner with their family group only twice to three times per week was greatest (Table 4).

<p><i>Table 4</i> Characteristics with significant differences in the typologies identified by cluster analysis in Temuco, Chile</p>			
Characteristic	Group 1	Group 2	Group 3
Gender of the home's main breadwinner	P = 0.021		
Men	72.3	64.3	64.3
Women	27.7	35.7	35.7
SES	P = 0.000		
ABC1	60.4	41.1	45.0
C2	26.0	32.7	26.6
C3	10.9	21.5	20.3
D-E	2.6	4.7	8.8
Frequency of lunch together as a family	P = 0.010		
Daily	13.9	20.0	14.2
2-3 times per week	11.8	10.9	11.5
Only on weekends	62.5	43.6	57.7
Occasionally	10.0	20.9	13.4
Has lunch alone or not at all	1.9	4.5	3.2
Frequency of tea ("once") together as a family	P = 0.002		
Daily	35.4	33.0	26.7
2-3 times per week	18.3	12.8	17.8
Only on weekends	29.2	25.7	31.8
Occasionally	14.1	18.3	19.0
Has tea alone or not at all	3.1	10.1	4.7
Frequency of dinner together as a family	P = 0.012		
Daily	40.2	32.4	27.4
2-3 times per week	7.9	11.1	13.7
Only on weekends	16.5	14.8	19.0
Occasionally	19.2	25.9	25.4
Has dinner alone or not at all	16.2	15.8	14.5
Self-perception of health	P = 0.000		
Very bad	0.5	2.7	0.4
Normal	9.2	39.5	30.2
Good	35.9	43.8	41.5
Very good	41.6	20.5	22.9
Excellent	12.9	3.6	5.0
P value corresponds to the (bilateral) asymptotic significance obtained in Pearson's Chi squared Test			

### Discussion and conclusions

The results of the present study confirm the existence of a positive relation between satisfaction with life and satisfaction with food-related life. The correlation between the two scales was significant and similar to that obtained in previous studies in Chile (Schnettler et al., 2012; Schnettler et al., 2013ab) and higher than that obtained in European countries by Grunert et al. (2007), which was 0.36.

Given that in this study a 6-point Likert scale was used (theoretical range 5-30), it was not possible to compare the

average score of the SWLS objectively with the results obtained with this scale in other studies performed in the Latin American context. Dominguez et al. (2011) obtained an average of 18.90 (SD = 4.30) in a study conducted in Mexico with a 5-point Likert scale (theoretical range 5-25). In Colombia, Gomez et al. (2007) determined an average of 26.93 (SD = 5.05) for the SWLS with a 7-point Likert scale (theoretical range 5-35). In Chile, Moyano and Ramos (2007) they obtained an average similar (25.26, SD = 5.58) with the same scale and theoretical range. However, more recently Moyano et al. (2011), in another study conducted in Chile using a 5-point scale, reported an average of 18.31 (SD = 4.04). Nevertheless, in these three studies it is concluded that the study samples presented positive levels life satisfaction, which is consistent with the results of this investigation since approximately 75% of the participants were classified in the categories satisfied and extremely satisfied (altogether). In addition, it should be noted that the scores obtained in this investigation are similar to those reported by Schnettler et al. (2013b), who obtained average scores of 23.9 (SD = 4.4) for the SWLS and 24.1 (SD = 3.8) for the SWFL in a study conducted in the south of Chile with the same 6-point response format.

Using a cluster analysis, it was possible to distinguish three typologies of participants according to the score obtained on the SWLS and SWFL. The high proportion of the total sample corresponding to the typology "satisfied with their life and their food-related life" (Group 1, 70.0%) indicates that a large part of the sample possesses a positive level of subjective well-being both overall and specifically with respect to food. The significantly higher score of this typology on the SHS confirms that positive evaluations of life satisfaction are linked with happiness (Proctor et al., 2009), and that satisfaction with food related-life is related to people's happiness, which is consistent with authors who indicate that food is an important source of happiness (Berenbaum, 2002; Macht et al., 2005).

At the same time, the significantly lower number of days with physical and mental health problems and the better self-perception of health (HRQOL) in the typology "satisfied with their life and their food-related life" concurs with studies on satisfaction with life and physical health that show consistently positive relationships (Veenhoven, 2008). Likewise, it agrees with what Cummins (2000) indicated with respect to poor health, most particularly associated with pain or stress, reducing SWB, which is manifest in the typologies "moderately satisfied with their life, unsatisfied with their food-related life" and "moderately satisfied with their life and with their food-related life", which presented an average higher than 15 days with physical or mental health problems and whose self-perception of health was mainly fair. These results are also in line with a previous study in England, in which Dean, Grunert, Raats, Nielsen, & Lumbers (2008) concluded that there is a relation between a good state of health and a greater satisfaction with food-related life. In its turn, the results of the Human Development Report in Chile (UNDP, 2012) indicate that people's satisfaction with life tends to increase when they have a positive self-evaluation of their state of health.

