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Dietary energy density is associated with body weight, fat mass and visceral fat in early adulthood

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Abstract:	Dietary energy density (DED) has recently been identified as an effective nutritional strategy for reducing the risk of obesity. We aimed to investigate the association between body composition parameters as well as body weight and BMI, and DED in a large population of 585 young adults (68.5 % females) aged 18-25. Body weight, fat mass (FM), percentage of fat mass (PFM), fat-free mass (FFM), and visceral fat (VF) were measured using a body composition analyser. Daily energy intake was assessed using a 72-hour diet recall, and DED was calculated. Linear regression analysis showed significant associations between DED and body weight, PFM, and VF after being adjusted for sex. DED might be considered as an important aspect in the obesity nutritional education programs in young people. Nurses should develop nutritional counselling programs based on the identification of high and low-energy-density meals in young adults.

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Abstract

Dietary energy density (DED) has recently been identified as an effective nutritional strategy for reducing the risk of obesity. We aimed to investigate the association between body composition parameters as well as body weight and BMI, and DED in a large population of 585 young adults (68.5 % females) aged 18-25. Body weight, fat mass (FM), percentage of fat mass (PFM), fat-free mass (FFM), and visceral fat (VF) were measured using a body composition analyser. Daily energy intake was assessed using a 72-hour diet recall, and DED was calculated. Linear regression analysis showed significant associations between DED and body weight, PFM, and VF after being adjusted for sex. DED might be considered as an important aspect in the obesity nutritional education programs in young people. Nurses should develop nutritional counselling programs based on the identification of high and low-energy-density meals in young adults.

Key words: dietary energy density; obesity; nutrition; visceral fat; nurse education.

Introduction

Obesity is a global public health problem, considered to be a global epidemic of the 21st century (Ng et al., 2014). According to the World Health Organization (WHO), in 2016 more than 1.9 billion adults, 18 years and older, were overweight and, of these over 650 million were obese (World Health Organization, 2018). Obesity results from the interaction between the environment, genetic predisposition, and human behaviour, which affect diet, physical activity, and metabolism (Hruby et al., 2016). It is well-established that obesity is linked to several comorbidities, including type 2 diabetes mellitus, hypertension, dyslipidemia, cardiovascular disease, and non-alcoholic fatty liver disease (Hruby & Hu, 2015). Therefore, identifying the factors that contribute to promoting optimal body weight is of special interest, and nurses may be in the ideal position to develop effective strategies for reducing the risk of obesity.

Dietary patterns are major contributors to the risk of obesity (Karfopoulou et al., 2017). In fact, dietary energy density (DED), defined as the ratio of energy intake (in kilocalories or kilojoules) per unit weight (g), has previously been identified as an important factor in weight maintenance (Pérez-Escamilla et al., 2012; Rouhani, Haghighatdoost, Surkan, & Azadbakht, 2016; Stelmach-Mardas et al., 2016). Low-energy-dense foods are characterised by a high water and fibre content, whereas high-energy-dense diets include significant consumption of saturated fat and a high glycaemic load, and are linked to increased energy intake (Poppit & Prentice, 1996; Rolls, 2009).

Most previous studies investigating the association between DED and obesity have reported that low DED has a beneficial effect on body weight (Aburto, Cantoral, Hernández-Barrera, Carriquiry, & Rivera, 2015; Sasaki, Wada, Zeredo, & Nagata, 2017; Vernarelli, Mitchell, Rolls, & Hartman, 2015b, 2018). However, in order to maximise sample size and statistical power, most of these studies do not include analyses stratified

according to age range (Estrada et al., 2012; Rivadeneira et al., 2009). Nevertheless, an increasing trend towards obesity has been reported among young adults aged between 18 and 25, since they are in a period of significant lifestyle changes, such as leaving home, going to university, starting work or developing relationships (Poobalan & Aucott, 2016). These transitions make young adults vulnerable to adopting negative health behaviour, including poor quality diets, that often persists later into life and which may lead to weight gain. Additionally, ethnic differences among study populations might play a determinant role in the association between obesity ad DED since it has been widely demonstrated the contribution of ethnic background in the genetic architecture of obesity (Stryjecki, Alyass, & Meyre, 2018). However, to date, there is limited data on DED and obesity in young adults of European decent. Determining which factors are associated with obesity prevention in early adulthood therefore enables the creation of appropriate intervention strategies for weight loss and weight maintenance early in life, and nurses may be key in implementing these.

In addition, previous work has focused on the effect of DED on anthropometric obesity indicators, principally body weight or body mass index (BMI) (Aburto et al., 2015; Razquin et al., 2017; Sasaki et al., 2017; Vernarelli et al., 2015b, 2018). Considering that obesity is defined as the abnormal or excessive accumulation of fat, BMI has deficiencies as a measure of obesity, since it does not distinguish fat from lean mass (Batsis et al., 2016). Furthermore, it has been established that BMI is only an indirect measure of body fat and more direct approaches are available, such as bioelectrical impedance (Adab, Pallan, & Whincup, 2018). For this reason, analysing body composition parameters including fat mass and lean mass should facilitate a better understanding of the possible role of DED in obesity. To date, previous studies have been conducted in Chinese and European children and adults (Ambrosini et al., 2012; Petersen et al., 2006; van Sluijs et

al., 2016; Zhou et al., 2015a). However, to the best of our knowledge, the association between body composition and DED in young adults of European decent has not been investigated. In this context, we aimed to examine the possible association between body composition parameters as well as body weight and BMI, and DED in a large population of young adults of European decent.

Methods

Design and study population

A cross-sectional study was conducted on 585 subjects aged 18-25 years (68.5 % females and 31.5% males). The study participants were recruited from seven public education centres located in the main districts of Granada (Spain). All the subjects who participated in this study were of European descent and of average socioeconomic level. A member of the research team visited the subjects in their academic centres and explained the objectives and characteristics of the study. Subject inclusion criteria included: good health (not undergoing medical treatment related to body weight management), and an age of between 18 and 25. Subjects with major acute or chronic conditions who had made significant lifestyle changes in the preceding months that could have affected body weight were excluded. Written informed consent was obtained from all participants or their parents, and the study was approved by the local ethics committee at the University of XXX and conducted in accordance with the Declaration of Helsinki.

