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Influence of Family Modelling on Children's Healthy Eating Behaviour

Carmen Daniela DOMNARIU¹, Andreea ILIES², Florentina Ligia FURTUNESCU³

Abstract

The development of eating behaviours is a dynamic process that begins in infancy and continues throughout life, being strongly influenced by the family models. Our study aimed to evaluate the food behaviour in children aged 11, 13 and 15 years old in relation to the family models. We did a cross-sectional study in 206 school children from Sibiu county (rural and urban areas) using the Romanian version of HBSC questionnaire. We analysed the frequency of breakfast and dinner with the family, the lunch circumstances, the frequency of snacks during playtime or computer work, the family influence on the consumption of certain unhealthy foods, the frequency of fast-food restaurants attendance and the compliance of family dining rules. High proportions of children were found not to have breakfast with family, to eat snacks during playtime and to receive soft drinks, sweets and chips without restriction. Also a high proportion of children in urban areas use to have the lunch at school (as a snack) due to the school program. By opposite, the situation seemed much better in relation to dinner, most of the children having daily dinners with their parents. Also a low percent of children use to visit the fast food restaurants. Moderate compliance was found in relation to family dining rules. This results are quite concerning, showing limited involvement of the parents and moderate influence of family modelling in relation to the children eating behaviour.

Keywords: healthy eating; family modeling; children; parental influence; behaviour.

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Introduction

It is a fact that parents exercise a very important influence on children's life. Parents represent the basic environment in which children live, grow up and develop, so they watch and imitate the adults around them, look at them in order to learn the proper behaviour for everything, from saying „please” and „thank you” to learn about computers, sports or nutrition. There have been many studies (psychological, social, medical) trying to understand why children eat the way they do. Having as a starting point the social learning theory of Bandura, it seemed that the role of observational learning and modelling played a major part on influencing children's food patterns. Evidence also indicates that food habits acquired in childhood persist until adulthood, too (MealsMatter, 2012). Several studies have shown that a child's eating behaviour is strongly influenced by the family environment. The family eating environments refers to the parents' own eating behaviours and the child-feeding practices. The results of research on behavioural mediators of familial patterns indicate that parents' own eating behaviours and their parenting practices influence the development of children's eating behaviours. Parents create good or bad environments for their children, fostering the development of healthy eating habits and weight, or may promote overweight and aspects of disordered eating. Characteristics of these environments include socio-demographic factors, parental activity, parental eating styles and parents' child-feeding styles (Scaglioni, Salvioni and Galimberti, 2008). Parents shape the development of children's eating behaviours, not only by the food they make accessible to children, but also by their own eating styles, behaviour at mealtimes and child feeding practices.

The development of eating behaviours is a dynamic process that begins in infancy and continues throughout life. Eating behaviours may refer to food preferences, patterns of food acceptance and rejection, or the types and amounts of food a person eats. Genetics and the contexts in which food is presented are two key factors that determine the development of eating behaviours. Although parents provide a child's biological predisposition, which may affect factors like taste perception, they are not the only adults influencing the development of a child's eating behaviours. Every family member and caregiver interacting with a child when eating has the potential to do so (Eliassen, 2011). Food preferences develop from genetically determined predispositions to like sweet and salty flavours and to dislike bitter and sour tastes (Scaglioni, Salvioni and Galimberti, 2008).

Repeated exposure to a new food reduces a child's fear of the food and helps increase acceptance. Observing family members eating and enjoying a variety of foods makes these foods more appealing to children. In contrast, children who are pressured to eat specific foods learn to dislike them. Restricted access to some foods, such as cookies or potato chips, often results in over-consumption of those foods when children are free to choose them (Birch, 1999).

Factors influencing the eating behaviour development

There are certain key factors that greatly influence the eating behaviour development. One of these factors is the *fear of food*. In young children, there is also the predisposition to “neophobia” about food (Scaglioni, Salvioni and Galimberti, 2008). Particularly towards the second year of life, period of time which coincides with the important period of transition to the adult diet, there is a tendency to avoid novel foods (neophobia). Neophobia, or the fear of the new, is a protective behaviour observed in omnivores, including humans, that helps preventing the consumption of harmful substances (Birch, 1999). Neophobia manifests itself as a rejection of unfamiliar foods in favour of familiar ones. In a survey of almost 600 2–6-year-old children, neophobia was significantly negatively associated with fruit, vegetable and meat intake (Cooke, 2004). The acceptance of new foods is a slow process. Particularly at the ages 2 to 5, persistence is essential and it is important to continue introducing a variety of foods throughout early childhood. Although children are sceptical of many foods during these early years, the variety of foods they accept is greater in this developmental phase than it is later, during childhood (Skinner, Carruth, Bounds and Ziegler, 2002). Enjoyable, positive, satisfying or on the contrary, disliking experiences with a food highly influence a child’s subsequent choice of a food on given occasions and its adoption into their regular diet. These experiences may take the shape of family meals during which the television is off and the parents or caregivers are enjoying the mealtime by talking and enjoying eating the food. Positive exposure to multiple foods helps children develop a taste for more foods, choose them as regular mealtime selections, and have a healthy and rich diet.

