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University student profiles according to satisfaction with life, food and family

Perfiles de estudiantes universitarios según la satisfacción con la vida, la alimentación y la familia

ABSTRACT

The aim of this study was to distinguish university student profiles according to life satisfaction and satisfaction with food-related life and family, as well as to determine whether profiles differ in terms of their family support, quality of diet, body mass index (BMI) and socio-demographic characteristics. A questionnaire was applied to a non-probabilistic sample of 370 students of both sexes (mean age 21.1 years, 54.2% female) in Chile, including Satisfaction with Life Scale (SWLS), Satisfaction with Food-related Life (SWFoL) scale, Satisfaction with Family Life (SWFaL) scale, Family Resources Scale (FRS) and the Adapted Healthy Eating Index (AHEI). Three student types were distinguished with significant differences in average values of SWLS, SWFoL and SWFaL scales, z-scores from the intangible resources subscale from the FRS and average AHEI score. These profiles also differed in place of residence, dinner frequency at place of residence and BMI. Higher life satisfaction levels, as well as food-related life satisfaction, family life satisfaction, and intangible family support, were associated with a higher quality diet, lower BMI, living with parents while at university, and having dinner more frequently at home.
Key words: Family; food; life satisfaction; body mass index; university students.

RESUMEN

El objetivo de este trabajo fue distinguir perfiles de estudiantes universitarios según su nivel de satisfacción con la vida, satisfacción con la alimentación y satisfacción con la vida familiar, y determinar si los perfiles difieren en términos del apoyo familiar, calidad de la dieta, índice de masa corporal y características sociodemográficas. Se aplicó un cuestionario a una muestra no probabilística de 370 estudiantes de ambos sexos (edad promedio 21,1 años; 54,2% mujeres) en Temuco, Chile, incluyendo la Escala de Satisfacción con la Vida (SWLS), Escala de Satisfacción con la Alimentación (SWFoL), Escala de Satisfacción con la Vida Familiar (SWFaL), Escala de Recursos Familiares (FRS) y el Índice de Alimentación Saludable Adaptado (AHEI). Se distinguieron tres tipologías de estudiantes

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con diferencias significativas en los puntajes promedio de las escalas SWLS, SWFoL, SWFaL, puntajes z de la subescala recursos intangibles de la FRS y en los puntajes promedio del AHEI. Los perfiles también difirieron en el lugar de residencia, frecuencia de cenas en el lugar de residencia y en el índice de masa corporal (IMC). Mayores niveles de satisfacción vital, satisfacción con la alimentación, con la vida familiar y apoyo familiar en recursos intangibles se relacionaron con una dieta de mayor calidad, menor IMC, vivir con los padres durante el periodo de estudios y con una mayor frecuencia de cenas en el hogar.

Palabras clave: Familia; comida; satisfacción con la vida; índice de masa corporal; estudiantes universitarios.

INTRODUCTION

Recent studies in Chile suggest that food-related life satisfaction is positively correlated with overall life satisfaction^{1,2,3,4,5,6,7,8}. Some of these studies have associated levels of life satisfaction and food-related life satisfaction to family interactions involving food^{2,4,5,7,8}. Nevertheless, studies regarding the relationship between food-related life satisfaction and family life satisfaction are still scarce⁹.

The present study focuses on university students. While at university, students often face personal stress, as well as social, academic, and economic stress, in addition to stress in other areas of life¹⁰. The relationship between family, food and overall life satisfaction is particularly relevant during undergraduate education, which is evident by the many changes and challenges experienced among emerging adults. During this stage, students often are forced to separate from their family homes¹¹. This shift may result in significant disruption of the support networks of an individual, as well as stress¹², economic hardship¹⁰ and other personal issues. Higher levels of satisfaction with family relationships are associated with greater adaptability, cohesion and communication¹³, feelings of safety¹⁴ and higher overall life satisfaction¹⁵. Therefore, although university students seek personal independence, continued reliance on their parents for security is to be expected¹⁶.

Some researchers have reported that family support is positively correlated with life satisfaction in university students^{4,8,17}. Nevertheless, studies have yet to evaluate the relationship between family support and family life satisfaction¹³. There is evidence that family influences the quality of social relationships of adult children¹⁸ and higher levels of satisfaction with family relationships are associated with social support¹⁴. However, the influence of financial well-being in family life quality also may be considerable¹⁹. Cheng et al.²⁰ suggest that a high level of family economic support acts as a protective factor. These authors also conclude that a low level of family economic support becomes a risk factor for young people, because economic hardship may be a source of stress for students, as well as diminishing their time to study (for having to work), affecting their quality of diet, among others. Hence, under these circumstances, they have lower life satisfaction and ability to handle major stressors.

