Food behaviour correlated with societal influences and health, emotional & intellectual status in a Romanian students population

Odagiu, Irina; Vintila, Iuliana

Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:
Odagiu, I., & Vintila, I. (2015). Food behaviour correlated with societal influences and health, emotional & intellectual status in a Romanian students population. *International Letters of Social and Humanistic Sciences*, 56, 64-73. https://doi.org/10.18052/www.scipress.com/ILSHS.56.64

International Letters of Social and Humanistic Sciences *Online: 2015-07-17*
ISSN: 2300-2697, Vol. 56, pp 64-73
doi:10.18052/www.scipress.com/ILSHS.56.64

Food Behaviour correlated with Societal Influences and Health, Emotional & Intellectual Status in a Romanian Students Population

Iuliana Vintila[1], Irina Odagiu[2]

[1] Food Science and Engineering, Biotechnology and Aquaculture Department, "Dunarea de Jos" University, Galati, Romania.
[2] Pepsico, Romania

E-mail address: vintilaiuliana@yahoo.com

Keywords: Food behaviour; Lifestyle; Societal influences

ABSTRACT. Input data from Students Food Behavior, Preference and Lifestyle Questionnaire conducted with 376 students from University "Dunarea de Jos" Galati was analyzed from socio-demographic criteria. The sample socio-demographic characteristics of the student population beside the general food & eating habits by gender were investigated in Part I of the social research study. The pattern of eating behavior and lifestyle, food behavior influences, self-appreciation of the actual impact on the healthy, emotional & intellectual status and intention of food behavior change was investigated in Part II. The correlation coefficients between food behavior & lifestyle, societal influences and intention of food behavior change variables were analyzed statistically beside the food behavior variables inter-correlation. A slightly negative correlation between energy intake and breakfast consummation [r (1,3)=-0.049] respectively habit of regular sport making [r(1,7)=-0.070] was reported. Energy intake was positive associated with increasing of Body Mass Index (BMI) [r (1,2)=0.260] and slightly with regular meals [r(1,4)=0.014]. The overfeeding was associated with the breakfast skipping, super-size and over calories meals and sedentary habits. BMI sample distribution was significantly decrease by sport making habit [r (2,7)=0.109] and regular pondered meals[r(2,4)=-0.055]. The frequent snacking and the repressive effect of non-desirable overweight social model disseminate aggressively by friends and media increase the student's weight control, especially in girl's case.

1. INTRODUCTION

The evident decreasing of the immune-physical status of different factors has been shown to influence youth eating and lifestyle patterns: age [1], gender [2], body weight [3], dieting [4] or drinking[5] and social status [6,7].

Also, the most common reasons suggested to influence the food choices in young population include changes in living arrangements [8], financial resources [9], increased availability of convenience and fast foods [10,11]. The principal reasons for dietary choices include life experiences (social values, cultural pattern), family psychological and physiological background, beliefs and expectations regarding food eating style [12, 13, 14 and 15].
Other factors include cost and accessibility of the food and the perceived healthfulness or foods calories [16]. Recent studies have revealed relationships between body image and adolescent eating behavior [4, 17]. Young population eating habits also appear to be influenced by the family, media, and friends [18, 19].
Also, international studies have indicated that many adolescents have difficulties to follow healthful eating recommendations and make finally the easy choice of accessible and convenience fast-food items [15, 18].

The objective of the research study was to investigate the eating behaviour and lifestyle markers for a Romanian student population (N=376), establish the societal influences and determinate the correlation coefficients between food behaviour & lifestyle, societal influences and change intention of actual food behaviour, beside the food behaviour variables inter-correlation.