The *family environment* is another factor that influences the development of the eating habits. During the early years, parents play a particularly important part. There are many variables within the family setting that can affect children’s eating behaviour and, ultimately, their weight outcome. Here, we may mention the parents’ eating behaviours, foods made available to children, and child feeding strategies used by parents. Parents play a pivotal role in the development of their child’s food preferences and energy intake, with research indicating that certain child feeding practices, such as exerting excessive control over what and how much children eat, may contribute to childhood overweight. Some of the family factors that influence both parents and children are: parents’ weight status, dietary intakes, perceived responsibility for child feeding, eating style, parent’s dietary intake, food preferences, physical activity, feeding practice, portion size, food available at home, food accessibility, eating locations, ambient temperatures and lighting, time of consumption, ambient sounds, temperature and smell of foods, family meals v. eating away from table, family income (Davison and Birch, 2001).

A recent paper (Birch, Fisher, Markey, Grimm Thomas, Sawyer and Johnson, 2001) describes two primary aspects of control: restriction, which involves limiting children's access to junk foods and restricting the total amount of food, and pressure, which involves pressuring children to eat healthy foods (usually fruits and vegetables) and pressuring to eat more in general. Parents may use a combination of these methods to obtain a desired result; for example, pressuring a child to eat healthy foods by using bribes or rewards consisting of sugary snacks that are otherwise restricted. Parent restriction has short term and long term effect on children's intake. It enhances preference, increases attention and intake at first, then this curb increases intake, increases eating in the absence of hunger, does not produce ability to self-regulate diet but causes negative self evaluation, greater weight gain from 5 to 11 years (Birch et al., 2001). Pressuring children to eat, likewise appears to be counterproductive, reducing children's ability to regulate their energy intake. A further study (Fisher and Birch, 2002) has linked the "pressure to eat" to reduced consumption of fruit and vegetables in 5-year-old girls. A common assumption runs through these studies: that controlling children's intake of food is a causal factor in their poor eating patterns. It is entirely plausible, however, that the direction of causality runs counter to this; that, in fact, parents' use of control is a response to unhealthy eating habits. Others have explored the impact of controlling food intake by rewarding the consumption of „healthy food" as in „if you eat your vegetables I will be pleased with you". For example, Birch (Birch, 1999) gave children food in association with positive adult attention compared with more neutral situations. This was shown to increase food preference. Similarly an intervention study using videos to change eating behaviour reported that rewarding vegetable consumption increased that behaviour (Lowe, Dowe, Horne, 1998). The relationship between food and rewards, however, appears to be more complicated than this. In one study, children were offered their preferred fruit juice as a means to be allowed to play in an attractive play area (Birch, 1999). The results showed that using the juice as a means to get the reward reduced the preference for the juice and have been supported by similar studies (Lepper, Sagotsky, Dafoe and Greene, 1982). These examples are analogous to saying „if you eat your vegetables, you can eat your pudding". Although parents use this approach to encourage their children to eat vegetables the evidence indicates that this may be increasing their children's preference for pudding even further as pairing two foods results in the „reward" food being seen as more positive than the „healthy" food (Brown and Ogden, 2003).

Maternal influences are of particular interest on children's eating behaviour, as mothers have been shown to spend significantly more time than fathers or any other family member in direct interactions with their children during several familial situations, especially mealtimes (Mc Hale, Crouter, McGuire and Updegraff, 1995).

Mothers who exert a greater degree of control over their child's food intake had children who demonstrated less ability to regulate energy intake. External parental control of the child's dietary intake may indirectly foster the development of excess adiposity in the child. It has been shown that mothers, who were preoccupied with their own weight and eating, reported higher levels of restricting daughters' intake, encouraging daughters to lose weight over time. There were situations in which, mothers' encouragement of daughters' weight loss was linked to daughters' restrained eating behaviour. This relationship was partially mediated by daughters' perception of maternal pressure to lose weight. These findings suggest that mothers' preoccupation with weight and eating, via attempts to influence daughters' weight and eating, may place daughters at risk for developing problematic eating behaviours. The predictors of maternal child-feeding style are maternal and child characteristics. Mothers reported using more restrictive feeding practices when they perceived daughters as overweight and reported using more pressure in child feeding when they perceived daughters as underweight. Mothers' child-feeding practices were related to mothers' own investment in weight and eating related issues, daughters' observable weight status, mothers' perceptions of daughters' weight status, and mothers' concern for their daughter developing a weight problem in the future. This model held for maternal restriction, in that mothers reported greater use of restriction in child feeding when they had greater weight and eating concerns of their own, when daughters were overweight, when they perceived that their daughters were at risk for developing a weight problem, and when they had concerns about daughters' weight (Scaglioni, Salvioni and Galimberti, 2008).

These are only some of the aspects related to parental modelling and control over their children's eating styles and attitudes. It is therefore highly recommended to raise awareness on interventional programmes to educate parents on how to feed their children, and especially with focus on how parents should change their own eating behaviour, making them understand and recognize that their own eating behaviour is the most important source of information for their children.

Here are some recommendations to a positive eating behaviour addressed to parents, which may be included in parents' educational programmes (Eliassen, 2011). Ten Steps to Positive Eating Behaviours: 1) Provide a variety of foods at meals and snacks, especially whole grains, vegetables, and fruits; 2) Offer repeated opportunities to taste new foods; 3) Share with families nutrition resources, such as lists of foods (by category) to guide their food selections and offer new ideas for meals sent from home; 4). Apply the same guidelines to food selections in teachers' lunches brought from home; 5). Sit with children at meals, and enjoy conversation. Talk about the taste, texture, appearance, and healthful aspects of foods; 6). Plan adequate time for all children to finish eating; 7). Respect a child's expression of satiety or sense of being full; 8). Develop a routine for serving snacks, applying the same rules whether offering carrots, crackers, or cookies; 9).

