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BREAKFAST HABITS IN SCHOOLCHILDREN IN THE CITY OF URUGUAIANA, BRAZIL.

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TITLE:

Breakfast Habits among Schoolchildren in the City of Uruguaiana, Brazil

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KEYWORDS:

Child Health, child behavior, child nutrition, eating behavior, healthy lifestyle, breakfast, schools

SUMMARY:

This article describes the breakfast habits and the factors related to schoolchildren in a city of Brazil (Uruguaiana). To this end, a transcultural adaptation was performed of a questionnaire validated in Spain, and 470 boys and girls from twelve schools were interviewed.

ABSTRACT:

Breakfast is the first and most important meal of the day, and omitting it is associated with a greater probability of overweight and school absenteeism. The eating habits constituted in children depend on social, educational and economic factors, and they usually perpetuate into adulthood. For this reason, the most propitious stage for health promotion interventions on healthy nutrition is childhood. Specifically, in Brazil, malnutrition is relevant in children from low-income families although, currently, there are few studies that relate nutrition with the social factors. In this study, a reliability analysis of the Eating Habits of the School Population questionnaire was conducted, and the items referring to the breakfast habits and to some sociodemographic variables were selected. Subsequently, a total of 470 fourth grade pupils self-completed the questionnaire in 12 schools in Uruguaiana (Brazil). More than 50% of the

mothers and more than 70% of the fathers worked in diverse areas of services and sales in stores or supermarkets. With regards to the hypothesis contrast, a significant relation was observed between the frequency of having breakfast with the father or the mother and having had breakfast ($p < 0.001$). This type of study favors a population analysis for the subsequent design and execution of health promotion activities.

INTRODUCTION:

Obesity, as a consequence of unhealthy nutrition and of a sedentary lifestyle, represents a priority in global public health^{1,2}. There are yet other factors which indirectly affect obesity, like economic, social and educational determinants³. For this reason, the need arises for health promotion interventions in the field of healthy nutrition, the school age being the most propitious stage, since the habits adopted in childhood usually perpetuate into adulthood⁴.

Breakfast is the first and most important meal of the day; according to its content, it must guarantee an average of 25% of the total energy consumed during the day to cover the nutritional needs of the organism. A healthy breakfast is considered to contain a balanced serving of carbohydrates, lipids, proteins, vitamins, and minerals. The triad made up by dairy products, cereals and fruits are preferably advisable, which can be supplemented with protein-rich foods⁵. Breakfast is directly linked to positive short- and long- term results, because it is associated with the improvement in the cognitive function and in the academic performance, school attendance, and healthy growth of children and adolescents, as long as it is eaten correctly⁶. Despite its importance, omitting breakfast is a common practice among children and adolescents⁷. Diverse studies show that omitting breakfast is linked to a higher increased probability of suffering from overweight and obesity⁸⁻¹¹. In view of that, identifying those factors linked to overweight and obesity in children by analyzing their breakfast habits is important to design more effective and personalized interventions⁷.

Changing the eating habits is a strategy for health promotion and disease prevention¹². The eating habits constituted early in life depend on factors which include the family, the school setting, and the influence of the mass media^{13,14}. Previous studies that explored the association between the socioeconomic condition and the breakfast habits signal that a child who lives with a monoparental family or in a low-income family is more prone to presenting breakfast irregularities^{15,16}. In this context, the first results of the ENERGY project showed that the mean frequency of the weekly breakfast consumption in European children was 5.9 days/week, from 5.1 in Slovenia to 6.7 in Spain¹⁷, with no significant differences between boys and girls¹⁸.

In Latin America, some studies have been conducted on the eating habits of schoolchildren, specifically addressing breakfast. In a study conducted in Santa Fe, Argentina, in which 75% of the schoolchildren stated they had breakfast daily, it was concluded that the weekly frequency of having breakfast depended on the fact that a family member prepared it for them, and one of the main factors associated to omitting breakfast was lack of time¹⁹. In another study conducted in Montevideo, Uruguay, 30% of the schoolchildren admitted that having a good breakfast was important to stay healthy²⁰.

In Brazil, malnutrition is relevant especially in children who live with low-income families²¹. The children and adolescents consumed a diet high in fat and sugar and low in polyunsaturated fatty acids, fiber, iron, and calcium²². At present, the studies on food consumption habits in Brazilian children are scarce. The objective of this study is to know the diet pattern of the school population of Uruguaiana (RS, Brazil) by studying breakfast as a reference meal, and to identify the sociodemographic and family factors which can be associated with a deficient breakfast. The hypotheses of the study are that some factors such as having breakfast with parents and work situation of the parents influence the breakfast habits of children.

PROTOCOL:

The research obtained authorization from the Research Ethics Committee of the University of Unipampa. During the whole process of data collection, children's anonymity was guaranteed and the ethical principles for medical research in human beings described in the latest revision of the Declaration of Helsinki were applied²³.

1. Design of the research instrument

1.1. Design a first draft of the questionnaire to meet the objective of the study (**Supplementary File 1**). This questionnaire should contain questions about breakfast habits in schoolchildren. The objective is to know the relationship between breakfast habits and the sociodemographic characteristics of this population.

NOTE: A transcultural adaptation of the abridged questionnaire on Eating Habits of the School Population of the "PERSEO" program is conducted, validated in the Spanish population²⁴. The items related to breakfast are selected.