2. METHODS OF CONDUCTING SOCIAL INVESTIGATION

376 UDJG students (177 boys and 199 girls) in the age range of 20–24 years were randomly selected to complete the questionnaire concerning activities related to eating behavior and lifestyle, societal influences, self-appreciation of food behavior health & emotional impact and change intention. The survey was conducted during the period December 2010–January 2011 and the participation was not compulsory. The students were assured of complete anonymity. The volunteered youth completed the survey in a time between 30 and 40 min. A general characterization of the investigated group was socio-demographic and anthropometric: age, gender, height, weight, geographic origins, international mobility and accessibility of healthy food.

2.1 Questionnaire

A Food Behaviour and Lifestyle Questionnaire (FBLQ) was constructed to assess food behaviour integrated in a lifestyle pattern with influences impact and change intention of actual food behaviour. The questionnaire was divided in two parts, a quantitative part with 44 questions and a second qualitative part with other 10 questions consisting in perception & attitude variables.

Lifestyle variables, food behaviors, impact & change intention and societal influences was assessed with the following instruments: 1) a 5-point Likert scale (‘‘none, never’’ to ‘‘very slight, a little’’, ‘‘medium‘‘, ‘‘important‘‘, ‘‘high‘‘ ,1-3 score numbers represent low impact, societal influences or intention and 4-5 high impact, societal influences or intention), 2) overall food assessment.
The student’s food behavior status was investigated from two components: dietary habits and eating pattern.
The positive or healthy dietary habits was assessed with vegetable and fish daily consummation and the negative or unhealthy dietary habits with the red meat, pizza, carbonated drinks, alcohol and coffee consummation. The reference of consummation was established according with FAO/OMS recommendation.
The eating patterns variables was considered as followings: breakfast, regular meals, daily energy intake, number of family meals, eating-out meals, canteen meals, individual preparation meals, meal alone. The lifestyle variables were considered as followings: daily sport activities, number of daily minutes walking, smoking, eating seasonal foods, number of snack meals, and number of daily meals and hour of last meal.

2.2 Statistical analysis

The data collected was processed using a Statistical Package for the Social Sciences SPSS Statistics 17.0 (SPSS, Inc. Chicago, IL) and Statistical Analysis System 8.0 for Windows (SAS Institute, Cary, NC, 1999). Responses were analyzed using Chi-square (χ^2) test and percent (%) ratios according to socio-demographic and BMI category. Chi-square and Fisher tests were used to assess the statistical significance of the comparisons. Pearson’s correlation coefficients (r) between BMI (F2) and 10 variables of food behavior (F1 energy intake, F3 breakfast, F4 regular meal, F5 vegetable consumatio, and F6 Fish consumation), lifestyle variables (F7 sport), societal influences (F8 family, F9 friends, F10 media) and change intention (F11) were calculated using SAS. Pearson’s correlation coefficients between BMI and 9 food items from eating pattern (liquids, coffee, carbonated beverages, alcohol, white meat, red meat, fish, vegetable, pizza) were also calculated using SAS. Student's *t*-test for means and reliability analysis was employed to test the reliability of the questionnaire scale. A level of $p < 0.05$ was set to determine statistical significance.

3. RESULTS

The pattern of eating behaviour associated with lifestyle markers by gender is presented in "**Table 1**".

In general, girls show more healthier habits than boys (70.85% ate breakfast instead of 58.75% of male students; 51.25% correct energy intake instead of 41.8% in boys case; 42.41% ate correct portion of vegetable than 18.64% in male case; 62.81% ate correct quantity of fish product than 58.75% in boys case).There are no significant differences in gender food behaviour in case of pizza, coffee, sprinkle beverages and seasonal food consummation. In case of alcohol consummation, a dramatic difference exists between girls (78.40% doesn't drink alcohol) and boys (only 19.78% respond that they do not consume drinks).