Wash hands before snack and mealtime; encourage touching and smelling a food as a step toward tasting; 10) Find alternatives to using food as a reward or serving foods high in fat, sugar, or salt as part of a celebration.

Methodological approach

This is a pilot study conducted in order to evaluate the eating behaviour on children in relation to the family modelling.

It was a cross-sectional, descriptive study and included children aged 11, 13 and 15 years old from Sibiu county, of V, VII, respectively IX grade, both from the urban and rural environment. A total of 206 students were included in the study, as follows: 78 students from rural areas (36 students from the School with Grades I-VIII, Sadu village, and 42 students from the School with Grades I-VIII, Gura Raului village,) and 128 urban students (61 students from M.I.U. Industrial High School and 67 students from „Gustav Gündisch” High School, both from Cisnădie city).

The data collection was done using an anonymous tool based on the questionnaire used for the HBSC (Health Behaviour in School-aged Children) study, 2009/2010 and 2005/2006. The questionnaire was previously validated by a team of experts and piloted for validation in Romania previously the implementation in 2005. The following dimensions were assessed: frequency of breakfast and dinner with the family, the place where the lunch is taken, frequency of snacks during playtime or computer work, family influence on the consumption of certain unhealthy foods, such as coke or other drinks containing sugar, sweets, chocolate, biscuits and other pastries, chips, the frequency of fast-food restaurants attendance and the compliance of family dining rules. From each school, one class corresponding to an age category was selected (for example, grade V, for the age group of 11 years old), and in order to avoid any potential problems of apparent discrimination of certain students, we have applied the questionnaire to the entire class.

Statistical processing of the data was done with the SPSS program, version 19.0. Proportions were calculated by age group for each variable of interest. The results obtained from urban area were compared by age group with the national level from the HBSC study 2009/2010 (Baban et al., 2011; Currie C et al., 2012) (no children of 15 years old in rural area). Differences among rural and urban areas were analysed in age groups 11 and 13 years.

Results and discussion

The distribution of the study group on origin environments, age groups and genders showed that in the urban areas, 128 students were included in the study, of which 41 students were aged 11 years old (23 girls and 18 boys), 36 students aged 13 years old (15 girls, 21 boys) and 51 students aged 15 years old (25 girls and 26 boys). In the rural areas, the students included in the study were numerically lower than in the urban areas, and that is primarily because the school-age population is lower in rural areas, not all the population is attending school and the last but not least, the 15-year old students cannot be found in the rural schools as these have only secondary education. Thus, in the rural areas we studied the eating behaviour in a number of 78 students, of which 42 were aged 11 years old (26 girls and 16 boys) and 36 students were aged 13 years old (19 girls and 17 boys).

Table 1. *Subjects' distribution by age, gender and origin environment*

	Urban		Rural		Total	
	Girls(n)	Boys(n)	Girls(n)	Boys(n)	Girls (n)	Boys (n)
V grade (11 years)	23	18	26	16	49	34
VII grade (13 years)	15	21	19	17	34	38
IX grade (15 years)	25	26	0	0	25	26
Total by gender	63	65	45	33	108	98
		(n)	(%)		(n)	(%)
Gender	Girls	108	52.43	Boys	98	47.57
Origin environment	Urban	128	62.14	Rural	78	37.86

The healthy eating habits are formed by dining at home together with family. It is good that at least breakfast and dinner should be reserved to the whole family. In order to see how often this happens in the study students' families, the questionnaire contained the following two questions: How often do you have breakfast with your mother or father?, or How often do you take dinner with your mother or father?

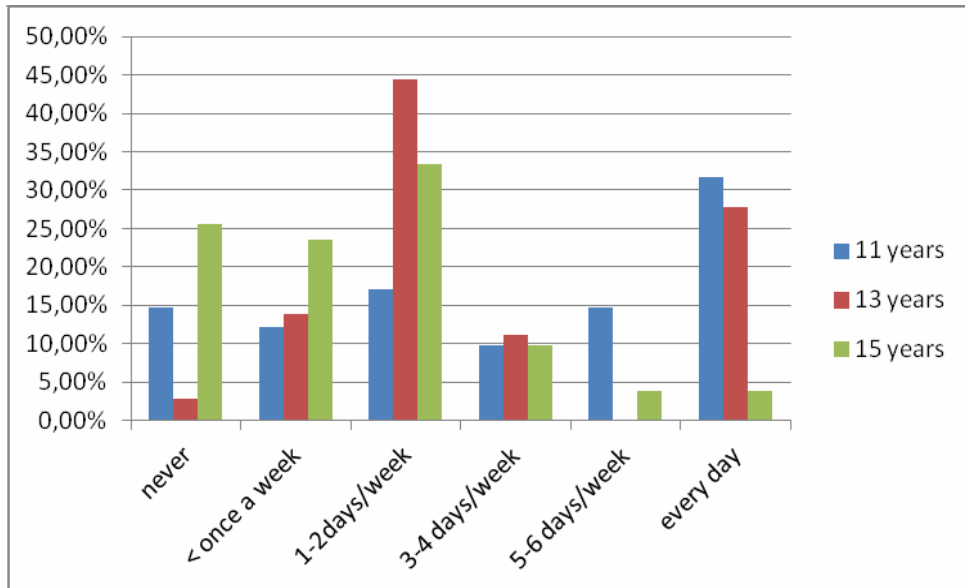


Figure 1. Frequency of family breakfast in children aged 11, 13 and 15 years old in the urban areas, in the study group

According to the study results presented in the above figure, the reported percentage of students having breakfast with the family, daily or almost daily (5-6 days/week) decreased from 46.34% in age-group of 11 years to 7.84%, in age-group of 15 years. High percentage of students of 13 years old (44.44%) and of 15 years old (33.33%) said they had breakfast with their mother or father, 1-2 days a week, while most of those of 11 years old (31.70%) said they took breakfast at home daily. It is not to neglect the fact that a quite important percentage of students do not take breakfast in the family ever and this percentage increases by age (from 14.64% in 11-years age-group to 25.50% in 15-years). The lack of this family practice can be one of the explanations for the relatively high percentage of children who do not serve this meal with parents, daily. Another reason could be the discrepancy between the parents' work schedule and the start times at school, so parents do not have time to prepare breakfast, leaving this to children, while these ones from convenience or from the desire to sleep more or even for losing weight (especially the girls) are skipping this important meal of the day.