During university years, students begin to take responsibility of their own lives¹⁰, including their food¹¹. This process may affect the quality of their eating habits¹⁰. Indeed, many university students do not meet the recommended dietary guidelines²¹, which often results in inappropriate weight gain, obesity, and health-related problems²², as well as low levels of life satisfaction and satisfaction with food-related life^{2,4,5}. Some authors have linked these factors to the amount of support that students receive from their parents^{4,7}, as family support is positively associated with healthy eating habits^{4,23}.

However, studies carried out in Chile report that the relationship among eating habits, life satisfaction, food-related

life satisfaction and family support is not homogeneous among university students²⁻⁸. In addition, a recent study reported that different profiles of university students exist based on their levels of well-being¹².

Therefore, the aim of the present study was to distinguish university student profiles according to their life satisfaction, food-related life satisfaction, and family life satisfaction. Another aim was to determine whether profiles differed in terms of family support, quality of diet, body mass index (BMI) and socio-demographic characteristics.

MATERIAL AND METHODS

Sample and procedure

Non-probability sampling was used to recruit a sample of 370 university students belonging to the six faculties of the University of La Frontera in Temuco, Chile. The students were contacted on campus and asked to participate in a survey.

Once students agreed to participate, they signed an informed consent prior to completing the survey. A trained surveyor administered the questionnaires in October and December of 2015, and the anonymity of the respondents was ensured. A pilot test of the questionnaire was conducted with 35 students from the same university, following the same method of addressing the participants as in the final survey. Because the pilot test of the instrument was satisfactory, no changes were required in the questionnaire or the interview procedure. The study was approved by the Ethics Committee of Universidad de La Frontera.

Instrument

The questionnaire included the following scales:

- Satisfaction with Life Scale (SWLS)²⁴ is a scale consisting of five items grouped into a single dimension to evaluate overall cognitive judgments about a person's own life (e.g. *"In most ways my life is close to my ideal"*). The respondents were asked to indicate their level of agreement with the five statements using a 6-level Likert scale (1= completely disagree to 6= completely agree). This study used the Spanish-language version of the SWLS which has shown good internal consistency in previous studies with university students in Chile^{1,2,3,4,5,6,7,8}. In this study, the SWLS had good internal consistency (Cronbach's α = 0.881).
- Satisfaction with Food-related Life (SWFoL)²⁵ is a scale consisting of five items grouped into a single dimension to evaluate a person's overall assessment regarding their food (e.g. *"Food and meals are positive elements"*). Respondents were asked to indicate their level of agreement with the five statements using a 6-level Likert scale (1= completely disagree to 6=completely agree). This study used the Spanish-language version of the SWFL which has shown good internal consistency in previous studies with university students in Chile^{1,2,3,4,5,6,7,8}. In this study, the SWFoL had good internal consistency (Cronbach's α = 0.823).

- Satisfaction with Family Life (SWFaL)²⁶ scale is a modified version of the SWLS²⁴ in which the words “family life” replaced the word “life” in each of the five original items of the SWLS. Family satisfaction can be defined as a conscious cognitive judgement of one’s family life in which the criteria of the judgement are up to the individual¹³. Respondents were asked to indicate their level of agreement with the five statements using a 6-level Likert scale (1= completely disagree to 6= completely agree). This study used the Spanish-language version of the SWFaL which showed good internal consistency in a previous study with undergraduate students in Chile⁹. In this study, the Spanish version of the SWFaL had a good internal consistency (Cronbach’s $\alpha = 0.907$).
- Family Resources Scale (FRS)²⁷, contains 5-point scale items (1= little or no support to 5= a lot of support) used to measure the amount of support people receive from their family. Respondents indicate the amount of total support provided by their family for each of the following categories: spending money, food, clothing, time and attention, discipline, emotional support and love, life skills and instruction, and role modeling and guidance. The items have been used as two subscales to measure intangible and tangible support separately. This study used the Spanish version of the FRS, which has shown good levels of internal consistency in previous studies performed in Chile for each subscale^{4,7}. Using factor analysis, two components were detected on the FRS: intangible support (Cronbach’s $\alpha = 0.871$) and tangible support (Cronbach’s $\alpha = 0.831$).
- Adapted Healthy Eating Index (AHEI) is an index that corresponds to an adaption of the US-HEI developed by Kennedy et al.²⁸ and carried out by Norte and Ortiz²⁹ for the Spanish speaking population. This version has been previously used by the Chilean Ministry of Health to measure the overall quality of food in the Chilean population³⁰. The AHEI is comprised of the following 10 variables: 1) cereals and derivatives, 2) vegetables, 3) fruit, 4) milk and dairy products, 5) meats, 6) legumes, 7) sausages and cold meats, 8) sweets, 9) soft drinks with sugar, and 10) diet variety. The first four variables represent types of food consumed on a daily basis. Variables 5 and 6 correspond to foods consumed weekly. Variables 7, 8 and 9 are foods consumed occasionally and variable 10 refers to the variety of diet, a fundamental goal in healthy eating²⁹.