Table 1. Eating behavior and lifestyles markers (N=376)[23]

Eating behavior &lifestyles variables	Total (%)	Boys (%)	Girls (%)	Statistic values chi square/ df/p
Breakfast				
Yes	65.15	58.75	70.85	1.59/ 1/ 0.20
No	34.85	41.25	29.15	
Regular meals				
Yes	23.93	25.98	22.11	0.05/ 1/ 0.82
No	76.07	74.02	77.89	
Energy intake				
Under 2500 kcal per day	46.8	41.8	51.25	51.69/ 3/ 0
More than 2500 kcal per day	53.2	58.2	48.75	
Red meat consummation				
Up to 250 g	63.56	70.05	57.78	49.46/ 16/ 0
More than 250 g	11.43	20.33	3.51	
No	25.01	9.62	38.71	
Vegetable consummation				
Up to 400 g	63.03	77.96	49.74	22.40/ 20/ 0.31
More than 400 g	31.11	18.64	42.21	
No	5.86	3.40	8.05	
Sezonal food consummation				
Yes	96.01	93.22	98.49	2.22/ 2/ 0.32
No	3.99	6.78	1.51	
Fish consummation				
More than 250 g/week)	60.90	58.75	62.81	21.48/ 18/ 0.25
Up to 250 g/week	4.78	5.64	4.02	
No	34.32	35.61	33.17	
Pizza consummation				
Up to 250 g/week)	46.01	44.06	43.73	45.29/ 28/
More than 250 g/week)	42.55	44.06	41.20	
No	11.44	11.88	11.07	0.02
Alcohol consummation				
Up to 250 ml	30.05	41.24	20.10	29.7/ 3/ 0
More than250 ml	19.14	38.98	1.50	
No	50.81	19.78	78.4	

Coffee consummation				
Up to 50 ml	34.64	33.89	29.64	6.880/ 9/ 0.650
More than 50 ml	21.01	23.72	18.59	
No	47.35	42.39	51.77	
Sport				
Yes	45.21	58.20	33.66	-
No	54.79	41.80	66.34	
Walking				
Yes	15.96	15.26	16.59	27.616/ 22/ 0.189
No	84.04	84.74	83.41	
Smocking				
Yes	26.32	37.11	25.62	0.748/ 1/ 0.387
No	73.68	72.89	74.38	
Weight control				
Low	43.61	50.84	37.98	18.606/ 15/ 0.232
High	53.39	49.16	62.82	

The lifestyle pattern is not strongly related with the students' gender; only in sport case more male students 58.20% make a regular form of organized sport. Girls group shows a slightly healthier style of daily living, with no smoking habit in 74.38% cases (72.89% in boys' cases), correct minimum 30 minutes per day of walking in 16.59% cases instead of 15.26% in boys group but a more strict weight control in 62.82% cases than 49.16% in male students' case.

The analysis of food behaviour influences presented in "**Table 2**", the greatest influences were reported in family case (47.35%), followed by media (27.93%) and friends (22.35%). Girls reported the highest family influence (48.74%), due to the strong maternal model transmitted via women line in Romanian society.

Table 2.Factors of food behavior influence (N=376) [23]

Factor of influence	Total (%)	Boys (%)	Girls (%)	Statistic values chi square/df/ p
Family				
Low	52.65	54.23	51.26	18.289/ 14/ 0.194
High	47.35	45.77	48.74	
Friends				
Low	77.65	77.40	77.89	13.029/ 16/ 0.671
High	22.35	22.60	22.11	
Media				
Low	72.07	78.53	66.31	20.582/ 14/ 0.113
High	27.93	21.47	33.67	

The men's self-ego due to not recognise the significant external influence (friends 22.60% greater influence, media 21.47% in men case) in food behaviour.

The self appreciation markers of interest presented in "**Table 3**" demonstrate an inadequate conciseness correlation between food behaviour and impact on self-health, emotional and intellectual status despite the specialisation in public catering and social nutrition of the students. 43.61% correlate in a high ratio the food behaviour and heath status but with no significant impact reported in intellectual capacity (62.23% report a low impact) and emotional status (74.73%). Due to their auto-positive appreciation, a relatively reduce percent (35.91%) desire a change in the actual food behaviour.