Family meals improve the communication between parents and children, resulting in reducing the risk of the latter to have behavioural or antisocial problems in adolescence. Families that eat together develop healthier, sustainable and meaningful relationships, and regardless of age, everyone will learn a lot from one another.

Children who are hungry during school have limited benefits from education both in developed and developing countries (Pelto et al., 1999; Powell et al., 1998; Winicki & Jemison, 2003) while younger children may be impaired in their ability to interact effectively with their physical and social environments (Maggi S, Irwin L, Siddiqi A, Poureslami I, Hertzman E, Hertzman C, 2005).

Teenagers can benefit by including them in the family as future adults and can gain a sense of the value of its own and care for their loved ones. Regular family meals are associated with a better nutrition and therefore, with a lower risk of having weight problems.

The breakfast in the family is a rare phenomenon among the children in the study group and the same situation is seen in the HBSC survey results (Baban et al., 2011; Currie C et al., 2012). By opposite, the family dinner is a more common event, probably because in the evening, all family members are present at home. Thus, high percentage of children at all ages said they took dinner with parents daily (65.85% of the students of 11 years old, 50% of those of 13 years old and 29.41% of those of 15 years old).

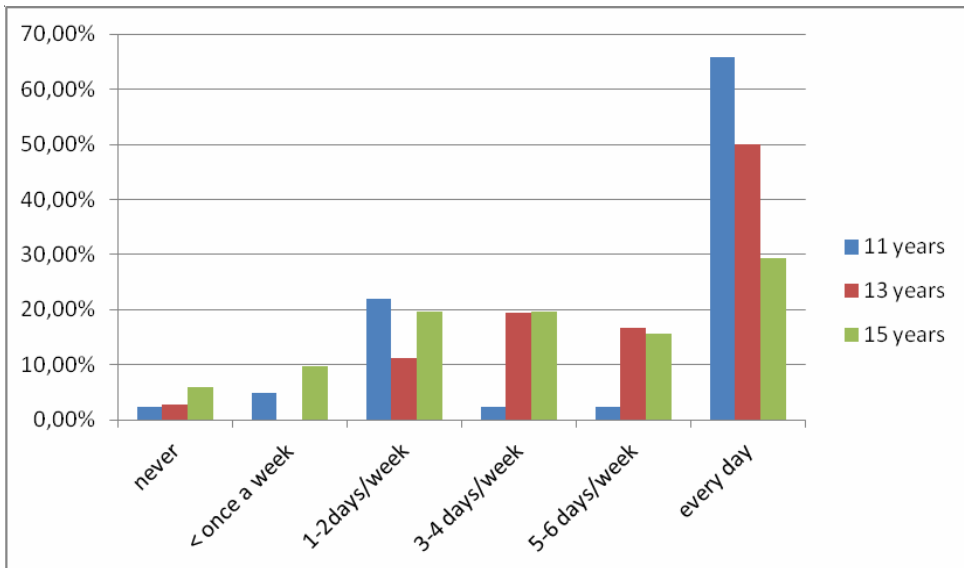


Figure 2. Family dinner frequency in the 11, 13 and 15 years old in the urban environment, in the study group

However, some students declared they served dinner with parents 1-2 days a week (21.95% students of 11 years old and 19.60% students of 15 years old) or 3-4 days a week (19.45% students of 13 years old and 19.60% students of 15 years old). This increased trend of attending family dinner was also recorded in the results of the HBSC study, 2009/2010 (Baban et al., 2011; Currie C et al. 2012).

For the study of eating habits in children, it is important to observe not only what they eat, but also where they eat, which is why we considered useful the question: Where do you usually have lunch on school days?

The comparative study of the children of 11 and 13 years old, on origin environments, shows that the majority of the subjects in the rural environment, both of 11 years old (83,33%) and those of 13 years old (80,55%) said that, during school days, they usually took lunch when they arrived at home, while the highest percentage of the students of the same age in the urban environment, said they ate at school (53,66% students of 11 years old, respectively 63,89% students of 13 years old). Having lunch at school is not very appropriate because the schools do not have lunch facilities usually, so the lunch is replaced by a snack. However this is a very common fact especially in urban areas, due to the school program (afternoon classes for grades V to VIII).

Another assessed behaviour refers to the frequency with which children serve a snack while watching TV, working or playing on the computer, because eating at the same time with performing another activity (in the young people, most commonly watching television or working on the computer) is a reliable source of overeating. Eating in front of TV or computer does not represent a ritual for children to develop later an ordered and healthy lifestyle, moreover, the children have no longer the opportunity to communicate, they lose the harmonious family model and grow up with incomplete notions about what entails responsibility and family communication. Another issue is that in time, this caprice will become an unhealthy habit, if we consider that the young people prefer to eat while watching TV or playing/working on computer, foods with many calories and nutritionally poor (chips, popcorn, seeds, sweets).