Respondents had to answer regarding their frequency of consumption for the first nine variables according to the following options: daily consumption; three or more times a week, but not daily; once or twice a week; less than once a week, and never or almost never. Each variable received a score, ranging from 0 to 10 according to the degree of compliance with food recommendations (see the criteria in 31). In variable 10, 2 points are added if the person complies

with each of the daily recommendations and 1 point if they comply with each of the weekly recommendations. The AHEI score was calculated by adding the score obtained in each of the variables, which allows for a theoretical maximum score of 100 points to be obtained. In this index, the same conditions of HEI by Kennedy et al.²⁸ remained: scores above 80 are indicative of a “healthy” diet, scores between 51 and 80 correspond to a diet that “requires changes” and scores under 50 are considered “unhealthy”.

Lastly, students were asked about the frequency of meals at their place of residence, as well as their approximate weight and height in order to determine BMI (kg/m^2). The nutritional status of the participants was classified according to the norms of the World Health Organization: normal range (BMI: 18.5-24.9), overweight (BMI: 25.0-29.9) and obese (BMI ≥ 30). Education level and occupation of the head of the household were used to determine the socioeconomic status (SES)³¹.

DATA ANALYSIS

In order to identify different university student profiles according to their life satisfaction, food-related life satisfaction and family satisfaction, a cluster analysis (hierarchical conglomerates) was used that implemented Ward’s method and the squared Euclidian distance as the measure of similarity between objects. The number of clusters was determined using a percentage change in the recomposed conglomeration coefficients. To define segments, Pearson’s Chi² test was applied to the discrete variables and an analysis of variance for the continuous variables. Given that the Levene’s statistic indicated non-homogeneous variances in each of the continuous variables observed, the variables for the analysis of variance which resulted in significant differences ($p < 0.001$) were subjected to Dunnett’s T3 multiple comparisons test. Results were studied using the SPSS v. 23.0 software for Windows in Spanish.

RESULTS

The mean age of the sample was 21.1 years ($SD = 2.1$). Other characteristics of the sample are shown in Table 1. The sample obtained presented a similar composition to the population of university students enrolled throughout the country in 2015 in terms of age and gender³². The largest proportion lived with their parents the entire year, or lived with their parents on weekends or during vacations, also consistent with previous studies that used university student samples in Chile^{2,4,5}. Most students belonged to the lower-middle and low SES.

The mean SWLS score for all participants was 23.2 ($SD = 3.9$; range = 7-30). The mean SWFaL score was 22.3 ($SD = 3.9$; range = 9-30) and mean SWFaL score was 23.2 ($SD = 4.9$; range = 7-30).

Mean score of AHEI was 57.57 ($SD = 14.11$) in the total sample. According to the cut-off point for AHEI, only 5.7% of the students had a healthy diet, 63.5% required

changes and 30.8% had an unhealthy diet.

Average BMI was 24.55 kg/m² (SD= 3.88). 60.8% of the students had a body mass index in the normal range, 30.5% were overweight and 8.7% were obese.

Cluster analysis allowed three profiles of university students to be distinguished with significant differences in the average values of the SWLS, SWFoL and SWFaL scales ($p \leq 0.001$) (Table 2). The profiles differed in their z-scores from the intangible resources subscale from the FRS and average AHEI scores ($p \leq 0.001$) (Table 3). Profiles also differed in their place of residence during the study period, the frequency of dinner at their place of residence and BMI ($p \leq 0.05$) (Table 4).