Table 3. Self-appreciation of the actual impact on the healthy, emotional & intellectual status and intention of eating change behaviour (N=376)[23]

Factor of self-appreciation	Total (%)	Boys (%)	Girls (%)	Statistical values chi square/df/ p
Healthy impact				
Low	56.38	51.41	60.80	11.486/ 14/ 0.648
High	43.61	48.59	39.20	
Emotional impact				
Low	74.73	75.14	74.37	14.442/ 13/ 0.343
High	25.27	24.86	25.63	
Intellectual performance impact				
Low	62.23	62.71	61.80	16.450/ 14/ 0.287
High	37.77	37.29	38.20	
Eating behaviour change intention				
Low	64.09	67.23	61.31	19.494/ 13/ 0.109
High	35.91	32.77	38.69	

The Pearson's correlation coefficients between food behavior & lifestyle, societal influences and intention of chan ging the food behavior were presented in "**Table 4**".

Table 4. Pearson's correlation coefficients(r) and Sig.(2-tailed) for principal food behavior & lifestyle variables, societal influences and intention to food behavior change (N=376)[23]

		F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
F1***	r	1	.26**	-.04	.01	.08	-.05	-.07	.05	.01	-.05	.00
	Sig.		.00	.34	.78	.08	.33	.17	.27	.72	.26	.99
F2***	r	.26**	1	.14**	-.05	.01	.04	-.10*	.06	-.02	-.09	.03
	Sig.	.00		.00	.28	.83	.39	.03	.20	.69	.07	.48
F3***	r	-.04	.14**	1	.24**	.00	-.05	.02	-.01	-.00	-15**	-.04
	Sig.	.34	.00		.00	.92	.27	.70	.78	.89	.00	.34
F4***	r	.01	-.05	.24**	1	-.08	-13**	.11*	-.01	-.04	-.02	.02
	Sig.	.78	.28	.00		.10	.00	.02	.74	.37	.62	.65
F5***	r	-.08	.01	.00	-.04	1	.23**	-.00	.13*	-.04	.13**	.01
	Sig.	.08	.83	.92	.10		.00	.88	.01	.79	.00	.84
F6***	r	-.05	.04	-.05	-13**	.23**	1	.05	.02	.08	.03	.09
	Sig.	.33	.39	.27	.00	.00		.29	.67	.10	.54	.06

F7***	r	-.07	-.10*	.02	.11*	-.00	.05	1	-.02	-.03	-.03	.04
	Sig.	.17	.03	.70	.02	.88	.29		.60	.44	.51	.37
F8***	r	.05	.06	-.01	-.01	.13*	.02	-.02	1	.09	.15**	.13**
	Sig.	.27	.20	.78	.74	.01	.67	.60		.05	.00	.00
F9***	r	.01	-.02	-.00	-.04	-.01	.08	-.03	.09	1	.19**	.22**
	Sig.	.72	.69	.89	.37	.79	.10	.44	.05		.00	.00
F10***	r	-.05	-.09	-15**	-.02	.13**	.03	-.03	.15**	.19**	1	.25**
	Sig.	.26	.07	.00	.62	.00	.54	.51	.003	.00		.00
F11***	r	.00	.03	-.04	.02	.01	.09	.04	.13**	.22**	.25**	1
	Sig.	.99	.48	.34	.65	.84	.06	.37	.00	.00	.00	.00

. Pearson's correlation coefficients (r) are significant at the 0.05 level (2-tailed).. Pearson's correlation coefficients (r) are significant at the 0.01 level (2-tailed).*

****F1 energy intake, F2 BMI, F3 breakfast, F4 regular meal, F5 vegetable consummation, F6 fish consummation, F7sport, societal influences*

(F8 family, F9 friends, F10 media), food behavior change intention (F11).