Body composition measurements

Body weight, fat mass (FM), percentage of fat mass (PFM), fat-free mass (FFM), and visceral fat (VF) were measured twice (without shoes and in light clothes) to the nearest 0.1 kg using a body composition analyser (TANITA BC-418MA®). Participants were dressed in light indoor clothing without shoes. Measurements were taken in the morning

after a 12 hr fast with no consumption of food or beverages, as well as a 24 hr abstention from exercise, under resting conditions. Days before the measurements, subjects were informed of these restrictions. Bioelectrical impedance analysis (BIA) provides a rapid body composition assessment and is a significantly more cost-effective method than dual-energy X-ray absorptiometry (DXA). The advantages of BIA analysers include its portability, simplicity, speed, safety, and low cost (Achamrah et al., 2018). Thus, BIA method is commonly used for body composition assessment in clinical practice and research studies. A Harpenden stadiometer (Holtain 602VR®) was used to take height measurements. Each participant was asked to stand erect with their back, buttocks, and heels in continuous contact with the vertical height rod of the stadiometer, and their head orientated in the Frankfurt plane. The horizontal headpiece was then placed on top of the participant's head to measure their height. Height was measured twice (without shoes) to the nearest 0.5 cm. The average of the two values from each measurement was used in the analysis. The measurements were taken in the morning after a 12-hour fast and 24-hour abstention from exercise. BMI was calculated by dividing body weight (kg) by the square of body height (m^2). The same trained research assistant performed all the measurements.

Dietary intake assessment

Daily energy intake was assessed using a 72-hour diet recall interview considering intakes on Thursday, Friday and Saturday to capture weekly variations across weekdays and the weekend. The literature supports the use of 72-hr diet recall as a valid method for assessing nutrient intake since it collects more accurate data on the typical or average diet (Poslusna, Ruprich, de Vries, Jakubikova, & van't Veer, 2009). In a face-to-face interview with trained investigators, individuals were asked to recall all food consumed in the preceding 72 hours, including nutritional supplements and beverages. Standard

household measures and pictorial food models were employed during the interviews to define amounts when requested. The completed food records were analysed using a computerised nutrient analysis program (Nutriber 1.1.5).

Dietary energy density

DED was calculated by dividing the reported total energy intake from food (kcal) by the total weight of the food reported (g), excluding all drinks. As previously established, DED was calculated based only on food intake, excluding all beverages (Ello-Martin, Roe, Ledikwe, Beach, & Rolls, 2007; Ledikwe et al., 2007). The inclusion of beverages may disproportionately influence the calculation of energy density because beverages tend to be much lower in energy density than are most foods (Ledikwe et al., 2005). Thus, epidemiologic data indicate that including beverages may diminish associations between energy density and outcome variables because of increased within-person variance (Ledikwe et al., 2005).The average of the three dietary intakes from each day was used in the analysis.

Statistical analysis

The Kolmogorov-Smirnov statistic was applied to verify data distribution normality. The data was expressed as the mean ± standard deviation for normal distribution, and the median (interquartile range) for non-normal distribution. The independent two-sample t-test, or Mann-Whitney U-test, was used to compare the variables with normal or non-normal distribution, respectively, between the groups. Linear regression analyses were conducted to determine the association between DED and body composition variables. In the overall population, regression analyses were adjusted for sex. SPSS Statistics version 21.0 (SPSS. Chicago. IL. USA) was used for all the analyses. P values < 0.05 were considered to be statistically significant.

Power analysis were performed using G*Power program. There was 80% power at the 2-sided 0.05 significance level to detect increments of 0.5 in VF with a sample size of 585 participants, assuming an SD of 2.47.

Results

The characteristics of the participants were summarised separately for males and females (Table 1). The study subjects included in this work comprised 401 females and 184 males, with a mean age of 20.14±2.22 years. The average BMI was 22.09±3.46 kg/m^2 for the females and 23.55±3.76 kg/m^2 for the males, and a significant difference was observed ($p < 0.001$). Mean BMI was within the normal range for both females and males, but males showed a significantly higher mean BMI than females ($p<0.001$). Based on BMI classification, the majority of the subjects (72.2%) in this study were of normal weight (66.8% of male subjects and 74.7% of females). The prevalence of overweight/obesity was significantly higher in males (27.7%) than in females (15.8%) ($p<0.001$). Furthermore, significant differences were observed between males and females with respect to height, weight, FM, FFM, and VF ($p<0.001$). The reported energy intake was significantly higher in males (2150.82± 715.74) than in females (1920.29± 634.32) ($p < 0.001$). Significant differences were also observed between males and females when comparing macronutrient intake ($p < 0.05$). The mean DED was 1.62± 0.57 Kcal/g for the overall population. In terms of gender, DED was higher in females than males, but there was no significant difference ($p=0.096$)

The association analysis of DED and body composition parameters in the overall population, after adjusting for sex, is shown in Table 2. Linear regression analysis revealed significant associations between DED and body weight (β = -1.60; CI 95% = -

3.150, -0.062,; p = 0.042), PFM (β = -1.173; CI 95% = -2.158, -0.189,; p = 0.020), and VF (β = -0.36; CI 95% = -0.707, -0.014,; p = 0.042).

Table 3 presents the association analysis between DED and body composition separately in males and females. DED showed a significant association with the VF in males (β = 0.833; CI 95% = -1.588, -0.078; p = 0.031). Note that we observed that PFM (p=0.085) in females, and PFM (p=0.085), FM (p=0.061), and BMI (p=0.074) in males showed trends towards an association with DED, but these did not reach the level of statistical significance.

Discussion

Our findings revealed that the associations between DED and body weight (p=0.042), PFM (p=0.020), and VF (p=0.042) were statistically significant, supporting the hypothesis that low DED might be a key modification that could be implemented in dietary interventions to prevent overweight and obesity in early adulthood.

To our knowledge, this is the first study to show the association between body composition and DED in a specific cohort of young adults of European descent. The results of this study are similar to those of recent systematic reviews and meta-analyses on this topic conducted in different populations, which have concluded that there is a significant link between the energy density of food and body weight in (Rouhani et al., 2016; Stelmach-Mardas et al., 2016). In addition, a systematic review in children and adolescents, as well as adults, also supports a relationship between energy density and body weight (Pérez-Escamilla et al., 2012). Similarly, a prospective study showed that weight gain was positively associated with increased DED during a 6-year follow-up in overweight subjects (Vergnaud et al., 2009). Our data is in line with these results and therefore supports the idea that reducing DED could be an effective strategy for managing

body weight (Vernarelli, Mitchell, Rolls, & Hartman, 2015a). The exact mechanisms by which low DED reduces body weight have not yet been fully elucidated, but it has been hypothesised that eating low-energy-dense foods instead of foods higher in energy density might enhance satiety and lead to significantly reduced energy intake (Rolls et al., 1999). It is important to note that low DED and high DED foods varied not only in the energy density but also in the composition of fat, protein, carbohydrates, and grams of fiber. Therefore, it is likely that the effects observed may be due to these differences in nutritional properties between low DED food and high DED food (Buckland et al., 2018). Indeed, interventional studies have shown that a low-energy-density diet is more likely to be tolerated than a high-energy-density diet in a weight management regime (Song, Bae, & Lee, 2010).