Group 1 (43.2% of the sample), had SWLS and SWFaL scores significantly higher than Group 2 (31.1%), although it did not differ from Group 3 (25.7%). Group 1 had the highest score on SWFoL, which was significantly higher than Groups 2 and 3 (Table 2). Therefore, we classified Group 1 as students "satisfied with their life, food-related life and family life." Group 2 was classified as "moderately satisfied with their life, food-related life and family life," and Group 3 was classified as students who were "satisfied with their life and family life, but only moderately satisfied with their food-related life."

Group 3 had the highest amount of intangible

resources, which was significantly higher than Group 2, although Group 3 did not differ from Group 1. Group 1 had the highest score on the AHEI, which was significantly higher than Groups 2 and 3 (Table 3). Group 1 had a greater proportion of students who eat vegetables daily, and Group 3 had a greater proportion of students who eat vegetables only once or twice per week ($p \leq 0.001$). In parallel, Group 1 had a greater proportion of students who eat fruits three times per week, whereas Group 3 had a greater proportion of students who eat fruits less than once per week. The groups did not differ in the frequency of consumption for the rest of food included in the AHEI (results not shown).

Group 1 had a greater proportion of students who live with their parents the entire year than Groups 2 and 3. Compared to Groups 1 and 3, Group 2 contained a greater proportion of students who live with their parents the entire year, but commute for the day to attend class, as they often live in small towns located at around 30 km from Temuco. Group 1 had a greater proportion of students that have dinner at their place of residence daily and were of a normal weight than Groups 2 and 3. Groups 2 and 3 had greater proportions of students that skipped dinner and are overweight, compared to Group 1 (Table 4).

Table 1. Socio-Demographic characteristics of the sample, Chile, December 2015 (n= 370).

Characteristic	Total
<i>Gender (%)</i>	
Female	54.2
Male	45.8
Age [Mean (SD)]	21.1 (2.1)
<i>Place of residence during study period (%)</i>	
With parents the entire year	44.6
With parents the entire year although commutes for the day to attend class	15.6
With their parents only on weekends or for vacations	28.1
Independent of parents	11.7
<i>Socioeconomic status (%)</i>	
High and upper-middle	1.5
Middle-Middle	16.5
Lower-Middle	35.0
Low	38.0
Very low	9.0

Table 2. Satisfaction with Life Scale (SWLS), Satisfaction with food-related Life (SWFoL) scale, Satisfaction with Family Life (SWFaL) scale, mean scores for the three clusters and overall in a university student sample.

Scale	Group 1 (n = 160)	Group 2 (n = 115)	Group 3 (n = 95)	F	P-value
SWLS	24.7 ^a	19.8 ^b	24.7 ^a	81.789	0.000**
SWFoL	25.1 ^a	20.9 ^b	19.1 ^b	118.865	0.000**
SWFaL	25.9 ^a	17.4 ^b	25.6 ^a	269.268	0.000**

** Significant at 1%.
Different letters indicate statically significant differences according to Dunnett's T3 multiple comparison test. "a" is significantly higher than "b". "b" is significantly higher than "c".

Table 3. Mean Z-scores from the components of the Family Support Scale and Adapted Healthy Eating Index (AHEI) for the three clusters in a university student sample.

Component	Group 1 (n = 160)	Group 2 (n = 115)	Group 3 (n = 95)	F	P-value
Intangible resources	0.246 ^a	-0.664 ^b	0.381 ^a	41.548	0.000**
Tangible resources	0.133	-0.161	-0.031	2.690	0.069
AHEI	60.7 ^a	55.1 ^b	54.8 ^b	7.042	0.001**

** Significant at 1%. Different letters in the line indicate significant differences according to Dunnett's T3 multiple comparisons test ($p \leq 0.05$). "a" is significantly higher than "b".

Table 4. Characteristics (%) with significant differences between the groups obtained using cluster analysis in university students.

	Group 1 (n = 160)	Group 2 (n = 115)	Group 3 (n = 95)
Place of residence during study period		$P = 0.035$	
With parents the entire year	55.5	41.7	46.5
With parents the entire year although commutes for the day to attend class	12.4	25.2	9.3
With their parents only on weekends or during vacations	27.6	23.3	34.9
Independent of parents	4.5	9.7	9.3
Frequency of dinner at the place of residence		$P = 0.009$	
Daily	41.4	20.9	17.4
Two or three times a week	8.3	8.7	3.5
Only on weekends	0.9	1.9	2.3
Occasionally	14.5	11.7	11.6
Does not have lunch	15.9	15.4	23.3
Skips dinner	20.0	40.4	41.9
BMI		$P = 0.008$	
Normal weight	69.7	52.4	52.8
Overweight	24.8	37.0	37.9
Obesity	5.5	10.6	9.3

P value corresponds to the (bilateral) asymptotic significance obtained in Pearson's Chi squared Test.