One remarkable result is the greater interaction of the participants of the typology "satisfied with their life and their food-related life" in family meals, in contrast to what was observed in the typology "moderately satisfied with their life, unsatisfied with their food-related life". If it is considered that family meal frequency was positively correlated with perceived

family cohesion (Casotti, 2005; Welsh, French, & Wall, 2011), this confirms the greater effect of family support on happiness (Moyano & Ramos 2007; North, Holahan, Moos, & Cronkite, 2008) and life satisfaction (North et al., 2008; Hsu, 2010; UNDP, 2012). Indeed, food is prepared in the expectation that it will be shared and enjoyed in company (Kniazeva & Venkatesh, 2007; Dean et al., 2008) day by day with the family (Casotti, 2005), a situation that not always is possible mainly in the Metropolitan Region (76.1% of the sample) due to the long distances between people's homes and their places of work. This means that on many occasions, breakfast and lunch are not eaten with the family, which might be compensated by sharing meals in the evening or at night, a situation that occurs more in the typology "satisfied with their life and their food-related life".

The composition of the typologies with respect to the gender of the main breadwinner indicates that dissatisfaction with life and food-related life is associated with subjects in homes where the main breadwinner is female, which is consistent with previous studies that have tied the family structure to SWB (Chen, 2001; Schnettler, Miranda, Sepúlveda, & Denegri, 2011). In addition, this is connected to gender inequality in Chile, since men's average income far exceeds women's (UNDP, 2010) and is reflected in the typologies less satisfied with life and food related-life that a greater proportion of people from the lower income socioeconomic status present. In relation to the influence of gender, the UNDP (2010) also indicates that the family is the main referent that defines Chilean women's self-perception, those which, in fulfilling family roles,

form an identity linked to responsibility, effort and sacrifice. This is especially evident in the women who are financially responsible for their family, and is exacerbated in the most economically vulnerable segments, where the difficulties of reconciling work and family is a factor that strongly affects their satisfaction with life.

This also confirms the results of previous studies in India (Agrawald et al., 2011) and Japan (Oshio & Kobayashi, 2011) that indicate that economic resources increase people's SWB and satisfaction with food-related life (Dean et al., 2008). The latter may be related to the opportunity that people with greater economic resources have to access food of better quality, greater variety and healthier (French, Wall, & Mitchell, 2010). In relation to satisfaction with life, the UNDP (2012) indicates that as the family income increases, so does the declared satisfaction with life.

The principal limitation of the study is that the sample consisted to a large degree of participants from the higher socioeconomic strata, and this is not representative of the socioeconomic distribution in Chile. This means further research is needed on satisfaction with food-related life and its relation to satisfaction with life in samples that are representative of the socioeconomic level of the population.

#### Acknowledgements

The results presented correspond to Fondecyt Project 1100611.