1.2. Create the draft using word editing software so that it can be easily shared and modified. Include different study variables such as the following: gender, age, family situation, parent's occupation²⁵. Variables on the breakfast habits include foods included in the daily breakfast, classification of breakfast (both according to the Spanish Society of Community Nutrition and to the recommendations of the WHO)^{26,27}.

1.3. Send a draft to external experts. Have them review the translated questionnaire whilst considering aspects such as item comprehension.

NOTE: The experts were a teacher and psychologist familiarized with the use and translation of questionnaires. Both people were bilingual in Portuguese and Spanish.

1.4. Design a final version of the questionnaire (**Supplementary File 2**) and submit it to a scientific and ethical committee along with a research report of the project.

NOTE: Positive evaluation was obtained both in scientific and ethical areas from the University of Unipampa committee (**Supplementary File 3**).

1.5. Conduct a reliability analysis of the resulting questionnaire applying it at two different moments in time in order to analyze its consistency and reproducibility in a pilot group.

2. Sampling method

2.1. Conduct a cross-sectional descriptive study to characterize the breakfast habits of the schoolchildren.

2.1.1. Have the teacher ask for silence in the classroom.

2.1.2. Have each student complete their questionnaire individually. They have fifteen minutes to complete it, approximately one minute per question.

2.1.3. Ask students to be honest with their answers and select only one option for each question.

NOTE: A random sampling was performed by using clusters of urban public schools of the city (**Figure 1**). In the random selection of clusters, 12 schools were included with a total of 558 boys and girls. To reach an acceptable confidence level of 95% and marginal error of 5%, the minimum sampling size should be 264 children.

2.2. Contact the leaderships of all the participating schools (directors or heads of studies) to report the date and time for completing the questionnaires.

2.3. Inform parents and obtain their informed consent. Children complete questionnaires individually but the consent of their parents is essential because they are minors.

3. Statistical analyses

3.1. Analyze the data with a statistical analysis program (e.g., SPSS). Manually pass all written data to a database in a spreadsheet format. This format allows opening database in the statistical program. Analyze all parameters completed by the students. Select **Analyze | Descriptive Statistics | Crosstabs | Statistics | Kappa | Accept** (see **Figure 2**).

NOTE: To evaluate the reliability and reproducibility of the transcultural adaptation of the questionnaire, the Kappa indexes of concordance of the dichotomic questionnaire items are calculated. For the polichotomic items, the summatory value of the scores obtained is used, generating a new variable called “sum of the items’ scores”, with values from 0 to 4. The interclass correlation coefficient is calculated to assess the numerical concordance between the first and the second measurements. Both for the Kappa index and for the aforementioned coefficient, values higher than or equal to 0.40 are considered acceptable, and those higher than or equal to 0.75 are considered excellent²⁸. The accepted statistical significance level to calculate these coefficients was set at $p < 0.05$.

3.2. Perform the descriptive analysis: calculate the frequency distributions of the main qualitative variables, as well as the measurements of central tendency and dispersion of the quantitative variables. Select **Analyze | Descriptive Statistics | Explore | Confidence interval for the mean 95% | Accept** (see Figure 3).

3.3. Perform hypothesis contrast by using the Chi-square test and Student's t-test, depending on the case. For the Chi-square test, select **Analyze | Descriptive Statistics | Crosstabs | Statistics | Chi-square** (see Figure 4). For Student's t-test click **Analyze | Compare averages | T test for independent samples** (see Figure 5).

NOTE: The accepted statistical significance level for the hypothesis contrast is set at $p < 0.05$.

REPRESENTATIVE RESULTS:

The results related to the consistency and reliability of the questionnaire items, culturally adapted, and were obtained in a total of 55 questionnaires coming from the selected school. Thus, in the first measurement, the mean score obtained by the participants on the item referring to the weekly frequency of having breakfast with the parents was 1.36 (SD = 1.09), whereas in the second measurement, this mean value was 1.38 (SD = 1.46). Note that in the first measurement, 50.9% [95% CI = 37.1–64.6] of the participants fell into the «0» score (they have breakfast with their mother or father every day of the week), whereas in the second measurement, this score was obtained by 40.0% [95% CI = 27.0–54.1] of the children. The variances of the two measurements were 1.19 and 2.13, respectively, so the interclass correlation coefficient was 0.621 ($p < 0.001$), which reflects an acceptable concordance level for the sums of the scores²⁸.

Regarding the item linked to the consumption of foods during school breaks, the mean score obtained in the first measurement was 1.32 (SD = 0.94), whereas in the second measurement, a mean score of 1.52 (SD = 1.34) was obtained. The percentage of children who stated they did not eat anything during school breaks any given day (score of “0” of the scale) was 38.2% [95% CI = 25.4–52.3] in the first measurement, whereas in the second measurement this percentage was 29.1% [95% CI = 7.6–42.9]. The variances of the two measurements were 0.89 and 1.81, respectively, so the interclass correlation coefficient was 0.627 ($p < 0.001$), which reflects a concordance level for the sums of the scores that can also be considered as acceptable²⁸.

For the item linked to the weekly frequency of having breakfast, in the first measurement a mean score of 2.0 (SD = 1.26) was obtained, whereas in the second measurement, the mean value obtained was 1.87 (SD = 1.17). The score most frequently chosen, 3 “I have breakfast every day”, was selected by 56.3% [95% CI = 42.3–69.7] in the first measurement, whereas in the second measurement that score was chosen by 41.8% [95% CI = 28.6–55.9] of the participants. The variances of the two measurements were 1.59 and 1.37, respectively, thus obtaining an interclass correlation coefficient of 0.64 ($p < 0.001$).