DISCUSSION

This study is the first to distinguish university student profiles according to their life satisfaction, food-related life satisfaction, and family life satisfaction. Higher scores from Group 1 and the lower scores from Group 2 on the SWLS and SWFoL confirm previous studies that suggest that those who are more satisfied with their food-related life have higher levels of life satisfaction^{1,2,3,4,5,6,7,8}. However, the scores of Group 3 on both scales indicate that these students have a high level of life satisfaction, although their food-related life satisfaction is relatively low. These findings may be related to the different weight that people assign to each life domain¹³. Schnettler et al.⁵ distinguished a university student type with similar characteristics in levels of life satisfaction and food-related life satisfaction, who assigned low importance of food for their wellbeing. Therefore, future research should consider the importance that individuals assign to different life domains. Furthermore, SWLS and SWFaL scores from the three profiles were consistent, confirming the importance of family relationships as a source of life satisfaction in university students¹⁵.

The higher amount of intangible support that students received from their families in Group 1 and 3 is consistent with their higher levels of family life satisfaction¹⁴. The lack of statistical differences between the students' profiles concerning the amount of tangible resources contradicts the findings of various authors that have reported a positive relationship between family income or family tangible support and students' life satisfaction^{4,20,33,34}. However, our results are in line with researchers that have found no relationship between these variables^{7,26}. In this context, various authors have asserted that social support offered by family helps satisfy the basic needs for acceptance, belonging and love, which naturally cannot be entirely satisfied by economic security³⁵. Although more research is needed to thoroughly understand when tangible or economic resources could have a positive relationship with family life and life satisfaction, a possible explanation may be related to the socioeconomic status of the sample. More than 80% of the students surveyed belonged to the lower-middle, low and very low socioeconomic status (Table 1). Therefore, it is expected that tangible resources may be insufficient in most of these households.

Regarding diet quality, it is noteworthy that AHEI mean scores for the total sample and in the three student profiles were in the range that require changes. These scores are a concern, and they support the perception that university students often do not meet recommended dietary guidelines²¹. Similar findings were reported in a previous national study with samples of Chilean adolescents and young adults³⁰. However, the AHEI scores may relate to the sample composition with respect to socioeconomic status. In fact, it has been reported that families from lower socioeconomic backgrounds may not have access to or be able to afford nutritious food for their children^{5,36}. This reality also relates to the fact that the high cost of healthy

food is an important barrier in promoting healthy eating behaviors^{21,36}. Nevertheless, the significantly higher AHEI and SWFoL scores from Group 1 compared to Groups 2 and 3 confirm the relationship between greater levels of food-related life satisfaction and better eating habits^{2,5}, although the association between life satisfaction and better or worse eating habits was confirmed only in Groups 1 and 2.

AHEI scores were consistent with the BMI profiles, given that Group 1 had a higher AHEI score and a greater proportion of students in the normal weight range than Groups 2 and 3, whereas Groups 2 and 3 had higher proportions of overweight students than Group 1. These findings are consistent with studies that have reported that students with higher levels of food-related life satisfaction had a lower prevalence of being overweight^{2,4}.

At the same time, considering AHEI scores, the positive association between social family support and healthy eating habits^{4,23} was confirmed in Group 1, but not in Group 3. Therefore, our findings partially agree with those obtained by McSpadden et al.²³ who used a sample of adults from the US and report an association between greater social support and higher consumption of fruits and vegetables, as we observed in Group 1, but not in Group 3. Although both profiles of students received similar intangible support from their families, the differences in their eating habits may relate to differences in the frequency they have dinner at the place they live. Whereas a greater proportion of students from Group 1 reported having dinner at the place they live daily than Groups 2 and 3, a higher proportion of students from Group 3 reported skipping dinner than Group 1. At the same time, given that a higher proportion of students from Group 1 lived with their parents the entire year, and although the questionnaire used did not include questions regarding with whom the students ate, it is expected that students from this Group may have dinner more frequently with their family.