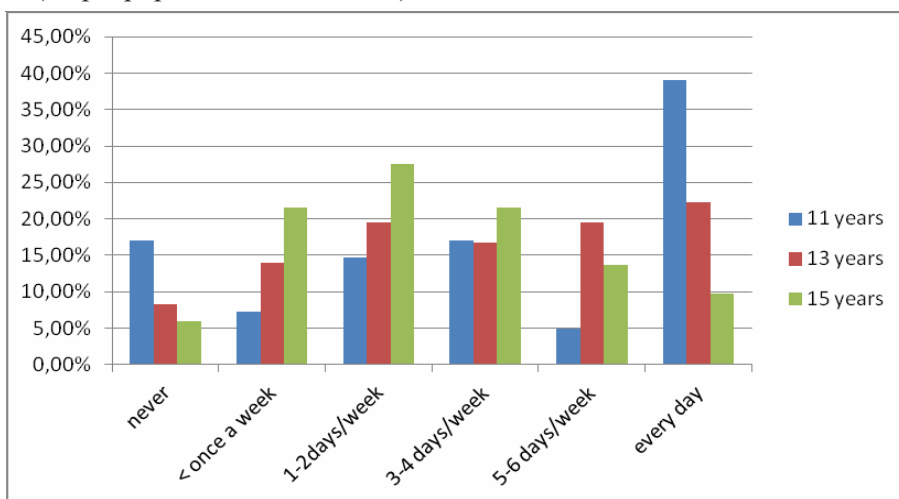


Figure 3. Frequency of eating snacks while watching TV or playing/working on the computer in the students of 11, 13 and 15 years old, in the urban environment

A small percentage of all students (17,07% students of 11 years old, 8,34% students of 13 years old and 5,89% students of 15 years old) said they did not ever get snacks while watching TV or playing/working on the computer, which shows that students and their parents know the negative effects of this practice on health. By opposite, high percentage of children declared they eat snacks while watching TV daily and this percentage seems to be higher in younger age. At national level, too, the tendency of associating snacks daily with viewing the TV programmes or with computer activities is growing, being reported by about one-third of the children and adolescents (Baban et al., 2011; Currie C et al. 2012).

Eating fast food is increasing worldwide and that is due to the convenience of cooking, to quickly purchasing the desired menu, due to the variety of menus and promotions with discounts for increasing helpings. In order to find out how often students consume such foods, we included in the questionnaire the following question: How often do you eat at a fast-food restaurant?

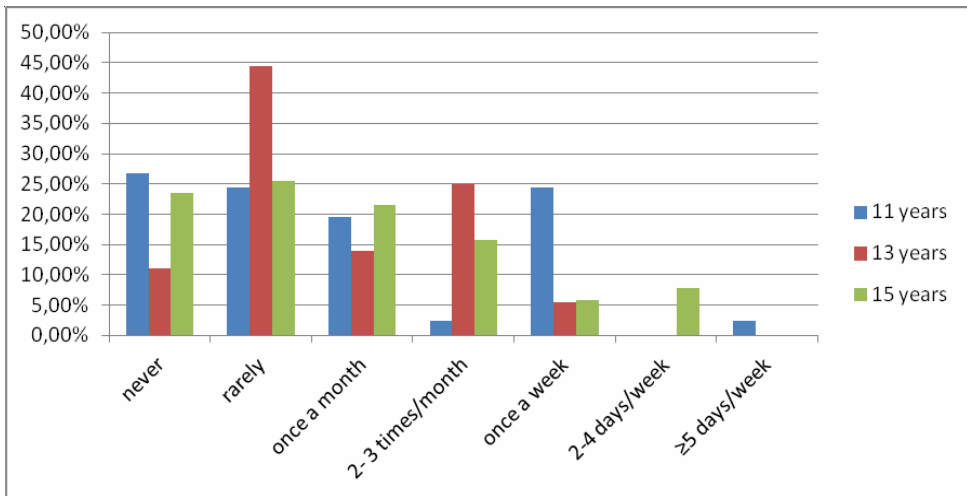


Figure 4. Frequency of eating at fast-food restaurants in the students of 11, 13 and 15 years old in the urban areas

Although at national level, the HBSC 2009/ 2010 survey results show that between 14% and 25% of students eat at least once a week (up to 5-7 times per week) at a fast-food restaurant (Baban et al., 2011; Currie C et al., 2012), in the present study, only a percentage of 15.62% have this habit. Highest percentage of the students of 13 years old (44.45%) and of 15 years old (25.50%) said they go less than once a month at a fast-food restaurant, while 26.83% of the fifth grade students and 21.1% of the total of 128 students included in the study said they have never been to such a restaurant. It would be good if children but not only, should consume only occasionally these products, which have important consequences for their health and the quality of life.