In addition, the results revealed that DED is associated with PFM in the overall population after being adjusted for sex. In agreement with these findings, a systematic review and meta-analysis of observational studies reported that, compared with the group with the lowest DED, subjects with the highest DED have a risk of excess adiposity (Rouhani et al., 2016). Schneider et al. also concluded that frequent consumption of unhealthy food and groups (higher energy density and lower nutrient content) is associated with increased body fat in early adulthood (Schneider, Dumith, Orlandi, & Assunção, 2017). Likewise, longitudinal studies have evidenced that DED affects fat mass in young people, indicating that high energy density is a critical dietary factor in excess adiposity (Ambrosini et al., 2012; Johnson et al., 2009); consequently, dietary approaches based on low energy density foods may contribute to significant improvements in body composition. In contrast, other studies conducted in children showed that DED had no influence on body fatness (Günther, Stahl, Buyken, & Kroke, 2011; Zhou et al., 2015b). This inconsistency in results could be due to differences in the prevalence of overweight/obesity in the

population since in the studies of Günther et al and Zhou et al this prevalence was estimated in 15.5% and 16.8%, respectively, and in our study the prevalence was 19.5%; differences in ethnic background because a cohort of Chinese children were included in the study of Zhou et al; or different methods of calculating ED since Günther et al and Zhou et al used various approaches (ED all included all foods and drinks regardless of energy content, ED energy included all foods and energy-containing drinks (>21kJ, or 5kcal, per 100g), ED milk included all foods and milk as a drink, but no other beverages and ED food included foods only (solid/liquid)). Further studies are needed to better understand how energy density contributes to excess adiposity in young adults.

To the best of our knowledge, this is the first time VF has been shown to have an association with DED in males, as well as the overall population. Thus, the present study provides insight into the fact that energy density could have a specific effect on VF measured using bioimpedance analysis in young adults. In this context, the European Prospective Investigation into Cancer and Nutrition (EPIC) study concluded that a low-energy-density diet with a low glycemic index may prevent visceral adiposity, defined as prospective changes in waist circumference adjusted for BMI (Romaguera et al., 2010). Since the results reported are preliminary, further studies on an independent cohort are needed to clarify the effect of energy density on visceral adiposity.

On the other hand, there was no significant association between DED and BMI after adjusting for sex. Contrary to these findings, many studies have shown a positive association between DED and BMI in various cohorts of obese subjects. The contradictory results observed in our study could be explained by the lack of statistical power to detect statistical significance due to the low prevalence of overweight and obesity in our study population (19.5%). In addition, other possible causes of inconsistencies in the data reported between studies could be due to differences in sample

characteristics (sex distribution or age range) or dietary assessments (24-hour or 72-hour dietary recalls). Furthermore, it is important to note that previous authors have calculated DED in different ways, by including all beverages, only including those containing energy, or leaving them out entirely.

Our study has some limitations. Firstly, it is cross-sectional and, as such, involves the limitations inherent to this type of design. Secondly, there are also certain limitations inherent in the use of 72-hour recall, since this is prone to under reporting and relies on memory (Shim, Oh, & Kim, 2014). The failure to not provide a diary to selfreport the food intake during the first two days of the study is a potential limitation. Nevertheless, since information also depends on the skills of an interviewer to minimize recall bias, face-to-face interviews were conducted by a well-trained interviewer, and the subjects were also trained prior to participating in the study. Training of participant included the use of the dietary assessment methods and the use of and food models/photographs and standard household measures. Finally, it should be noted that the lack of significant associations observed between body weight and PFM and DED, when the analyses were stratified by sex, could be due to the limited statistical power of the study. Further work involving a larger study population is required to assess the association between body composition parameters and energy density separately in females and males. Despite the limitations listed above, our study also has strengths. The BMI is the most common method to assess obesity. However, the BMI is a measure of weight relative to height and does not provide information about body fat (Batsis et al., 2016). In the present study, we analyzed also body composition including FM, FFM, and PFM measurements in addition to traditional parameters such as BMI and weight. Therefore, we were able to provide precise information on body composition and the contribution of body fat to the overall body weight. Moreover, to the best of our knowledge, this is the first study to investigate

the link between VF estimated through bioimpedance analysis and energy density. Further longitudinal and interventional research is needed to examine how reductions in energy density may be effective for long-term weight management in early adulthood.

These findings have clinical significance, and we highlight the importance of nurses in developing effective strategies to educate patients in the consumption of an adequate DED. Since nursing professional are involved in the implementation of preventive programs, they should develop nutritional health programs based on the identification of high and low-energy-density meals in young adults. The inclusion of nutritional counselling programs might represent an excellent preventive strategy that could lead to the early prevention of overweight and obesity. Additionally, advance preventive programs could improve the health and nursing care of patients with overweight or obesity and, consequently, reduce de impact of obesity.

In conclusion, we found that body weight, PFM, and VF are associated with DED in a cohort of young adults of European descent. These preliminary data support that the DED should be considered an important aspect in the obesity nutritional education programs in young people.

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Zhou, X., Xue, H., Duan, R., Liu, Y., Zhang, L., Harvey, L., & Cheng, G. (2015b). The Cross-Sectional Association of Energy Intake and Dietary Energy Density with Body Composition of Children in Southwest China. *Nutrients*, *7*(7), 5396–5412. https://doi.org/10.3390/nu7075228

Table 1. Basic characteristic of study participants.