A slightly negative correlation between energy intake and breakfast consummation [r (1,3)=-0.049] respectively habit of regular sport making [r(1,7)=-0.070] was reported. Energy intake was positive correlated with BMI [r (1,2)=0.260] and slightly with regular meals criterion [r(1,4)=0.014]. The overfeeding was associated with the breakfast skipping, super-size and over calories meals and sedentary habits. BMI evolution was significantly decreased by sport making habit [r (2,7)=0.109] and regular pondered meals[r(2,4)=-0.055].

Moreover, friends and media have a positive influence in maintaining the student's normal weight.

The strongest correlation of having breakfast habit was with the regular meal behavior [r(3,4)=0.242]. The regular & caloric balanced meals were associated with a reducing of BMI value [r(4,2)=-0.055] and a slightly positive change intention of actual food behavior [r(4,11)=0.023].

In the present study, the overweight subjects reported larger regular meals and the normal weight subjects have regular snack meals. The frequent snacking and the repressive effect of non-desirable overweight social model, disseminate aggressively by friends and media, increase the student's weight control, especially in girls case.

Vegetable consummation was strongly related with a significantly family [r (5,8)=0.130] and media influences[r(5,10)=0.137], including school nutrition programs.

Also, media influences were strongly positive correlated with friends influence and change intention of food behavior, important "influence weapon" in fighting against non-healthy teenager food habits.

Media influence was greater in BMI control[r(11,2)=-0.091] and restricted diets [r(11,1)=-0.058] but has a positive effect in vegetable and fish consummation[r(11,5)=0.137 and [r(11,6)=0.031, respectively] as well as family food behavior [r(9,10)=0.156], as a result of actual publicity paid by the public Minister of Health orientated in this direction.

Sport making habit was positively correlated with the reducing of energy intake and BMI and correlated with breakfast and regular meal habits [r (7, 3)=0.20 and [r(7,4)=0.113, respectively].

Nutrition knowledge and positive food behavior was not strongly correlated because in the teenager experience doesn't exist yet example of direct related food disease and the strongest influence were family tradition and societal marketing. The present results are in line with the empirical studies which investigate the role of nutrition knowledge in teenager food behavior [20].
Moreover, the evolution of BMI was negative influenced by the increased consummation of carbonated beverages, alcohol and coffee ("**Table 5**").

Table 5. Pearson's correlation coefficients(r) and Sig.(2-tailed) for food behavior variables (N=376) [23]

	BMI	**Liquids**	**Coffee**	**Carbonated**	**Alcohol**	**Red meat**	**White meat**	**Fish**	**Veg**	**Pizza**
r	1	.03	.12*	.25**	.31**	.14**	.01	.06	.008	.10*
Sig.		.49	.01	.00	.00	.00	.77	.24	.88	.04
r	.03	1	.004	-.04	-.03	-.04	-.09	-.09	.04	-.08
Sig	.49		.93	.35	.50	.44	.08	.07	.40	.10
r	.12*	.00	1	.06	.07	.14**	.05	.06	.009	.02
Sig	.01	.93		.21	.14	.005	.27	.18	.85	.62
r	.25**	-.04	.06	1	.26**	.29**	.11*	.023	.036	.21**
Sig	.00	.35	.21		.00	.00	.028	.65	.48	.000
r	.31**	-.03	.07	.26**	1	.22**	-.08	-.04	-.09	.214**
Sig	.00	.50	.14	.00		.00	.09	.41	.07	.000
r	.14**	-.04	.14**	.29**	.22**	1	.159**	.24**	.03	.239**
Sig	.006	.44	.005	.00	.00		.002	.00	.45	.000
r	.01	-.09	.05	.11*	-.08	.15**	1	.31**	.11*	-.037
Sig	.77	.08	.27	.02	.09	.002		.00	.03	.480
r	.06	-.09	.06	.02	-.04	.24**	.31**	1	.23**	.048
Sig	.24	.07	.18	.65	.41	.00	.00		.00	.353
r	.008	.04	.009	.03	-.09	.03	.11*	.23**	1	-.035
Sig	.88	.40	.85	.48	.07	.45	.03	.00		.503
r	.10*	-.08	.02	.21**	.21**	.23**	-.03	.04	-.03	1
Sig. (2-tailed)	.04	.10	.62	.00	.00	.00	.48	.35	.50	