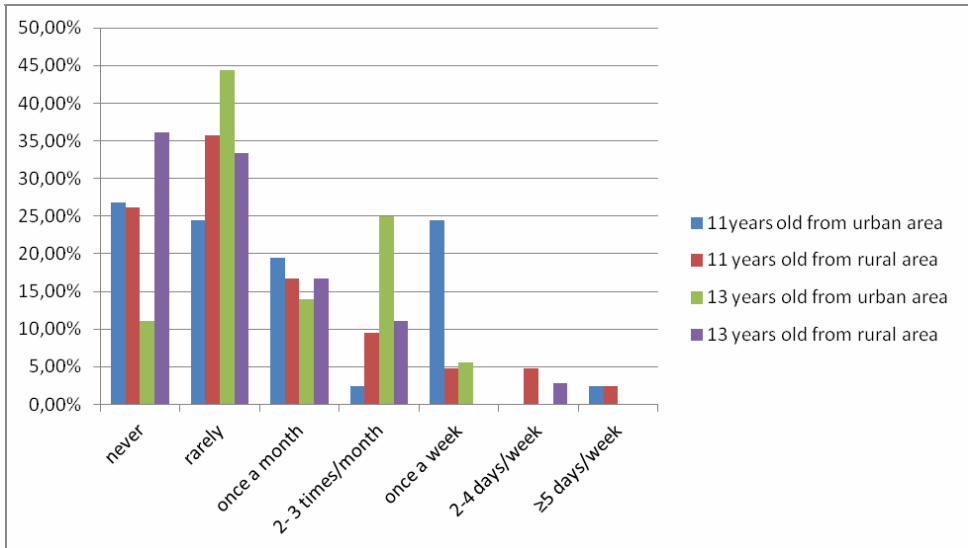


Figure 5. Frequency of eating at fast-food restaurants among the students of 11 and 13 years old, compared on origin environments

The largest percentage of the respondents of 11 and 13 years old, both from the urban and rural areas, answer to the question regarding the frequency of meals taken at fast-food restaurants, that they do not attend such restaurants at all (26.82% of the 11-year old students in the urban areas and 36.11% students of 13 years old in the rural areas) or very rarely (35.71% the 11-year old students in the rural area and 44.44% of the students of 13 years old in the urban areas). The percentage of those who often attend such restaurants (2-4 days a week, or 5 or more days per week) is overall small, but apparently higher in the rural areas (5.12% students) than in the urban ones (1.30% students). This could be due to the novelty of the fast food restaurants in rural areas.

In order to see the role of the parents in modelling a healthy food behaviour in their children, we chose to address the following question included in the questionnaire: Are you being offered the following things (cola, sweets, pastries, chips) from parents if you ask for them?

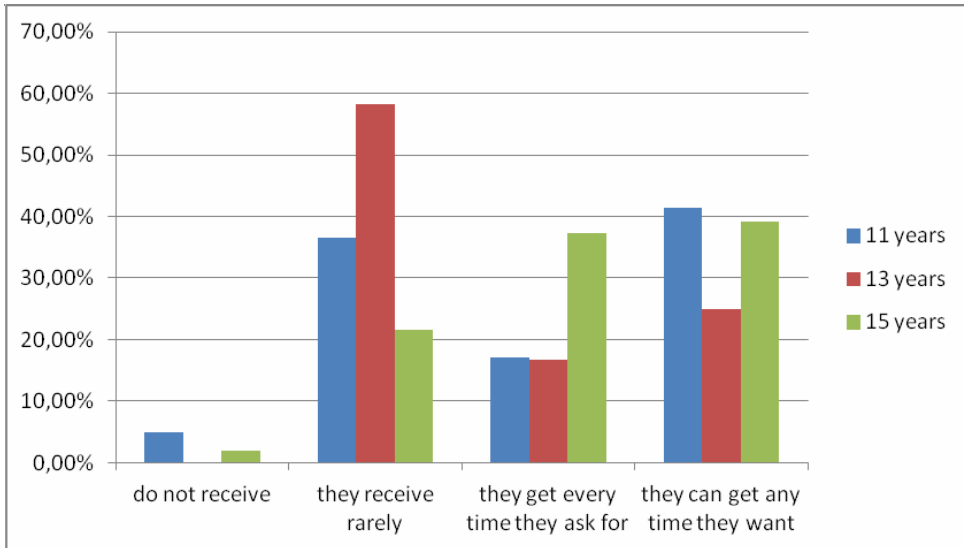


Figure 6. Family influence on the consumption of cola or other soft drinks containing sugar among the children of 11, 13 and 15 years old in the urban areas

41.46% of the students of 11 years old, 25% and 39.22% of those of 13 and 15 years old respectively said that they are allowed to consume cola or other soft drinks that contain sugar whenever they want, without any restriction from their parents. Another 17.08%, 17% and 37.26% of children of 11, 13 and 15 years old respectively said they receive soft drinks every time they ask for. It seems that the consumption of soft drinks containing sugar, including the well-known cola is only partly restricted in some subjects, as long as around half of them get this products whenever they want or ask for. On the contrary, only 41,46%, 58.33% and 23.52% of the 11, 13 and respectively 15 years old subjects receive rarely or never soft drinks in urban areas. In rural areas, 33,33% of 13 years old do not have any restriction from their parents regarding the consumption of such soft drinks, being allowed to consume them any time they want. It seems that this unhealthy food behaviour has its origin in the family behaviour, meaning that first of all, parents should become aware about the negative effects of such food products on their health and in particular, on the development of healthy eating habits of the future adults. The situation seems more severe in rural areas.

Although parents should know the effects of the excessive consumption of refined sweets on children (increased risk of tooth decays, phosphate-calcium metabolism disorders, weight excess, vitamins deficiencies), it seems that the family influence regarding the consumption of such food products is not quite favourable because in this situation, as well, as in the consumption of soft drinks, the highest percentage of children of 11 and 15 years old (36.59% and 43.14%)

responded that they can eat whenever they want sweets or chocolate, their parents having nothing to reproach in this respect, while a percentage of 44.44% of students of 13 years old say they sometimes receive sweets from their parents, which means that however there are students who benefit from a supervised eating behaviour by their parents, so that not to create any excess.