	Females (n = 401)		Males (n = 184)		Overall (n = 585)		
	Mean	SD	Mean	SD	Mean	SD	P value
Age (years)	20.11	2.23	20.22	2.19	20.14	2.22	0.578
Height (m)	1.63	0.06	1.75	0.07	1.67	0.08	<0.001
Weight (kg)	59.24	9.81	72.86	13.22	63.52	12.68	<0.001
PFM (%)	24.11	7.33	15.15	6.28	21.29	8.15	<0.001
FM (kg)	15.23	7.73	11.59	7.20	14.08	7.75	<0.001
FFM (kg)	44.21	3.42	61.17	7.70	49.54	9.41	<0.001
VF	1.71	2.316	2.55	2.71	1.98	2.47	<0.001
BMI (kg/m^2)	22.09	3.46	23.55	3.76	22.55	3.62	<0.001
Energy intake (Kcal/day)	1920.29	634.32	2150.82	715.74	1992.80	669.02	<0.001
Proteins (g)	79.25	27.81	90.10	35.41	82.66	30.79	<0.001
Lipids (g)	65.44	32.02	71.44	32.54	67.32	32.28	0.037
Carbohydrates (g)	236.94	103.18	271.20	106.87	247.72	105.47	<0.001
DED (Kcal/g)	1.64	0.60	1.56	0.52	1.62	0.57	0.096

SD: standard deviation; FM: fat mass; PFM: percentage fat mass; FFM: fat free mass; VF: visceral fat; BMI: body mass index; DED: dietary energy density.

Table 2. Beta estimates and confidence intervals for the association between DED and body composition parameters in the overall study population.

	Dietary energy density		
	β	95% CI	P value
Weight (kg)	-1.606	-3.150, -0.062	0.042
BMI (kg/m^2)	-0.381	-0.882, 0.120	0.135
PFM (%)	-1.173	-2.158, -0.189,	0.020
FM (kg)	-0.916	-1.981, 0.149	0.092
FFM (kg)	-0.526	-1.253, 0.200,	0.155
VF	-0.360	-0.707, -0.014,	0.042

FM: fat mass; PFM: percentage fat mass; FFM: fat free mass; VF: visceral fat; BMI: body mass index; DED: dietary energy density.

Beta represents the regression coefficient. Adjusted for sex.

Table 3. Beta estimates and confidence intervals for the association between DED and body composition parameters separately for females and males.

	Dietary energy density					
	Females (N = 401)			Males (N = 184)		
	β	95% CI	P value	β	95% CI	P value
Weight (kg)	-1.117	-2.718, 0.483	0.171	-3.039	-6.729, 0.651	0.106
BMI (kg/m^2)	-0.186	-0.752, 0.381	0.519	-0.955	-2.003, 0.093	0.074
PFM (%)	-1.048	-2.243, 0.146,	0.085	-1.540	-3.292, 0.212	0.085
FM (kg)	-0.593	-1.857, 0.671	0.357	-1.863	-3.869, 0.143	0.068
FFM (kg)	-0.426	-0.985, 0.132	0.134	-0.820	-2.981,1.340	0.455
VF	-0.196	-0.578, 0.185	0.312	0.833	-1.588, -0.078,	0.031

FM: fat mass; PFM: percentage fat mass; FFM: fat free mass; VF: visceral fat; BMI: body mass index; DED: dietary energy density.

Beta represents the regression coefficient.

```
DESCRIPTIVES VARIABLES=age height weight BMI percetage_FM FM FFM
visceral_fat Energy_intake
   Proteins Lipids Carbohydrates Energy_density
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptives

Notes

Output Created		28-FEB-2019 10:07:33
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=age height weight BMI percetage_FM FM FFM visceral_fat Energy_intake Proteins Lipids Carbohydrates Energy_density /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00,01
	Elapsed Time	00:00:00,00

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
age	585	18	25	20,14	2,221
height	585	1,50	1,96	1,6750	,08511
weight	585	41,40	130,10	63,5279	12,68336
BMI	585	15,73	40,15	22,5522	3,62301
percetange_FM	585	4,00	47,30	21,2942	8,15760
FM	585	1,80	75,50	14,0897	7,75608
FFM	585	36,00	88,10	49,5474	9,41947
visceral_Fat	581	1	40	1,98	2,477
Energy_intake	585	621,00	5186,00	1992,8000	669,02811
Proteins	585	20,30	245,00	82,6667	30,79822
Lipids	585	10,40	278,00	67,3296	32,28169
Carbohydrates	585	37,90	726,00	247,7215	105,47413
energy_density	584	,45	3,99	1,6208	,57957
Valid N (listwise)	581				

```
FREQUENCIES VARIABLES=sex
  /ORDER=ANALYSIS.
```

Frequencies

Notes

Output Created		28-FEB-2019 10:09:11
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=sex /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00,01
	Elapsed Time	00:00:00,00

Statistics

sex

N	Valid	585
	Missing	0

sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	females	401	68,5	68,5	68,5
	males	184	31,5	31,5	100,0
	Total	585	100,0	100,0	

```
T-TEST GROUPS=sex(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=age height weight BMI percetage_FM FM FFM visceral_fat
Energy_intake Proteins Lipids
    Carbohydrates Energy_density
  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		28-FEB-2019 10:10:49
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1

	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=sex(1 2) /MISSING=ANALYSIS /VARIABLES=age height weight BMI percetage_FM FM FFM visceral_fat Energy_intake Proteins Lipids Carbohydrates Energy_density /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00,03
	Elapsed Time	00:00:00,00

Group Statistics

	sex	N	Mean	Std. Deviation	Std. Error Mean
age	females	401	20,11	2,236	,112
	males	184	20,22	2,192	,162
height	females	401	1,6373	,06059	,00303
	males	184	1,7571	,07211	,00532
weight	females	401	59,2424	9,81250	,49001
	males	184	72,8674	13,22741	,97514
BMI	females	401	22,0933	3,46620	,17309
	males	184	23,5525	3,76301	,27741
percetange_FM	females	401	24,1115	7,33265	,36618
	males	184	15,1543	6,28853	,46360
FM	females	401	15,2347	7,73948	,38649
	males	184	11,5946	7,20521	,53118
FFM	females	401	44,2142	3,42847	,17121
	males	184	61,1701	7,70098	,56772
visceral_Fat	females	398	1,71	2,316	,116
	males	183	2,55	2,717	,201
Energy_intake	females	401	1920,2918	634,32400	31,67663

	males	184	2150,8207	715,74029	52,76507
Proteins	females	401	79,2529	27,81941	1,38923
	males	184	90,1065	35,41448	2,61079
Lipids	females	401	65,4411	32,02365	1,59918
	males	184	71,4451	32,54579	2,39931
Carbohydrates	females	401	236,9459	103,18133	5,15263
	males	184	271,2054	106,87534	7,87895
energy_density	females	400	1,6479	,60349	,03017
	males	184	1,5619	,52053	,03837