After performing the reliability analysis, the questionnaire was passed on to the 12 school centers. A total of 470 children (9–10 years old) participated in the study, as per the distribution of the participating centers (**Table 1**). The mean age was 9.8 years old (SD = 0.74), 54% were girls (n = 230; 95% CI = [49.2–58.6]) and 46% were boys (n = 196; 95% CI = [41.3–50.7]). The main sociodemographic results of the sample are summarized in **Table 2**.

[Place **Table 1** here]

[Place **Table 2** here]

Variables linked to breakfast are summarized in **Table 3**. 24% (95% CI = [18.8–28.2]) had not eaten breakfast the day they completed the questionnaire. 49.3% (95% CI = [44.7–54.0]) had breakfast every day with either parent, 6.4% (95% CI = [4.2–8.7]) with both their parents 4 to 6 days a week, 14.7% (95% CI = [11.4–17.9]) 1 to 3 days a week, 11.1% (95% CI = [8.2–14.0]) less than one time a week, and 14.2% (95% CI = [10.9–17.5]) never had breakfast with their parents. With respect to the frequency of weekly breakfast, 18% (95% CI = [14.4–21.6]) of the school children had breakfast every day, another 18% (95% CI = [14.4–21.6]) 5 to 6 days a week, 6.9% (95% CI = [4.5–9.2]) 1 to 4 days a week, and 51.8% (95% CI = [47.1–56.4]) stated they did not have breakfast any given day of the week.

[Place **Table 3** here]

The results related to the hypothesis contrast are presented in **Table 4**. No statistically significant difference was observed between having had breakfast and gender, nor with the co-living situation ($p > 0.001$). No correlations were observed with whether or not the father or mother worked, or with the type of work they did according to the Brazilian classification of occupations ($p > 0.001$). However, a significant relationship was found between the frequency of having breakfast with their father or mother and having had breakfast on the day of testing ($p < 0.001$).

[Place **Table 4** here]

FIGURE AND TABLE LEGENDS:

Figure 1: Sampling. A random sampling is performed by clusters of the 24 urban public schools of the city and 12 schools were included.

Figure 2: Kappa index calculation. To evaluate the reliability and reproducibility of the transcultural adaptation of the questionnaire, the Kappa indexes of concordance of the items are calculated.

Figure 3: Descriptive analysis. Frequency distributions of qualitative variables and central tendency and dispersion of quantitative variables.

Figure 4: Chi-square test. Determine the association or independence of two qualitative variables.

Figure 5: Student's t-test. The determination of the differences between two sample variations and for the construction of the confidence interval

Table 1: Sample distribution by participating centers. 12 schools of Uruguaiana city were included in the sample.

Table 2: Sociodemographic and characteristics of the sample. Mean and deviation of quantitative variables and frequencies and confidence interval of qualitative variables.

Table 3: Breakfast habits within the sample. Frequencies and confidence interval of breakfast habits variables.

Table 4: Contingency table. Analysis of the association between breakfast frequency and different breakfast habits variables. The accepted statistical significance level for the hypothesis contrast is set at $p < 0.05$

DISCUSSION:

This study describes the profiles of schoolchildren with regards their breakfast eating habits. It allows us to approach the possible factors that are involved in omitting breakfast. These data provide knowledge of the population to conduct a future health educational program in this collective group.

One of the limitations of the study was the fact that the questionnaire is not validated in the Portuguese language, but in Spanish. For this reason, a transcultural adaptation was conducted into Portuguese, and its reliability was analyzed in two grades and in two different times of the same week, in order to analyze the consistency and reproducibility of the questionnaire. This was a critical step in the protocol. The sample was exhaustively selected by clusters and randomization was guaranteed. This is a representative sample, since the questionnaires were applied in 12 different schools, from the total of 24 which make up the city of Uruguaiana. The response rate was high.

Our study showed a statistically significant association between the breakfast habits and the frequency of having breakfast with the parents; data which coincide with other authors who assert the relevance of the parents having breakfast with their children, and even having them help prepare the meal. Fugas et al observed that one of the main reasons for omitting breakfast was lack of time, and found a significant difference between the weekly frequency of having breakfast and it being prepared by a family member¹⁹. As regards gender, others authors^{29,30} found that the habit of having breakfast was more developed among the boys (95.1%) than among the girls (92.5%), a fact which differs from our study, since the percentage of girls who had breakfast was higher (73.7% in boys, 79.5% in girls), although no significant difference was found in this parameter.

In our study, only 18% state they have breakfast every day of the week, in opposition to other studies conducted in Canada³¹, Spain⁴ and Argentina¹⁹, where 85.5%, 77.5%, and 75%, respectively, have breakfast at their homes every day. In the study conducted in Spain, specifically in Andalusia, 5.2% of the pupils eat fruits for breakfast⁴, in opposition to 24.4% in our study. In the study conducted in Argentina¹⁹, 16% eat a low quality breakfast based on candies and industrial pastries and, in another study conducted in Italy³², the percentage rises to 31.3% of children eating this type of foods for breakfast. These data differ from our study, where only 3.1% have this kind of breakfast. In our study, the children have breakfasts mainly based on milk, eggs, bread, dried fruits, fresh fruits or natural fruit juices.