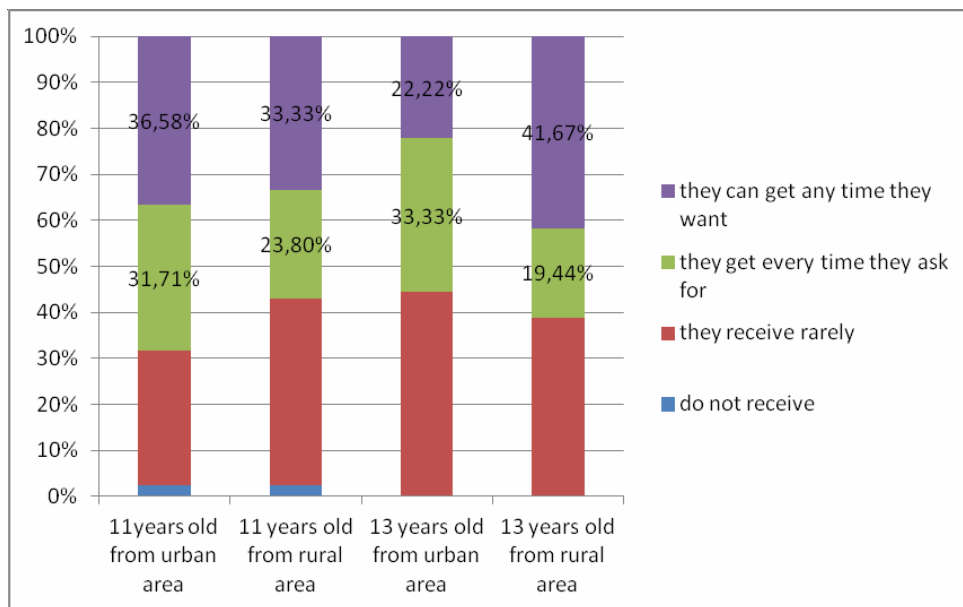


Figure 7. Parental influence on the consumption of sweets in the children of 11 and 13 years old, compared on origin areas

By comparatively studying the origin environment of the 11 and 13-year old students in terms of parental influence on the consumption of sweets, the same trend has been observed as for coke consumption, most students 11 years from urban area (36.58%) and 13 years from rural area (41.67%) being allowed to consume the sweets they want, and 40.48% of students 11 years from rural area, respectively 44.44% students 13 years from urban area receive only sometimes the sweets they ask from parents. A fairly large percentage of subjects, much higher in the urban areas, say they receive sweets whenever they ask from their parents, and hence we conclude that parents are unaware of the effects of the excessive consumption of sweets and the practice of rewarding the children with sweets for certain facts or excellent results at school still exist.

Regarding the use of cookies and other pastries, the highest percentage of students of all ages in the study group (43.90% of students of 11 years old, 44.44% of those of 13 years old and 41.18% of those of 15 years old) respond that they can eat whenever they want, followed closely by the relatively high

percentages of students who say they get these products whenever they ask for them from their parents (39.02% of the students of 11 years old, 33.33 % of the students of 13 years old, 41.18% of the students of 15 years old).

As for the consumption of chips, only a percentage of 12.5% of the total number of the students included in the study, say they never get chips if they ask for them from their parents, otherwise 31.70% of the students of 11 years old and 35.3% of those of 15 years old, say they can eat chips whenever they want, and 38.89% of the students of 13 years old receive chips from their parents whenever they ask for.

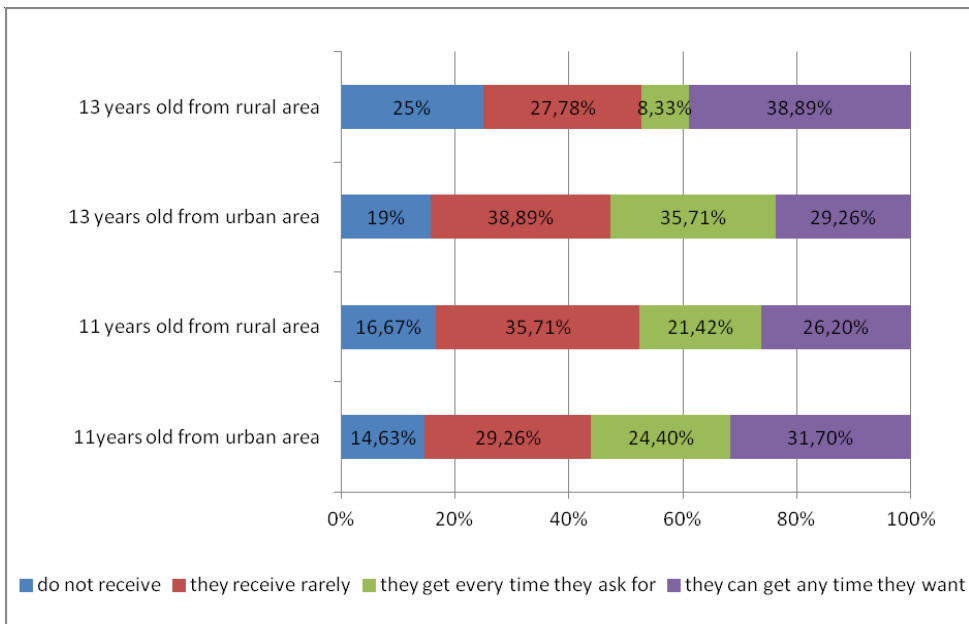


Figure 8. Parental influence on the consumption of chips in the students of 11 and 13 years old, compared on origin environments

Neither in terms of chips consumption, which is supposed to be among the most common obesogen products, the students of 11 and 13 years old, both from the urban and rural areas, seem to have no restriction from parents. The same as in the case of sweets or soft drinks sweetened with sugar, most of the students of 11 years old in the urban areas (31.70%) and of 13 years old in the rural areas (38.89%) may consume this product whenever they want, while 35.71% of the rural students of 11 years old and 38.89% of those of 13 years old in the urban areas, receive chips whenever they ask for from their parents. It is pleasing that a significant percentage has been registered among those who are aware of the harmful effects of these products and they never give them to their children, the

highest percentage being recorded in the subjects of 13 years old in the rural areas (25%).