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
age	Equal variances assumed	,432	,511	-,557	583	,578	-,110
	Equal variances not assumed			-,561	361,780	,575	-,110
height	Equal variances assumed	6,450	,011	-20,886	583	,000	-,11981
	Equal variances not assumed			-19,588	306,063	,000	-,11981
weight	Equal variances assumed	13,044	,000	-13,912	583	,000	-13,62500
	Equal variances not assumed			-12,485	278,951	,000	-13,62500
BMI	Equal variances assumed	1,068	,302	-4,601	583	,000	-1,45919
	Equal variances not assumed			-4,463	330,323	,000	-1,45919
percetange_FM	Equal variances assumed	7,557	,006	14,326	583	,000	8,95712
	Equal variances not assumed			15,162	409,624	,000	8,95712
FM	Equal variances assumed	1,644	,200	5,396	583	,000	3,64010
	Equal variances not assumed			5,541	379,410	,000	3,64010
FFM	Equal variances assumed	112,772	,000	-36,866	583	,000	-16,95589
	Equal variances not assumed			-28,594	216,979	,000	-16,95589
visceral_Fat	Equal variances assumed	17,437	,000	-3,808	579	,000	-,833

	Equal variances not assumed			-3,590	308,167	,000	-,833
Energy_intake	Equal variances assumed	1,743	,187	-3,917	583	,000	-230,52888
	Equal variances not assumed			-3,746	319,679	,000	-230,52888
Proteins	Equal variances assumed	9,794	,002	-4,009	583	,000	-10,85365
	Equal variances not assumed			-3,670	290,642	,000	-10,85365
Lipids	Equal variances assumed	,270	,604	-2,095	583	,037	-6,00396
	Equal variances not assumed			-2,082	350,100	,038	-6,00396
Carbohydrates	Equal variances assumed	,255	,614	-3,687	583	,000	-34,25955
	Equal variances not assumed			-3,639	344,201	,000	-34,25955
energy_density	Equal variances assumed	7,282	,007	1,668	582	,096	,08598
	Equal variances not assumed			1,761	407,759	,079	,08598

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
age	Equal variances assumed	,198	-,499	,279
	Equal variances not assumed	,196	-,496	,276
height	Equal variances assumed	,00574	-,13108	-,10855
	Equal variances not assumed	,00612	-,13185	-,10778
weight	Equal variances assumed	,97939	-15,54857	-11,70143
	Equal variances not assumed	1,09133	-15,77329	-11,47671
BMI	Equal variances assumed	,31717	-2,08213	-,83625
	Equal variances not assumed	,32699	-2,10243	-,81595
percetange_FM	Equal variances assumed	,62522	7,72916	10,18509
	Equal variances not assumed	,59077	7,79581	10,11844
FM	Equal variances assumed	,67457	2,31521	4,96498
	Equal variances not assumed	,65690	2,34847	4,93173
FFM	Equal variances assumed	,45993	-17,85922	-16,05257

	Equal variances not assumed	,59298	-18,12463	-15,78716
visceral_Fat	Equal variances assumed	,219	-1,262	-,403
	Equal variances not assumed	,232	-1,289	-,376
Energy_intake	Equal variances assumed	58,85354	-346,11967	-114,93810
	Equal variances not assumed	61,54317	-351,60968	-109,44808
Proteins	Equal variances assumed	2,70764	-16,17157	-5,53574
	Equal variances not assumed	2,95740	-16,67428	-5,03302
Lipids	Equal variances assumed	2,86614	-11,63317	-,37475
	Equal variances not assumed	2,88341	-11,67495	-,33297
Carbohydrates	Equal variances assumed	9,29201	-52,50945	-16,00965
	Equal variances not assumed	9,41422	-52,77619	-15,74291
energy_density	Equal variances assumed	,05155	-,01526	,18722
	Equal variances not assumed	,04882	-,00999	,18194

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT weight
  /METHOD=ENTER sex Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:15:04
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1

	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT weight /METHOD=ENTER sex Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	5296 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
weight	63,5305	12,69408	584
sex	1,32	,465	584
energy_density	1,6208	,57957	584

Correlations

		weight	sex	energy_density
Pearson Correlation	weight	1,000	,499	-,107
	sex	,499	1,000	-,069
	energy_density	-,107	-,069	1,000
Sig. (1-tailed)	weight	.	,000	,005
	sex	,000	.	,048
	energy_density	,005	,048	.

N		weight	584	584	584
		sex	584	584	584
		energy_density	584	584	584

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	energy_density, sex[b]	.	Enter

a. Dependent Variable: weight
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,505[a]	,255	,252	10,97816

a. Predictors: (Constant), energy_density, sex

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23922,185	2	11961,092	99,246	,000[b]
	Residual	70022,173	581	120,520		
	Total	93944,357	583			

a. Dependent Variable: weight
b. Predictors: (Constant), energy_density, sex

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	48,388	1,929		25,091	,000	44,601
	sex	13,494	,980	,494	13,766	,000	11,569
	energy_density	-1,606	,786	-,073	-2,042	,042	-3,150

Coefficients[a]

Model	95,0% Confidence Interval for B

		Upper Bound
1	(Constant)	52,176
	sex	15,419
	energy_density	-,062

a. Dependent Variable: weight

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT BMI
  /METHOD=ENTER sex Energy_density.
```


Regression

Notes

Output Created		28-FEB-2019 10:15:56
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT BMI /METHOD=ENTER sex Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	5296 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
BMI	22,5541	3,62583	584
sex	1,32	,465	584
energy_density	1,6208	,57957	584

Correlations

		BMI	sex	energy_density
Pearson Correlation	BMI	1,000	,187	-,074
	sex	,187	1,000	-,069
	energy_density	-,074	-,069	1,000
Sig. (1-tailed)	BMI	.	,000	,038
	sex	,000	.	,048
	energy_density	,038	,048	.
N	BMI	584	584	584
	sex	584	584	584
	energy_density	584	584	584

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	energy_density, sex[b]	.	Enter

a. Dependent Variable: BMI
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,197[a]	,039	,035	3,56121

a. Predictors: (Constant), energy_density, sex

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	296,105	2	148,052	11,674	,000[b]
	Residual	7368,380	581	12,682		
	Total	7664,484	583			

a. Dependent Variable: BMI
b. Predictors: (Constant), energy_density, sex

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	21,299	,626		34,045	,000	20,070
	sex	1,425	,318	,183	4,481	,000	,800
	energy_density	-,381	,255	-,061	-1,495	,135	-,882

Coefficients[a]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	22,527
	sex	2,049
	energy_density	,120

a. Dependent Variable: BMI

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
```

```
    /NOORIGIN
    /DEPENDENT percetage_FM
    /METHOD=ENTER sex Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:16:44
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT percetage_FM /METHOD=ENTER sex Energy_density.
Resources	Processor Time	00:00:00,02

Elapsed Time	00:00:00,00
Memory Required	5296 bytes
Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
percetange_FM	21,2890	8,16364	584
sex	1,32	,465	584
energy_density	1,6208	,57957	584

Correlations

		percetange_FM	sex	energy_density
Pearson Correlation	percetange_FM	1,000	-,510	-,048
	sex	-,510	1,000	-,069
	energy_density	-,048	-,069	1,000
Sig. (1-tailed)	percetange_FM	.	,000	,125
	sex	,000	.	,048
	energy_density	,125	,048	.
N	percetange_FM	584	584	584
	sex	584	584	584
	energy_density	584	584	584

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	energy_density, sex[b]	.	Enter

a. Dependent Variable: percetange_FM
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,517[a]	,267	,265	7,00080

a. Predictors: (Constant), energy_density, sex

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10378,507	2	5189,253	105,879	,000[b]
	Residual	28475,543	581	49,011		
	Total	38854,050	583			

a. Dependent Variable: percetange_FM

b. Predictors: (Constant), energy_density, sex

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	35,102	1,230		28,542	,000	32,687
	sex	-9,058	,625	-,516	-14,490	,000	-10,285
	energy_density	-1,173	,501	-,083	-2,340	,020	-2,158

Coefficients[a]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	37,518
	sex	-7,830
	energy_density	-,189

a. Dependent Variable: percetange_FM

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT FM
  /METHOD=ENTER sex Energy_density.
```

