

Factors affecting Greek adolescents' choices of drinks and sweets for school snacks

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ABSTRACT

The importance of a healthy diet, especially for teens, is indisputable as it contributes positively to their growth and health and impacts on life-long nutritional patterns. This paper presents the results of an empirical study school lunch and snacking choices in early adolescence. The study utilized a quasi-experimental and questionnaire survey technique involving 300 pupils, of four Athenian high schools, aged between 12 and 14. Results regarding pupils' dietary requirements showed that pupils adopt a healthy approach and that marketing activities aren't so much regarding the choice or the brand that they would buy from the canteen. Their behavior is much more influenced from social factors mainly by the parental habits and advices they receive.

Introduction

Teens have increased needs for energy and nutritional ingredients in comparison to other age groups, as adolescence is a period of rapid physical, mental and psychological growth for a person. It is also important that teens develop proper nutritional habits, because these are most likely to be followed into adulthood^[1].

Adolescents are characterized by emotional instability and constant changes to their interests and character^[2] trying to behave like adults in order to declare their independence. Choice of food is one of the means teens use not only to express their independence but also to make their active presence felt and to express their values and taste and generally to discover the world and diversify within it. Thus, by making their own choices they express their values and identity through their consumer behavior^[3].

Unhealthy eating habits and foods high in fat and sugar naturally lead to obesity. Even though the prevalence of childhood obesity in Greece is lower than other Western countries, such as America or Canada^[4], the findings of a survey of the dietary habits of children and adolescents in

Greece, found that an alarmingly large percentage of children and teens are obese and do not follow healthy eating habits^[5].

The study can be summarised in the following indicators:

(A) Obesity Indicator: One in three children aged 3-12 years old is overweight. Especially in rural areas, in the 7-12 year old age group almost one in two children are overweight. It is noteworthy, that neither the children nor their mothers have a true picture of the ideal body weight. Thus, mothers do not observe any weight problem in their children whilst children falsely think they are overweight.

(B) Making Breakfast Indicator: Less than half of the respondents (45%) eat a sufficient breakfast, while 14% do not eat breakfast.

(C) Mediterranean Diet Indicator: Only 10% of the respondents follow the Mediterranean Diet model.

(D) Physical Activity Indicator: Nearly half of the respondents are physically less active (less an hour a day) than recommended by doctors. This percentage reaches 70% for teens 16-18 years old.

It is obvious from the above that young people in Greece should be informed and educated about nutrition and physical activity to prevent and manage obesity and diabetes.

This empirical study examines Greek adolescents' eating habits and the factors affecting their snacking at school, where they spent a significant part of their daily lives. First it presents a review of the relevant literature and then it presents the findings of the first study of its kind. Finally, this paper presents suggestions for strategies to improve teen nutrition in order to contribute to the fight against early obesity and the resulting serious health problems in adulthood.

Review of the literature on factors affecting teen nutrition

Teens' meals should be characterised by food variety and balance that supply them with all the essential nutrients for proper growth and energy. Especially breakfast shouldn't be skipped, as it is the most important meal of the day as it supplies the body and mind with energy to start the day. Unfortunately, teens tend to skip meals, and mostly breakfast, because of the multitude of their school or extracurricular activities or simply because they are not taught its importance or because they are not used to it from an early age^[6].

Besides breakfast, teens' dietary habits contain a large percentage of snacks and fast food, as they will inevitably find themselves outside home, where the choices are limited and not always proper. Fast food is low in iron, calcium, vitamins A and B₂, but rich in saturated fats, which should be avoided or only consumed sparingly^[7,8].

The number of daily meals and the amount of snacks consumed by adolescents is directly associated with the food purchased from the school canteen, as teens spend half of their day there, usually from 08:15 am to 14:00 pm, that is, seven energy demanding teaching hours. That's why the food available in a school canteen influences and affects teens' eating habits. However, food products offered by a school canteen, for breakfast or snacking, are often

characterised by high amounts of fat and sugar, which are unhealthy and leading to increased overall levels of sugar and fat ingested daily by teens.