Fish consummation was related with white meat and vegetable eating habit. Pizza consummation was associated with carbonated beverages & alcohol and frequently red meat eating. The present findings demonstrated that an unhealthy food eating pattern was significantly associated with a greater BMI. In addition, we could discuss about an unhealthy & potential biogenic food intake model formed with a fashionable mimetic association of fast-food, alcohol, coffee and carbonated beverages, inserted in an incorrect lifestyle with dramatic actual BMI results and future evolution [23].

4. DISCUSSION AND CONCLUSIONS

The majority of investigated sample do not make a strong correlation between the eating habits and health & emotional status but they are deeply concerned to avoid a non-fitted social image (rejected overweigh teenager) with low power in youth group hierarchy. The present research demonstrate a direct media influence in the reducing of energy intake[r(10,1)=-0.058] and BMI values [r(10,2)=-0.091], especially in girl's case, and also give a strong desire to change the actual food behavior [r(10,11)=0.258]. Some research suggests that healthy eating style among adolescents may be more a result of wanting a fashionable slim body than desire to construct and preserve the health status [4]. The present study finding suggests that students, regardless solid food behavior knowledge, ignore the healthful eating scientific model, which agrees with similar findings from other international studies [18, 21 and 22]

Social networking foods were associated with friends and fashion, whereas healthful foods were perceived as an old-fashion habit and as family-dependence, but the food choices are strongly associated with the maternal food behavior pattern in Romania. The relevance of the traditional good family model of food choices was dominant in the present social investigation (excepting carbonated beverages) but the eating habits (frequency of breakfast, regular meal) and lifestyle (sport, walking, smocking) were already "contaminated' from media social models, results which are in accordance with [6, 23] conclusion.

Education and social professional associations could have a key role in promoting good food behaviour among adolescents and their families. The practical application of the dietary guidelines and nutrition norms in the daily menus created in family, canteen or restaurants may has a very strong force in modifying eating attitude and food choices. The public mass-media and their internet extension should promote a powerful social model with good lifestyle pattern, applied in the daily adolescent reality from family, school and society.

5. PERSPECTIVES

Nutrition courses special adressed to young population should be encouraged in order to promote healthier diets and lifestyle. Further research was already conducted by the author among university students population with and without professional nutrition knowledge for detecting the multi-factorial dependence between food behaviour and academic performance.

6. LIMITATIONS OF THE STUDY

Because the population of this study consisted of students from an important public University from the Sud- East Romania, the results should not be generalized to all students subjects or correspondent ages. Furthermore, although the reliability coefficient for the behavior questionnaire was high, this study measured self-reported behaviors, which are prone to subiective response variation by the subjects.

References

[1] A.S. Anderson and K. Hun, ”Who are the ‘healthy eaters’? Eating patterns and health promotion in the west of Scotland”, Health Education Journal, Vol.5, 1992, pp.3–9.

[2] L.M. Verbrugge, ”Gender and health: An uptake on hypotheses and evidence” , Journal of Health Behavioral Medicine, Vol.26, 1985, pp.156–182.

[3] Y.Spyckerelle, B.Herbeth and Deschamps, ”Dietary behavior of an adolescent French male population”, Journal of Human Nutrition and Dietetics, Vol.5 ,1992, pp.161–168.

[4] I.R.Contento, J.L.Michela and S.S. Williams, ”Adolescent food choice criteria: role of weight and dieting status”, Appetite, Vol.25, 1995, pp.51–76.

[5] E.B. Rimm ad R.C. Ellison,”Alcohol in the Mediterranean diet”, American Journal of Clinical Nutrition, Vol. 61S, 1995, pp. 1378–1382.