The mistakes parents make in educating their children's food behaviour are highlighted by the question in the questionnaire covering certain statements about the rules and table manners.

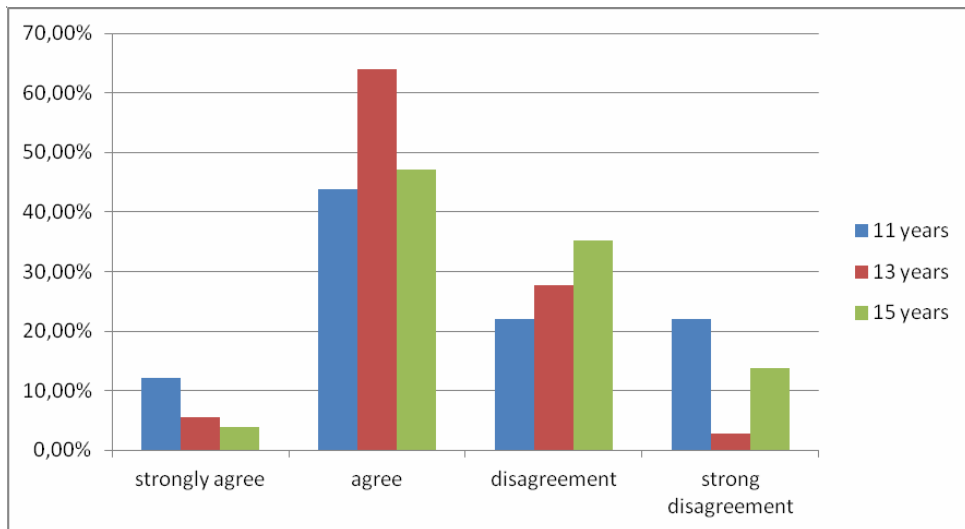


Figure 9. Children's opinion of 11, 13 and 15 years old in the urban areas about the rules they must comply with at table

The highest percentage of students of all ages (43,90% of the students of 11 years old, 63,89% of those of 13 years old, respectively 47,06% of those of 15 years old) agreed that every family have certain rules at table and parents expected from their children to follow them. A significant percentage (42.18%) of all students taking in the survey say they disagree or strongly disagree with the fact there are certain rules within their family that should be observed, reason for which we can deduce the influence of the family, through the rules imposed on the food behaviour.

Both the students from the urban and rural areas agree or strongly agree that the good manners at table are important. The percentage of those who agree with this statement is higher in the rural areas (71,42% students of 11 years old, respectively 58,33% students of 13 years old) and this is probably because in the urban areas, both the parents and the children are overwhelmed by the disorganized schedule of the family meals, forgetting about the good manners. We must consider, however, that the habits learned in childhood are turned in reflex acts, in lifestyles during adulthood, reason for which parents are responsible for the children's right or wrong skills.

Conclusions

The distribution of the study population showed a prevalence of subjects from urban areas and a slight domination of girls. They predominate in the urban areas in the ages group of 11 and 13 years old, while in rural, only in age of 11 years old. The habit to have breakfast in family every day or 5 - 6 days per week was found in less than half of the study subjects and the proportion decreased by age increasing from 46.34% in 11 years to 7.84% in 15 years age-group respectively. Meanwhile, 14.64% and 25.50% of children aged 11 and respectively 15 do not take breakfast in the family ever. By opposite, the situation is much better in relation to dinner. Most of the children have daily dinners with parents, even the proportion decreases by increasing age. Lunch is served mostly at school in urban areas, in accordance to the school program. Due to the lack of eating facilities in schools, lunch is probably replaced by a snack. In rural areas lunch is served mostly at home because the schools program is scheduled in the morning.

Only small percentages of students did not ever get snacks while watching TV or playing/working on the computer. The phenomenon is more frequent in younger age, corresponding to the growing trend reported at national level. Fast food restaurants are visited once per week by 15.62% of the responders while 21.1% said they have never been to such a restaurant. The phenomenon is registered both in urban and rural areas (apparently more present in rural).

Low level of awareness was observed in parents in relation to consumption of soft drinks, sweets and chips. More than half of the children (all ages) are allowed to consume cola or other soft drinks that contain sugar without any restriction from their parents, the situation being more acute in rural areas. Also high proportions of children are allowed to eat whenever they want sweets or chips. Moderate compliance was found in relation to family dining rules. Around half of the children agreed that every family have certain rules at table and parents expected from their children to follow them, but 42.18% of all students taking in the survey said they disagree or strongly disagree with the family dining rules. Our study is a pilot unfolded in only one county of Romania. However, the results are quite concerning, showing limited involvement of the parents and moderate influence of family modelling in relation to the children eating behaviour. More extended research is needed to confirm the situation at national level and to understand its causes. These should be followed by specific interventions aiming to raise awareness of the parents about their major role in influencing the children and in creating the basic premises for a healthy lifestyle in their adult life.

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