In conclusion, we can observe that despite the fact that in our population the breakfast habit is deficient; it is observed that the foods eaten are healthier than those referred to in other studies conducted in different countries. For example, they consume more fruits and less candies, pastries and salted snacks. There are diverse sociodemographic parameters which have not shown any statistical significance with the breakfast habit; this motivates us to conduct new studies including new variables. It would even be interesting to conduct a qualitative study to explore the reasons for omitting breakfast.

As future application, this study is yet another justification to launch educational programs for the health of schoolchildren, also including their parents, in order to attain better eating behaviors and knowledge on the importance of breakfast.

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DISCLOSURES:

The authors have nothing to disclose.

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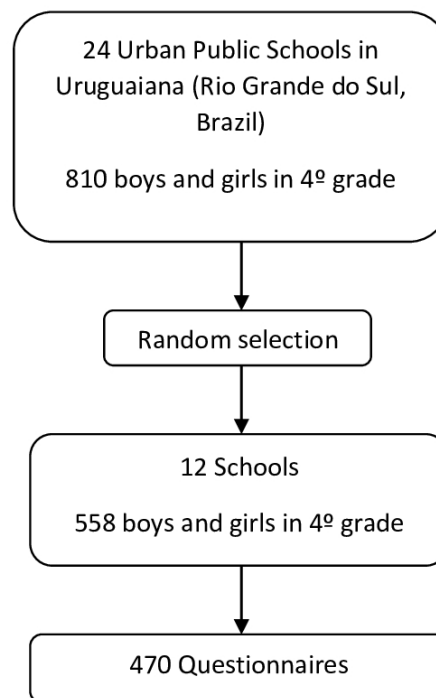


Figure 1. Sampling.

A random sampling is performed by clusters of the 24 urban public schools of the city. 12 schools were included with a total of 558 4th grade boys and girls enrolled and 470 completed the questionnaires