Regression

Output Created		28-FEB-2019 10:17:11
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT FM /METHOD=ENTER sex Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	5296 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
FM	14,0880	7,76261	584
sex	1,32	,465	584
energy_density	1,6208	,57957	584

Correlations

		FM	sex	energy_density
Pearson Correlation	FM	1,000	-,218	-,053
	sex	-,218	1,000	-,069
	energy_density	-,053	-,069	1,000
Sig. (1-tailed)	FM	.	,000	,100
	sex	,000	.	,048
	energy_density	,100	,048	.
N	FM	584	584	584
	sex	584	584	584
	energy_density	584	584	584

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	energy_density, sex[b]	.	Enter

a. Dependent Variable: FM

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,228[a]	,052	,049	7,57028

a. Predictors: (Constant), energy_density, sex

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1833,869	2	916,934	16,000	,000[b]
	Residual	33296,627	581	57,309		
	Total	35130,496	583			

a. Dependent Variable: FM

b. Predictors: (Constant), energy_density, sex

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	20,464	1,330		15,388	,000	17,852
	sex	-3,719	,676	-,223	-5,502	,000	-5,047
	energy_density	-,916	,542	-,068	-1,690	,092	-1,981

Coefficients[a]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	23,076
	sex	-2,392
	energy_density	,149

a. Dependent Variable: FM

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT FFM
  /METHOD=ENTER sex Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:17:53
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>

	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT FFM /METHOD=ENTER sex Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	5296 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
FFM	49,5519	9,42691	584
sex	1,32	,465	584
energy_density	1,6208	,57957	584

Correlations

		FFM	sex	energy_density
Pearson Correlation	FFM	1,000	,837	-,090
	sex	,837	1,000	-,069
	energy_density	-,090	-,069	1,000
Sig. (1-tailed)	FFM	.	,000	,015
	sex	,000	.	,048
	energy_density	,015	,048	.
N	FFM	584	584	584
	sex	584	584	584
	energy_density	584	584	584

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	energy_density, sex[b]	.	Enter

a. Dependent Variable: FFM
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,837[a]	,701	,700	5,16398

a. Predictors: (Constant), energy_density, sex

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36315,890	2	18157,945	680,921	,000[b]
	Residual	15493,368	581	26,667		
	Total	51809,258	583			

a. Dependent Variable: FFM
b. Predictors: (Constant), energy_density, sex

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	28,158	,907		31,040	,000	26,376
	sex	16,917	,461	,834	36,690	,000	16,012
	energy_density	-,526	,370	-,032	-1,423	,155	-1,253

Coefficients[a]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	29,939
	sex	17,823

energy_density ,200

a. Dependent Variable: FFM

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT visceral_fat
  /METHOD=ENTER sex Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:18:16
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT visceral_fat /METHOD=ENTER sex Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	5296 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
visceral_Fat	1,98	2,477	581
sex	1,31	,465	581
energy_density	1,6174	,57600	581

Correlations

		visceral_Fat	sex	energy_density
Pearson Correlation	visceral_Fat	1,000	,156	-,093
	sex	,156	1,000	-,062
	energy_density	-,093	-,062	1,000
Sig. (1-tailed)	visceral_Fat	.	,000	,012
	sex	,000	.	,066
	energy_density	,012	,066	.
N	visceral_Fat	581	581	581
	sex	581	581	581
	energy_density	581	581	581

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	energy_density, sex[b]	.	Enter

a. Dependent Variable: visceral_Fat
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,177[a]	,031	,028	2,442

a. Predictors: (Constant), energy_density, sex

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111,855	2	55,928	9,376	,000[b]
	Residual	3447,807	578	5,965		
	Total	3559,663	580			

a. Dependent Variable: visceral_Fat
b. Predictors: (Constant), energy_density, sex

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	1,500	,430		3,493	,001	,657
	sex	,805	,219	,151	3,683	,000	,376
	energy_density	-,360	,176	-,084	-2,043	,042	-,707

Coefficients[a]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	2,344
	sex	1,234
	energy_density	-,014