[6] R.A.Anderson, C.D.Crespo, S.J.Bartlett, L.J. Cheskin , M.Pratt, ”Relation of physical activity and television waxhing with body weight and level of fatness among children”, Journal of the American Medical Association, Vol.279, 1998, pp.938-942.

[7] H.Sweeting, A. Anderson and P. West, ”Socio-demographic correlates of dietary habits in mid to late adolescence”, European Journal of Clinical Nutrition, Vol.48,1994, pp.736–748.

[8] R.Sakamaki, R.Amamoto, Y.Mochida, N.Shinfuku and K. Toyama, ”A comparative study of food habits and body shape perception of university students in Japan and Korea” Nutrition Journal, Vol.4, 2005, pp.3132.

[9] B.Xie, F.D Gilliland., Y.F. Li and H.R. Rockett, ”Effects of ethnicity, family income, and education on dietary intake among adolescents”, Preventive Medicine, Vol.36, 2003, pp.30–40.

[10] K.Dean, ”Self-care components of lifestyle: The importance of gender, attitudes and the social situation”, Social Science & Medicine, Vol.29, No 2, 1998, pp. 137–152.

[11] M.Story, D.Neumark-Sztainer and S.A. French, “Individual and environmental influences on adolescent eating behaviours”, Journal of the American Dietetic Association, Vol.102 (suppl 3), 2002, pp.S40–51.

[12] S.L.Johnson and L.L. Birch, ”Parents’ and childrens’ adiposity and eating style”, Pediatrics, Vol.94, No.5,1994, pp.653-651.

[13] J.Moore and N.Harre, ”Eating and activity: The importance of family and environment”, Health promotion Journal of Australia, Vol.18, 2007, pp.143-148.

[14] J.H.Pearson, S.J.H.Biddle and T. Gorely, ”Family correlate of fruit and vegetables consummation in children and adolescents: a systematic review”, Public health Nutrition, Vol.18,2008, pp. 1-17.

[15] I.Vintilă, “Societal Influences and Health & Emotional Impact of Food Behaviour & Lifestyle in a Romanian High School Population of Teenagers”, Review of Research and Social Intervention, Vol.37, 2012,pp. 130-143.

[16] M.Story, D.Neumark-Sztainer and S.A. French, “Individual and environmental influences on adolescent eating behaviours”, Journal of the American Dietetic Association, Vol.102 (suppl 3), 2000, pp. S40–51.

[17] J.Kolodinsky, J.R.Harvey-Berino, L Berlin., R.K. Johnson and T.W. Reynolds,”Knowledge of current dietary guidelines and food choice by college students: better eaters have higher knowledge of dietary guidance”, *Journal of the American Dietetic Association*, Vol.107, 2007, pp.1409–1413.

[18] L.L.Birch and J.O. Fisher, ”Development of eating behaviors among children and adolescents”, Pediatrics, Vol.101, 1998, pp. 539–549.

[19] K.Giskes, C.Patterson, G.Turrell and B. Newman, „Health and nutrition beliefs and perceptions of Brisbane adolescents", Nutrition Diet, Vol.62, 2005, pp. 69–75.

[20] K. Gedrich,"Determinants of nutritional behaviour: a multitude of levers for successful intervantions?" Appetite, Vol.41, 2003, pp.231-238.

[21] J.K.Croll, D.Neumark-Sztainer and M. Story, "Healthy eating: what does it mean to adolescents?", Journal of Nutrition Education, Vol.33, 2001, pp.193–198.

[22] R. Higgins and P. Hartley, „The Conscientious Consumer: reconsidering the role of assessment feedback in student learning", Studies in Higher Education, Vol.27, No.1, 2002, pp.53-64.

[23]Vintila I.(coordinator), Odagiu I.(author), „Students food behaviour assessment", BS Thesis, 2011.