This situation would explain, in part, the higher AHEI score from Group 1 compared to Groups 2 and 3, because family dinners would be the moment in which parents can positively influence eating habits by presenting healthful food choices^{2,5}. However, another possible explanation may relate to the possibility of living with parents the entire year and thus allowing students access to a healthy food environment. This fact is also associated with a healthier dietary intake as well³⁷.

Regardless, compared to Groups 2 and 3 dinner may be expected to be the time during which the parents of students from Group 1 give intangible support^{4,7}. At the same time, the higher proportion of students from Group 3 that reported skipping dinner allows us to suggest that the intangible support that the parents from Group 3 give to their adult children does not necessarily occur during meal times. Nevertheless, in parallel, the higher proportion of students from Group 2 who skipped dinner, versus Group 1, and have to commute for the day to attend class would explain the lower intangible support they receive from

their parents. This is due to the fact that the likelihood of contact with parents and meals with their family is very low during the week, thereby negatively affecting their family life satisfaction. This situation may also explain their lower SWFoL and SWLS scores. Although this study did not include a question about the place in which students eat when they did not eat at their place of residence, students from Group 2 are expected to at least have lunch at the university cafeterias.

These cafeterias have been characterized as having a lack of healthy meal options²¹ and this dynamic negatively affects student life satisfaction and food-related satisfaction^{2,5}. In addition, previous studies with young samples have reported low levels of life satisfaction and food-related life satisfaction when missing or skipping a meal^{3,5}. This finding is also consistent with the lower level of food-related life satisfaction in Group 3, which has a similar proportion of students who skipped dinner.

Despite this fact, the link between life satisfaction and missing meals was not confirmed in this group. However, it is noteworthy that these results confirm a connection between the food-related life satisfaction of a university student and their opportunity to share dinner time with their family⁵. At the same time, our findings confirm that the possibility of students of living with their parents in the same city where they attend university is related to better eating habits and higher levels of food-related life satisfaction^{2,4,5}. This fact is also congruent with the positive effect that family may have on eating habits and the prevention of overweight and obesity^{2,5,37}.

A remarkable result was the lack of relationship between life satisfaction and food-related life satisfaction, as well as between life satisfaction and eating habits, life satisfaction and BMI, and family emotional support and healthful eating habits in Group 3. This lack of relationship confirms that the relationship among eating habits, life satisfaction, food-related life satisfaction and family support is not homogeneous among university students^{2,4-7}. In addition, the characteristics of Group 3 may suggest that their high level of life satisfaction might be related to satisfaction in other life domains not included in this study. Schnettler et al.⁶ found that life satisfaction and food-related life satisfaction may be associated with satisfaction in different life domains in university students. Therefore, it is important to study these relationships beyond the total sample, by distinguishing types of students with different levels of overall life satisfaction, satisfaction in life domains and with different behaviors.

Limitations of this study include its cross-sectional design, as well as the non-probabilistic nature of the sample, its relatively small size, and the fact that it was conducted with students from only one university in one country. As a result, these limitations do not allow results to be generalized. Furthermore, all of the data was self-reported, and thus responses may be affected by social desirability. In this regard, and taking into account the recruitment procedure of the sample, another limitation was that BMI

calculations were based on self-reported data from the participants. Evidence, however, does support the high correlation between self-reported and measured BMI³⁸. Notwithstanding, misclassification of some overweight and obese cases was likely³⁹. Therefore, future studies should obtain measured height and weight in a subsample of participants in order to assess the correlation between self-reported and measured BMI giving a margin of error between both calculations. Also, the questionnaire did not include questions regarding with whom the students eat and the place where they eat when they do not eat at their place of residence, or the eating habits of the family. These aspects must be addressed in future studies.

In spite of these limitations, this is the first study that distinguished university student profiles according to their life satisfaction, food-related life satisfaction and family life satisfaction. Our findings may suggest that interventions to improve the levels of food-related life satisfaction and family life satisfaction could improve life satisfaction of university students in developing countries in South America. At the same time, intangible family support should be promoted in order to improve the life satisfaction of university students. Lastly, our results show that higher levels of life satisfaction, food-related life satisfaction, family life satisfaction and intangible family support are related to a higher quality diet, lower BMI, living with parents during the study period and having dinner more frequently at the place of residence. Therefore, in countries where young adults live with their parents during university years, family meals or at least meals at the place of residence should be encouraged among students and their families.

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