a. Dependent Variable: visceral_Fat

```
SORT CASES  BY sex.
SPLIT FILE SEPARATE BY sex.
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
```

```
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT weight
  /METHOD=ENTER Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:19:57
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	sex
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT weight /METHOD=ENTER Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	4848 bytes
	Additional Memory Required for Residual Plots	0 bytes

sex = females

Descriptive Statistics[a]

	Mean	Std. Deviation	N
weight	59,2355	9,82381	400
energy_density	1,6479	,60349	400

a. sex = females

Correlations[a]

		weight	energy_density
Pearson Correlation	weight	1,000	-,069
	energy_density	-,069	1,000
Sig. (1-tailed)	weight	.	,085
	energy_density	,085	.
N	weight	400	400
	energy_density	400	400

a. sex = females

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = females
b. Dependent Variable: weight
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,069[b]	,005	,002	9,81296

a. sex = females
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	181,360	1	181,360	1,883	,171[c]
	Residual	38325,055	398	96,294		
	Total	38506,416	399			

a. sex = females
b. Dependent Variable: weight
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	61,076	1,428		42,760	,000	58,268
	energy_density	-1,117	,814	-,069	-1,372	,171	-2,718

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	63,885
	energy_density	,483

a. sex = females
b. Dependent Variable: weight

sex = males

Descriptive Statistics[a]

	Mean	Std. Deviation	N
weight	72,8674	13,22741	184
energy_density	1,5619	,52053	184

a. sex = males

Correlations[a]

		weight	energy_density
Pearson Correlation	weight	1,000	-,120
	energy_density	-,120	1,000
Sig. (1-tailed)	weight	.	,053
	energy_density	,053	.
N	weight	184	184
	energy_density	184	184

a. sex = males

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = males
b. Dependent Variable: weight
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,120[b]	,014	,009	13,16852

a. sex = males
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	457,849	1	457,849	2,640	,106[c]
	Residual	31560,615	182	173,410		
	Total	32018,464	183			

a. sex = males
b. Dependent Variable: weight
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	77,614	3,078		25,215	,000	71,540
	energy_density	-3,039	1,870	-,120	-1,625	,106	-6,729

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	83,687
	energy_density	,651

a. sex = males
b. Dependent Variable: weight

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT BMI
  /METHOD=ENTER Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:20:41
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	sex
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT BMI /METHOD=ENTER Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	4848 bytes
	Additional Memory Required for Residual Plots	0 bytes

sex = females

Descriptive Statistics[a]

	Mean	Std. Deviation	N
BMI	22,0949	3,47039	400
energy_density	1,6479	,60349	400

a. sex = females

Correlations[a]

		BMI	energy_density
Pearson Correlation	BMI	1,000	-,032
	energy_density	-,032	1,000
Sig. (1-tailed)	BMI	.	,260
	energy_density	,260	.
N	BMI	400	400
	energy_density	400	400

a. sex = females

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = females
b. Dependent Variable: BMI
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,032[b]	,001	-,001	3,47293

a. sex = females
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5,017	1	5,017	,416	,519[c]
	Residual	4800,385	398	12,061		

Total		4805,401	399			

a. sex = females
b. Dependent Variable: BMI
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	22,401	,506		44,313	,000	21,407
	energy_density	-,186	,288	-,032	-,645	,519	-,752

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	23,395
	energy_density	,381

a. sex = females
b. Dependent Variable: BMI

sex = males

Descriptive Statistics[a]

	Mean	Std. Deviation	N
BMI	23,5525	3,76301	184
energy_density	1,5619	,52053	184

a. sex = males

Correlations[a]

		BMI	energy_density
Pearson Correlation	BMI	1,000	-,132
	energy_density	-,132	1,000
Sig. (1-tailed)	BMI	.	,037
	energy_density	,037	.
N	BMI	184	184

	energy_density	184	184

a. sex = males

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = males
b. Dependent Variable: BMI
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,132[b]	,017	,012	3,74029

a. sex = males
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45,186	1	45,186	3,230	,074[c]
	Residual	2546,143	182	13,990		
	Total	2591,329	183			

a. sex = males
b. Dependent Variable: BMI
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	25,043	,874		28,645	,000	23,318
	energy_density	-,955	,531	-,132	-1,797	,074	-2,003

Coefficients[a,b]

Model	95,0% Confidence Interval for B

		Upper Bound
1	(Constant)	26,768
	energy_density	,093

a. sex = males
b. Dependent Variable: BMI

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT percetage_FM
  /METHOD=ENTER Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:21:24
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	sex
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT percetage_FM /METHOD=ENTER Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	4848 bytes
	Additional Memory Required for Residual Plots	0 bytes

sex = females

Descriptive Statistics[a]

	Mean	Std. Deviation	N
percetange_FM	24,1110	7,34183	400
energy_density	1,6479	,60349	400

a. sex = females

Correlations[a]

		percetange_FM	energy_density
Pearson Correlation	percetange_FM	1,000	-,086
	energy_density	-,086	1,000
Sig. (1-tailed)	percetange_FM	.	,043
	energy_density	,043	.
N	percetange_FM	400	400
	energy_density	400	400

a. sex = females

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = females
b. Dependent Variable: percetange_FM
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,086[b]	,007	,005	7,32370

a. sex = females
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	159,721	1	159,721	2,978	,085[c]
	Residual	21347,350	398	53,637		
	Total	21507,072	399			

a. sex = females
b. Dependent Variable: percetange_FM
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	25,839	1,066		24,238	,000	23,743
	energy_density	-1,048	,608	-,086	-1,726	,085	-2,243

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	27,934
	energy_density	,146

a. sex = females

b. Dependent Variable: percetange_FM

sex = males

Descriptive Statistics[a]

	Mean	Std. Deviation	N
percetange_FM	15,1543	6,28853	184
energy_density	1,5619	,52053	184

a. sex = males

Correlations[a]

		percetange_FM	energy_density
Pearson Correlation	percetange_FM	1,000	-,127
	energy_density	-,127	1,000
Sig. (1-tailed)	percetange_FM	.	,042
	energy_density	,042	.
N	percetange_FM	184	184
	energy_density	184	184

a. sex = males

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = males
b. Dependent Variable: percetange_FM
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,127[b]	,016	,011	6,25434

a. sex = males

b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117,599	1	117,599	3,006	,085[c]
	Residual	7119,258	182	39,117		
	Total	7236,857	183			

a. sex = males
b. Dependent Variable: percetange_FM
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	17,560	1,462		12,012	,000	14,675
	energy_density	-1,540	,888	-,127	-1,734	,085	-3,292

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	20,444
	energy_density	,212

a. sex = males
b. Dependent Variable: percetange_FM

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT FM
  /METHOD=ENTER Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:22:26
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	sex
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT FM /METHOD=ENTER Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	4848 bytes
	Additional Memory Required for Residual Plots	0 bytes

sex = females

Descriptive Statistics[a]

	Mean	Std. Deviation	N
FM	15,2350	7,74917	400
energy_density	1,6479	,60349	400

a. sex = females

Correlations[a]

		FM	energy_density
Pearson Correlation	FM	1,000	-,046
	energy_density	-,046	1,000
Sig. (1-tailed)	FM	.	,178
	energy_density	,178	.
N	FM	400	400
	energy_density	400	400

a. sex = females

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = females
b. Dependent Variable: FM
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,046[b]	,002	,000	7,75062

a. sex = females
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51,129	1	51,129	,851	,357[c]

	Residual	23908,701	398	60,072		
	Total	23959,830	399			

a. sex = females
b. Dependent Variable: FM
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	16,212	1,128		14,371	,000	13,995
	energy_density	-,593	,643	-,046	-,923	,357	-1,857

Coefficients[a,b]

Model		95,0% Confidence Interval for B
		Upper Bound
1	(Constant)	18,430
	energy_density	,671

a. sex = females
b. Dependent Variable: FM

sex = males

Descriptive Statistics[a]

	Mean	Std. Deviation	N
FM	11,5946	7,20521	184
energy_density	1,5619	,52053	184

a. sex = males

Correlations[a]

		FM	energy_density
Pearson Correlation	FM	1,000	-,135
	energy_density	-,135	1,000
Sig. (1-tailed)	FM	.	,034
	energy_density	,034	.

N	FM	184	184
	energy_density	184	184

a. sex = males

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = males
b. Dependent Variable: FM
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,135[b]	,018	,013	7,15921

a. sex = males
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	172,184	1	172,184	3,359	,068[c]
	Residual	9328,270	182	51,254		
	Total	9500,455	183			

a. sex = males
b. Dependent Variable: FM
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	14,505	1,673		8,668	,000	11,203
	energy_density	-1,863	1,017	-,135	-1,833	,068	-3,869

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	17,807
	energy_density	,143

a. sex = males
b. Dependent Variable: FM

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT FFM
  /METHOD=ENTER Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:24:28
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	sex
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT FFM /METHOD=ENTER Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	4848 bytes
	Additional Memory Required for Residual Plots	0 bytes

sex = females

Descriptive Statistics[a]

	Mean	Std. Deviation	N
FFM	44,2075	3,43013	400
energy_density	1,6479	,60349	400

a. sex = females

Correlations[a]

		FFM	energy_density
Pearson Correlation	FFM	1,000	-,075
	energy_density	-,075	1,000
Sig. (1-tailed)	FFM	.	,067
	energy_density	,067	.
N	FFM	400	400
	energy_density	400	400

a. sex = females

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = females
b. Dependent Variable: FFM
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,075[b]	,006	,003	3,42476

a. sex = females
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26,392	1	26,392	2,250	,134[c]
	Residual	4668,146	398	11,729		
	Total	4694,538	399			

a. sex = females
b. Dependent Variable: FFM
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	44,910	,499		90,089	,000	43,930
	energy_density	-,426	,284	-,075	-1,500	,134	-,985

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	45,890
	energy_density	,132

a. sex = females
b. Dependent Variable: FFM

sex = males

Descriptive Statistics[a]

	Mean	Std. Deviation	N
FFM	61,1701	7,70098	184
energy_density	1,5619	,52053	184

a. sex = males

Correlations[a]

		FFM	energy_density
Pearson Correlation	FFM	1,000	-,055
	energy_density	-,055	1,000
Sig. (1-tailed)	FFM	.	,227
	energy_density	,227	.
N	FFM	184	184
	energy_density	184	184

a. sex = males

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = males
b. Dependent Variable: FFM
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,055[b]	,003	-,002	7,71023

a. sex = males
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33,366	1	33,366	,561	,455[c]
	Residual	10819,479	182	59,448		
	Total	10852,846	183			

a. sex = males
b. Dependent Variable: FFM
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	62,451	1,802		34,653	,000	58,895
	energy_density	-,820	1,095	-,055	-,749	,455	-2,981

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	66,007
	energy_density	1,340

a. sex = males
b. Dependent Variable: FFM

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT visceral_fat
  /METHOD=ENTER Energy_density.
```