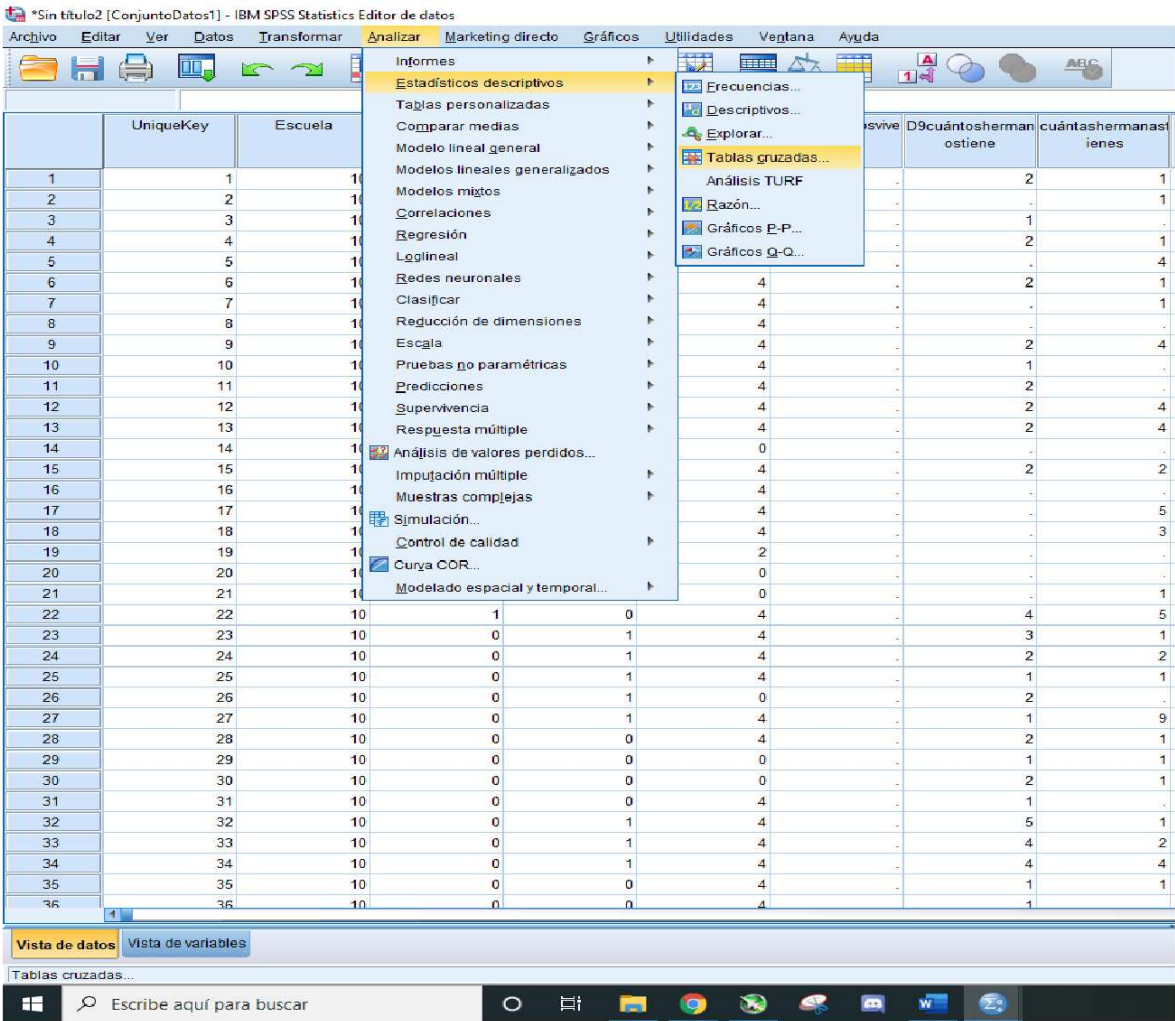


Figure 2 Kappa index calculation

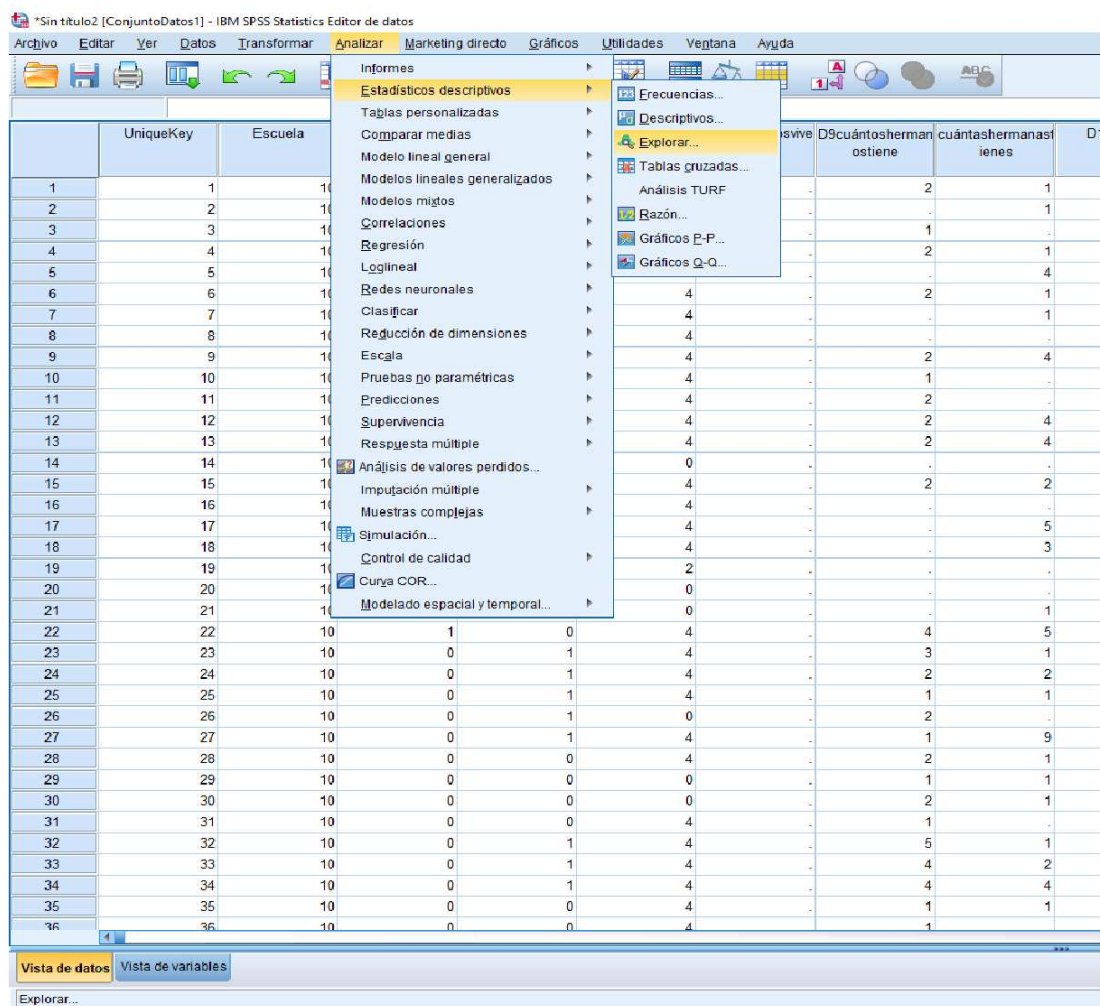


Figure 3 Descriptive analysis

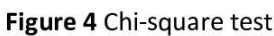


Figure 5

[Click here to access/download;Figure;Figure 5.eps](#)