#### References

- Adimark (2004). Mapa socioeconómico de Chile [Socioeconomic map of Chile]. Adimark, Investigación de Mercados y Opinión Pública [Adimark, Market and Public Opinion Study]. Santiago, Chile. Retrieved from <http://www.adimark.cl>.
- Agrawal, J., Murthy, P., Philip, M., Mehrotra, S., Thennarasu, K., John, J.P., et al. (2011). Socio-demographic correlates of subjective well-being in Urban India. *Social Indicators Research*, 101(3), 419-434.
- American Dietetic Association (2005). Liberalization of the diet prescription improves quality of life for older adults in long-term care. *Journal of the American Dietetic Association*, 105(12), 1955-1965.
- Atienza, F., Pons, D., Balaguer, I., & García-Merita, M. (2000). Propiedades psicométricas de la escala de satisfacción con la vida en adolescentes [Psychometric properties of the satisfaction with life scale in adolescents]. *Psicothema*, 12(2), 314-319.
- Berenbaum, H. (2002). Varieties of joy-related activities and feelings. *Cognition and Emotion*, 16, 473-494.
- Casotti, L. (2005). He who eats alone will die alone? An exploratory study of the meanings of the food of celebration. *Latin American Business Review*, 6(4), 69-84.
- Cummins, R. (2000). Personal income and subjective well-being: A review. *Journal of Happiness Studies*, 1(2), 133-158.
- Chen, C. (2001). Aging and life satisfaction. *Social Indicators Research*, 54, 57-79.
- Chico, E., & Ferrando, P. (2008). Variables cognitivas y afectivas como predictoras de satisfacción en la vida [Cognitive and affective variables as predictors of life satisfaction]. *Psicothema*, 20(3), 408-412.
- Dean, M., Grunert, K., Raats, M., Nielsen, N., & Lumbers, M. (2008). The impact of personal resources and their goal relevance on satisfaction with food-related life among the elderly. *Appetite*, 50(2-3), 308-315.
- Díaz Morales, J.F. (2001). *Diferencias intergrupales en el sistema de metas personales, satisfacción y rendimiento en adolescentes*. Tesis doctoral. Universidad Complutense de Madrid. España.
- Diener, E., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Diener, E., Suh, E., Lucas, R., & Smith, H. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276-302.
- Domínguez, A., Salas, I., Contreras, C., & Procidano, M. (2011). Validez concurrente de la versión mexicana de las escalas de Apoyo Social Percibido de la Familia y los Amigos (PSS-Fa y PSS-Fr) [Concurrent Validity of the Mexican Version of the Perceived Social Support from Family and Friend Scales (PSS-Fa & PSS-Fr)]. *Revista Latinoamericana de Psicología*, 43(1), 125-137.
- French, S., Wall, M., & Mitchell, N. (2010). Household income differences in food sources and food items purchased. *International Journal of Behavioral Nutrition and Physical Activity*, 7, 77.
- Gómez, V., Villegas de Posada, C., Barrera, F., & Cruz, J. (2007). Factores predictores de bienestar subjetivo en una muestra colombiana [Predictive factors of subjective well-being in a Colombian sample]. *Revista Latinoamericana de Psicología*, 39(2), 311-325.
- Gouveia, V., Milfont, T., Nunes da Fonseca, P., & Peçanha de Miranda Coelho, J. (2009). Life satisfaction in Brazil: Testing the psychometric properties of the satisfaction with life scale (SWLS) in five Brazilian samples. *Social Indicators Research*, 90(2), 267-277.
- Grunert, K., Dean, D., Raats, M., Nielsen, N., & Lumbers, M. (2007). A measure of satisfaction with food-related life. *Appetite*, 49(2), 486-493.
- Guzmán, M., & Contreras, P. (2012). Estilos de apego en relaciones de pareja y su asociación con la satisfacción marital [Attachment styles in couples and their association with marital satisfaction]. *Psyke*, 21(1), 69-82.
- Hair, J., Anderson, R., Tatham, R., & Black, W. (1999). *Análisis multivariante* [Multivariate data analysis]. Madrid: Prentice Hall Internacional. Inc.