Regression

Notes

Output Created		28-FEB-2019 10:25:00
Comments		
Input	Data	/Users/mariacorrea/Desktop/Paper Energy density & obesity/DMO_R24_QUS_TANITA_COMPLETO_18-25_novaloresextremos.sav
	Active Dataset	ConjuntoDatos1
	Filter	<none>
	Weight	<none>
	Split File	sex
	N of Rows in Working Data File	585
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT visceral_fat /METHOD=ENTER Energy_density.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Memory Required	4848 bytes
	Additional Memory Required for Residual Plots	0 bytes

sex = females

Descriptive Statistics[a]

	Mean	Std. Deviation	N
visceral_Fat	1,71	2,316	398
energy_density	1,6417	,59869	398

a. sex = females

Correlations[a]

		visceral_Fat	energy_density
Pearson Correlation	visceral_Fat	1,000	-,051
	energy_density	-,051	1,000
Sig. (1-tailed)	visceral_Fat	.	,156
	energy_density	,156	.
N	visceral_Fat	398	398
	energy_density	398	398

a. sex = females

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = females
b. Dependent Variable: visceral_Fat
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,051[b]	,003	,000	2,316

a. sex = females
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5,488	1	5,488	1,023	,312[c]
	Residual	2123,859	396	5,363		

Total		2129,347	397			

a. sex = females
b. Dependent Variable: visceral_Fat
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound
1	(Constant)	2,036	,339		6,002	,000	1,369
	energy_density	-,196	,194	-,051	-1,012	,312	-,578

Coefficients[a,b]

Model		95,0% Confidence Interval for B Upper Bound
1	(Constant)	2,703
	energy_density	,185

a. sex = females
b. Dependent Variable: visceral_Fat

sex = males

Descriptive Statistics[a]

	Mean	Std. Deviation	N
visceral_Fat	2,55	2,717	183
energy_density	1,5644	,52089	183

a. sex = males

Correlations[a]

		visceral_Fat	energy_density
Pearson Correlation	visceral_Fat	1,000	-,160
	energy_density	-,160	1,000
Sig. (1-tailed)	visceral_Fat	.	,015
	energy_density	,015	.
N	visceral_Fat	183	183

	energy_density	183	183

a. sex = males

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	energy_density[c]	.	Enter

a. sex = males
b. Dependent Variable: visceral_Fat
c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,160[b]	,026	,020	2,689

a. sex = males
b. Predictors: (Constant), energy_density

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34,261	1	34,261	4,737	,031[c]
	Residual	1309,094	181	7,233		
	Total	1343,355	182			

a. sex = males
b. Dependent Variable: visceral_Fat
c. Predictors: (Constant), energy_density

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B
		B	Std. Error	Beta	t	Sig.	Lower Bound
1	(Constant)	3,849	,631		6,102	,000	2,605
	energy_density	-,833	,383	-,160	-2,176	,031	-1,588

Coefficients[a,b]

Model	95,0% Confidence Interval for B

		Upper Bound
1	(Constant)	5,094
	energy_density	-,078

a. sex = males
b. Dependent Variable: visceral_Fat