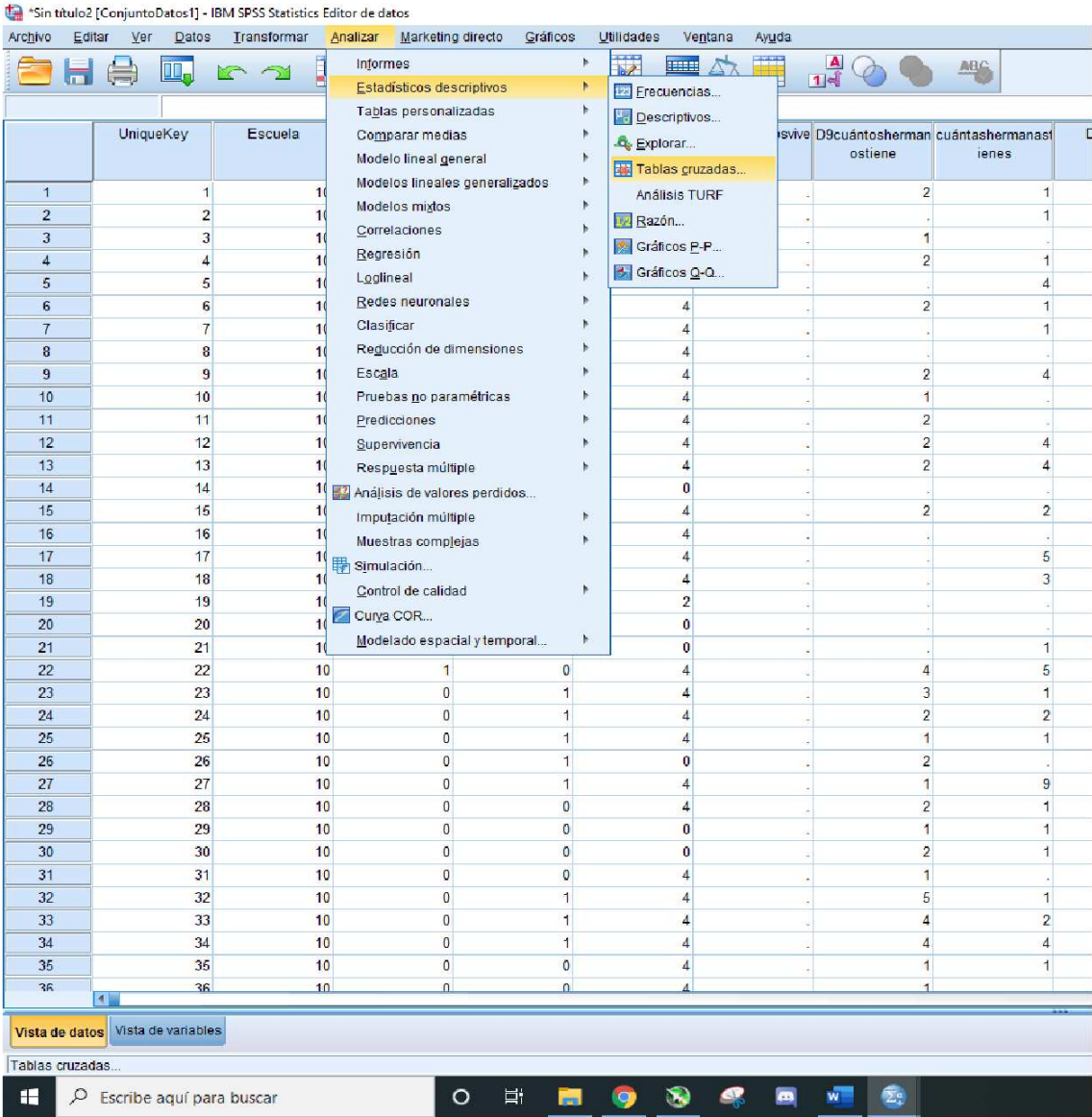


Figure 5 Student's t test

| Center | N (Enrolled students) | N (Participating students in the sample) | % over the total sample |
|---|-----------------------|--|-------------------------|
| Escola Estadual de Ensino Médio “Dom Hermeto” | 140 | 125 | 27.41% |
| Instituto Estadual de Educação “Elisa Ferrari Valls” | 19 | 15 | 3.29% |
| Escola Estadual de Ensino Fundamental “Adir Mascia” | 73 | 64 | 14.04% |
| Escola Estadual de Ensino Fundamental “Antonio Mary Ulrich” | 32 | 24 | 5.26% |
| Escola Estadual de Ensino Fundamental “Iris Valls” | 34 | 30 | 6.58% |
| Escola Estadual de Ensino Fundamental “Paso de Los Libres” | 26 | 23 | 5.04% |
| Instituto Estadual “Romaguera Correa” | 20 | 17 | 3.73% |
| Escola Estadual de Ensino Fundamental “Hermeto Jose Pinto Bermudez” | 51 | 37 | 8.11% |
| Escola Estadual de Ensino Médio “Senador Salgado Filho” | 26 | 23 | 5.04% |
| Escola Estadual de Ensino Médio “Professora Lilia Guimaraes” | 54 | 42 | 9.21% |
| Colégio Estadual “Dr Roberval Beheregaray Azevedo” | 46 | 32 | 7.02% |
| Escola Estadual de Ensino Médio “Embaixador Joao Baptista Lusardo” | 37 | 24 | 5.26% |
| Total | 558 | 456 | 100.00% |

IC95%

[23,5-31,6]

[2,0-5,3]

[11,1-17,5]

[3,5-7,7]

[4,6-9,2]

[3,3-7,4]

[2,3-5,9]

[5,9-10,9]

[3,3-7,4]

[6,8-12,2]

[5,0-9,7]

[3,5-7,7]