- Hagerty, M., Cummins, R., Ferris, A., Land, K., Michalos, A., Peterson, et al. (2001). Quality of Life Indexes for national policy: Review and agenda for research. *Social Indicators Research*, 55, 1-96.
- Hargreaves, M., Schlundt, D., & Buchowski, M. (2002). Contextual factors influencing the eating behaviours of African American women: A focus group investigation. *Ethnicity & Health*, 7(3), 133-147.
- Hausman, A. (2005). Hedonistic rationality: The duality of food consumption. *Advances in Consumer Research*, 32, 404-405.
- Hennessy, C., Moriarty, D., Zack, M., Scherr, P., & Brackbill, R. (1994). Measuring health-related quality of life for public health surveillance. *Public Health Reports*, 109, 665-672.
- Hsu, H-Ch. (2010). Trajectory of life satisfaction and its relationship with subjective economic status and successful aging. *Social Indicators Research*, 99, 455-468.
- Kniazeva, K., & Venkatesh, A. (2007). Food for thought: A study of food consumption in postmodern US culture. *Journal of Consumer Behaviour*, 6(6), 419-435.
- Köster, E.P. (2009). Diversity in the determinants of food choice: A psychological perspective. *Food Quality and Preference*, 20, 70-82.
- López-Cabarcos, M.A., Vázquez-Rodríguez, P., & Montes-Piñeiro, C. (2010). Mobbing: antecedentes psicosociales y consecuencias sobre la satisfacción laboral [Bullying at work: Psychological antecedents and consequences on job satisfaction]. *Revista Latinoamericana de Psicología*, 42(2), 215-224.
- Lyubomirsky, S., & Lepper, H. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137-155.
- Macht, M., Meininger, J., & Roth, J. (2005). The pleasures of eating: A qualitative analysis. *Journal of Happiness Studies*, 6, 137-160.
- Moriarty, D., Zack, M., & Kobau, R. (2003). The Centers for Disease Control and Prevention's Healthy Days Measures - Population tracking of perceived physical and mental health over time. *Health and Quality of Life Outcomes*, 1(37). doi: 10.1186/1477-7525-1-37.
- Moyano, E., & Ramos, N. (2007). Bienestar subjetivo: midiendo satisfacción vital, felicidad y salud en población chilena de la Región Maule [Subjective well-being: measuring vital satisfaction, happiness and health in the Chilean population of Maule Region]. *Universum*, 22(2), 177-193.
- Moyano, E., Flores, E., & Soromaa, H. (2011). Reliability and construct validity of MUNSH test to measure happiness, in elderly MUNSH Chilean population. *Universitas Psychologica*, 10(2), 567-580.
- North, R.J.N., Holahan, C.J., Moos, R.H., & Cronkite, R.C. (2008). Family support, family income, and happiness: A 10-year perspective. *Journal of Family Psychology*, 22(3), 475-483.
- Ounpuu, S., Krueger, P., Vermeulen, M., & Chambers, L. (2000). Using the U.S. behavior risk factor surveillance system's health related quality of life survey tool in a Canadian city. *Canadian Journal of Public Health*, 91(1), 67-72.
- Oshio, T., & Kobayashi, M. (2011). Area-level income inequality and individual happiness: Evidence from Japan. *Journal of Happiness Studies*, 12, 633-649.
- Pavot, W., & Diener, E. (1993). The affective and cognitive contest of self reports measures of subjective well-being. *Social Indicators Research*, 28, 1-20.
- Proctor, C.L., Linley, P.A., & Maltby, J. (2009). Youth life satisfaction: A review of the literature. *Journal of Happiness Studies*, 10, 583-630.
- Puente, R., & Cavazos, J. (2013). Personality factors, affect, and autonomy support as predictors of life satisfaction. *Universitas Psychologica*, 12(1), 41-53.
- Schnettler, B., Miranda, H., Sepúlveda, J., & Denegri, M. (2011). Satisfacción con la alimentación y la vida, un estudio exploratorio en estudiantes de la Universidad de La Frontera, Temuco-Chile. *Psicología & Sociedad*, 23(2), 426-435.
- Schnettler, B., Miranda, H., Sepúlveda, J., Denegri, M., Mora, M., & Lobos, G. (2012). Satisfaction with life and food-related life in persons of the mapuche ethnic group in southern Chile. A comparative analysis using logit and probit models. *Journal of Happiness Studies*, 13(2), 225-246.
- Schnettler, B., Miranda, H., Sepúlveda, J., Denegri, M., Mora, M., Lobos, G., et al. (2013a). Psychometric properties of the Satisfaction with Food-Related Life Scale: Application in southern Chile. *Journal of Nutrition Education and Behavior*, 45(5), 443-449.
- Schnettler, B., Crisóstomo, G., Sepúlveda, J., Mora, M., Lobos, G., Miranda, H., et al. (2013b). Food neophobia, nanotechnology and satisfaction with life. *Appetite*, 69, 71-79.
- Toet, J., Raat, H., & van Ameijden, E. (2006). Validation of the Dutch version of the CDC core healthy days measures in a community sample. *Quality of Life Research*, 15(1), 179-184.
- Ummuhan, A., Ugur, C., Nesrin, Y., & Emre, B. (2010). Reliability and validity of the Turkish version of the CDC HRQOL-4 scale in patients with chronic low back pain. *Pakistan Journal of Medical Sciences*, 26(4), 875-879.
- United Nations Development Programme (UNDP) (2010). *Desarrollo humano en Chile 2010. Género: los desafíos de la desigualdad* [Human Development in Chile 2010. Gender: Challenges of inequity. Santiago de Chile]. Santiago de Chile. Retrieved from [http://estudios.sernam.cl/documentos/?eMTY3NDAYNA=-Informe\\_de\\_Desarrollo\\_Humano\\_\\_Género:\\_Los\\_desafíos\\_de\\_la\\_igualdad](http://estudios.sernam.cl/documentos/?eMTY3NDAYNA=-Informe_de_Desarrollo_Humano__Género:_Los_desafíos_de_la_igualdad).
- United Nations Development Programme (UNDP) (2012). *Desarrollo humano en Chile 2012. Bienestar subjetivo: el desafío de repensar el desarrollo* [Human development in Chile 2012. Subjective well-being: Challenges of rethinking development]. Retrieved from <http://www.desarrollohumano.cl/>.
- Veenhoven, R. (2008). Effects of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies*, 9(3), 449-469.
- Vera-Villarroel, P., Urzúa, A., Pavez, P., Celis-Atenas, K., & Silva, J. (2012). Evaluation of subjective well-being: Analysis of the satisfaction with life scale in Chilean population. *Universitas Psychologica*, 11(3), 719-727.
- Welsh, E., French, S., & Wall, M. (2011). Examining the relationship between family meal frequency and individual dietary intake: Does family cohesion play a role? *Journal of Nutrition and Education Behavior*, 43, 229-235.