| Variables | n | Media | Standard Deviation | |
|-------------------------------|--|-------|--------------------|-------------|
| Age (years) | 423 | 9.8 | 0.74 | |
| Number of brothers or sisters | 318 | 2.07 | 1.48 | |
| Qualitative variables | Categories | n | % | IC95% |
| Sex | Women | 230 | 54 | [49,2-58,6] |
| | Mens | 196 | 46 | [41,3-50,7] |
| Class | Morning class (09:00a.m.-14:00p.m.) | 173 | 38 | [33,7-42,5] |
| | Afternoon class (15:00-20:00p.m) | 258 | 56.7 | [52,1-61,2] |
| | Morning-afternoon class (10:00-13:00/ 15:00-17:00p.m) | 24 | 5.3 | [3,6-7,7] |
| Nationality | Brasil | 468 | 99.6 | [98,4-99,8] |
| | Others (Argentina, Uruguay) | 2 | 0.4 | [0,04-1,2] |
| Family living situation | Alone with the mother | 77 | 17.6 | [14,3-21,5] |
| | Alone with the father | 19 | 4.3 | [2,8-6,7] |
| | With the mother and her new partner | 20 | 4.6 | [2,9-6,9] |
| | With the father and his new partner | 9 | 2.1 | [1,0-3,8] |
| | With father and mother | 280 | 64.2 | [59,6-68,5] |
| | With other adults | 31 | 7.1 | [5,0-9,9] |
| Does your father work? | Yes, he works | 375 | 83.5 | [79,8-86,6] |
| | He doesn't work | 30 | 6.7 | [4,7-9,4] |
| | I don't know | 22 | 4.9 | [3,2-7,3] |
| | I haven't contact with my father | 22 | 4.9 | [3,2-7,3] |
| Type of father's occupation | 0 Armed forces, police, fire and military | 1 | 0.2 | [-0,21-0,6] |
| | 1 Senior members of the government, managers of public interest organizations and companies and managers | 1 | 0.2 | [-0,21-0,6] |
| | 2 Science and arts professionals | 8 | 1.8 | [1,5-2,3] |
| | 3 Level technicians | 11 | 2.4 | [1-3,8] |
| | 4 Administrative service workers | 25 | 5.6 | [3,4-7,6] |
| | 5 Service workers, retail salespeople in stores and markets | 199 | 44.2 | [39,6-48,8] |
| | 6 Agricultural, forestry, hunting and fishing workers | 0 | 0 | [0,0-0,0] |
| | 7 Industrial and service production workers | 6 | 1.3 | [0,3-2,4] |
| | 8 Maintenance and repair workers | 3 | 0.7 | [-0,1-1,4] |
| | Does your mother work? | 288 | 63.7 | [57,9-66,9] |

| | | | | |
|------------------------------------|--|-----|------|-------------|
| Type of mother's occupation | She doesn't work | 144 | 31.8 | [27,7-36,3] |
| | I don't know | 14 | 3.1 | [1,5-4,7] |
| | I haven't contact with my mother | 6 | 1.3 | [0,3-2,4] |
| | 0 Armed forces, Police, fire and military | 10 | 2.2 | [0,8-3,6] |
| | 1 Senior members of the government, managers of public interest organizations and companies and managers | 3 | 0.7 | [0,1-1,4] |
| | 2 Science and arts professionals | 5 | 1.1 | [0,1-2,1] |
| | 3 Level technicians | 12 | 2.7 | [1,2-4,1] |
| | 4 Administrative service workers | 25 | 5.6 | [3,4-7,7] |
| | 5 Service workers, retail salespeople in stores and markets | 175 | 38.9 | [34,4-43,4] |
| | 6 Agricultural, forestry, hunting and fishing workers | 18 | 4 | [2,2-5,8] |
| | 7 Industrial and service production workers | 41 | 9.1 | [6,4-11,8] |
| | 8 Maintenance and repair workers | 49 | 10.9 | [8,0-13,8] |

| Variables | Categories | n | % | IC 95% |
|--|------------------------------------|-----|------|-------------|
| Have you had breakfast today in the morning (before 11am)? | Yes | 342 | 76 | [72,5-79,5] |
| | No | 108 | 24 | [18,8-28,2] |
| Breakfast classification | Sweets, pastries and salty snacks | 14 | 3.1 | [1,50-4,7] |
| | Red, processed and could meats | 31 | 6.9 | [4,5-9,3] |
| | Milk, lean meats, legumes, nuts, e | 157 | 34.9 | [30,5-39,3] |
| | Vegetables and fruits | 110 | 24.4 | [20,5-28,4] |
| | Bread, pasta, rice, potatoes | 47 | 10.4 | [7,6-13,3] |
| How often do you have breakfast with your mother and/or your father? | Everyday | 222 | 49.3 | [44,7-54,0] |
| | 4-6 days per week | 29 | 6.4 | [4,2-8,7] |
| | 1-3 days peer week | 66 | 14.7 | [11,4-17,9] |
| | Less than once a week | 50 | 11.1 | [8,2-14,0] |
| | Never | 64 | 14.2 | [10,9-17,5] |
| How many days a week do you have breakfast? | Everyday | 81 | 18 | [14,4-21,6] |
| | 5-6 days per week | 81 | 18 | [14,4-21,6] |
| | 1-4 days per week | 31 | 6.9 | [4,5-9,2] |
| | None | 233 | 51.8 | [47,1-56,4] |

| | Frequency Breakfast today (Yes or No) | Statistical Value Pearson's chi-squared | Level of significance |
|-------------------------|---------------------------------------|---|-----------------------|
| Sex | N(%) | | |
| | Males | 1.961 | p = 0.161 |
| | 165 (73.7%) | | |
| | 155 (79.5%) | | |
| | Women | | |
| | 59 (26.3%) | | |
| Family living situation | 40 (20.5%) | | |
| | Alone with the mother | 0.929 | p = 0.968 |
| | 60 (77.9%) | | |
| | 17 (22.1%) | | |
| | Alone with the father | | |
| | 13 (68.4%) | | |
| | 6 (31.6%) | | |
| | With the mother and her new partner | | |
| | 16 (80.0%) | | |
| | 4 (20.0%) | | |
| | With the father and his new partner | | |
| | 7 (77.8%) | | |
| | 2 (22.2%) | | |
| | With father and mother | | |
| | 210 (76.4%) | | |
| | 65 (23.6%) | | |
| Does your father work? | With other adults | | |
| | 22 (75.9%) | | |
| | 7 (24.1%) | | |
| | Yes. he works | 5.519 | p = 0.138 |
| | 277 (82.4%) | | |
| | 91 (85.8%) | | |
| | He doesn't work | | |
| | 25 (7.4%) | | |
| | 5 (4.7%) | | |
| | I don't know | | |
| | 14 (4.2%) | | |

| | | | |
|------------------------------------|--|-------|-----------|
| | 8 (7.5%) | | |
| | I haven't contact with my father | | |
| | 20 (6.0%) | | |
| | 2 (1.9%) | | |
| Type of father's occupation | Armed forces. police. fire and military | 5.618 | p = 0.690 |
| | 0 (0.0%) | | |
| | 1 (1.7%) | | |
| | Senior members of the government. managers | | |
| | 1 (0.5%) | | |
| | 0 (0.0%) | | |
| | Science and arts | | |
| | 7 (3.6%) | | |
| | 1 (1.7%) | | |
| | Level technicians | | |
| | 9 (4.6%) | | |
| | 2 (3.4%) | | |
| | Administrative | | |
| | 19 (9.7%) | | |
| | 6 (10.2%) | | |
| | Service. retail salespeople | | |
| | 151 (77.4%) | | |
| | 48 (81.4%) | | |
| | Agricultural. forestry. fishing | | |
| | 1 (0.5%) | | |
| | 0 (0.0%) | | |
| | Industrial and production | | |
| | 4 (2.1%) | | |
| | 1 (1.7%) | | |
| | Maintenance and repair | | |
| | 3 (1.5%) | | |
| | 0 (0.0%) | | |
| Does your mother work? | Yes. she works | 3.042 | p = 0.385 |
| | 216 (63.7%) | | |
| | 65 (61.3%) | | |

| | | | | |
|------------------------------------|--|--|--------|-----------|
| Type of mother's occupation | She doesn't work | | 10.108 | p = 0.342 |
| | 110 (32.4%) | | | |
| | 34 (32.1%) | | | |
| | I don't know | | | |
| | 8 (2.4%) | | | |
| | 6 (5.7%) | | | |
| | I haven't contact with my mother | | | |
| | 5 (1.5%) | | | |
| | 1 (0.9%) | | | |
| | Armed forces. police. fire and military | | | |
| | 10 (3.9%) | | | |
| | 0 (0.0%) | | | |
| | Senior members of the government. managers | | | |
| | 2 (0.8%) | | | |
| | 1 (1.3%) | | | |
| | Science and arts | | | |
| | 3 (1.2%) | | | |
| | 2 (2.5%) | | | |
| | Level technicians | | | |
| | 10 (3.9%) | | | |
| | 2 (2.5%) | | | |
| | Administrative | | | |
| | 19 (7.4%) | | | |
| | 6 (7.5%) | | | |
| | Service. retail salespeople | | | |
| | 129 (50.0%) | | | |
| | 46 (57.5%) | | | |
| | Agricultural. forestry. fishing | | | |
| | 16 (6.2%) | | | |
| | 2 (2.5%) | | | |
| | Industrial and production | | | |
| | 30 (11.6%) | | | |
| | 11 (13.8%) | | | |
| | Maintenance and repair | | | |

| | | | |
|----------------------------------|-----------------------|--------|------------|
| Breakfast frequency with parents | 39 (15.1%) | 70.263 | p = 0.000* |
| | 10 (12.5%) | | |
| | Everyday | | |
| | 203 (61.9%) | | |
| | 19 (18.4%) | | |
| | 4-6 days a week | | |
| | 22 (6.7%) | | |
| | 7 (6.8%) | | |
| | 1-3 days a week | | |
| | 43 (13.1%) | | |
| | 23 (22.3%) | | |
| | Less than once a week | | |
| | 30 (9.1%) | | |
| | 20 (19.4%) | | |
| | Never | | |
| | 30 (9.1%) | | |
| | 34 (33.0%) | | |

| Name of Material/Equipment | Company | Catalog Number | Comments/Description |
|----------------------------|---------|----------------|----------------------|
|----------------------------|---------|----------------|----------------------|

TITLE:

BREAKFAST HABITS IN SCHOOLCHILDREN IN THE CITY OF URUGUAIANA, BRAZIL.

AUTHORS AND AFFILIATIONS:

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Dear Editor,

We send the manuscript "Breakfast habits in schoolchildren in the city of Uruguaiiana, Brazil" with corrections proposed by the editor.

Comment A1: We have removed highlight.

Comment A2: We have added more details about study design and objectives.

Comment A3: The experts were a teacher and phychologist familiarized with the use and translation of questionnaires. Both people were bilingual in Portuguese and Spanish.

Comment A4: The teacher asks for silence in the classroom, each student must complete their questionnaire individually. They have fifteen minutes to complete it, approximately one minute per question. Students must be honest with their answers and they can only answer one option for each question.

(We have images of teachers delivering the questionnaire).

Comment A5: Contact with the leaderships of all the participating schools (directors or heads of studies) to report the date and time for completing the questionnaires.

Inform parents and obtain their informed consent. Children complete questionnaires individually but the consent of their patents is essential because they are minors.

Comment A6: Manually pass all written data to a database in Excel format. This format allows opening database in the statistical program. Analyze all parameters completed by the students.

Comment A7: We have made a description of tables and figures.

We are ready to modify what is necessary.

Thanks for the opportunity