The way teaching and break time is organized in Greek Junior High Schools allows students limited time to eat during the five to 15 minute breaks between teaching hours. Schools do not have a special place, for example a dining room, so students eat in the courtyard. This limitation is certainly reducing their food choices to finger foods. Therefore, school canteens offer food that can be consumed easily, quickly and can be stored in the schoolbag for the next break if not finished during the short break. Moreover, it is noteworthy that even though adolescents and their parents spend family time together they do not to use it for food preparation, resulting in easily prepared or pre-packed food choices which can be placed in the school bag. For example, home-made food that would require re-heating and cutlery too be consumed or fruits and vegetables, which require preparation (washing, cleaning, and cutting) are shunned in favour of some sort of manufactured food product like crisps, sandwiches, pizza or pasties from the school canteen. Earlier studies have shown^[9] that students would choose a salad, a milk or some fruit in a fast-food or a school canteen, but these products are most times not available or as visible as, for example, a burger with a soda.

The study presented in this paper is the first to systematically address all factors affecting teen nutrition identified in the literature in a survey and quasi experimental setting. These factors are briefly delineated in the rest of this section and the relevant empirical research findings are presented.

Factors affecting eating habits

Advertising

Long-term exposure to advertisements is an important factor that increases junk food consumption. Advertising does not only promote specific brands and products, but also creates general views and attitudes on how consumers should behave under certain circumstances. Marketers target adolescents because they are known to be particularly susceptible to advertising messages. First they entertain themselves with the ads and then they force their parents to buy them the advertised products. This is known as the «Nag Factor»^[10].

Media food advertisements for children and adolescents cover a very large percentage of the total of ad spending. There are different types of advertising aimed at teenagers. The main ones are: television advertising, advertising via the Internet and school advertising. Television advertising, however, seems to be the most common form^[11], at least in America where 54% of the ads on a Saturday morning, a prime time for teens, are related to food or drink, of which 44% promote food products rich in fats, oils and sugar, such as snacks, crisps, chips, croissants, chocolate, and wafers. These products can generally be purchased in school canteens and often tend to be the backbone of adolescent nutrition. Teens find it difficult to distinguish myth and hype from reality in ads and to critically evaluate the claims advertisers make. Obviously attracted by the marketing practices, teens are, most of the time, negatively affected^[12] in the sense that it is unhealthy rather than healthy food that is being promoted and accepted by teens as an acceptable nutritional choice.

Studies have shown that, indeed, adolescents' preferences are influenced by food advertisements. The overall effect was found to be positive as to the preference of advertised products^[13]. Similarly, it is proved that children exposed to food advertisements prefer and choose advertised food products more often than those not exposed to such ads. Therefore, the parental role and less television viewing may help to reduce obesity and unhealthy eating habits for adolescents^[14].

Family Influence

Parents influence teens' values, attitudes, principles and sense of right and wrong. However, family does not only influence teens socially, but also economically. The economic role of the family is crucial as it affects both production and consumption. Moschis^[15] found that communication between parents and teens is crucial in shaping the education and active participation of young people as consumers. It is, therefore, obvious that along with teens' consuming behavior, their eating habits will be influenced too. For example, Cusatis and Shannon^[16] found that teens have similar eating and consuming habits with their parents. However, adopted habits depend on family form, structure, aspirations and beliefs^[17].

Peer group & Personality

The way of thinking, attitudes, perception and memory make up one's personality, which affects choices and decisions. The personality of every adolescent is different, so their eating preferences and choices will differ too^[18]. Pechmann et al.^[19] argue that adolescents are influenced by the opinions and exhortations of their friends and peers in general social experiences. Similarly, a survey in Minnesota^[20] found that socialising with their friends does not leave enough time for teens to think and worry about the adoption of healthy eating habits and also that they feel too young to worry about their health.

School curriculum

Learning also plays an important role in shaping teens' consumer behavior as it affects their ability of expressing and shaping opinions and develops their way of thinking.

Regarding the knowledge acquired through the junior high school curriculum there is the course of Home Economics, which teaches both nutrition and consumer behavior. Specifically, students are taught the importance of a proper and balanced diet, the value of food for the health and the benefits of nutrients. Regarding the chapter about consumer behavior, students learn the term rational consumption, the factors which affect consumer behavior, how to manage their pocket money, the concepts of savings and budgeting, the way the market works and the role of the media.

Even though Kamaruddin and Mokhlis^[21] reported that the equivalent Malaysian school courses did not appear to affect eating and consuming choices and habits, we hereby considered them as a potentially influencing factor for adolescents' eating and consuming behavior and empirically re-tested the above findings in the context of the Greek cultural, social and educational system.

Research Methodology

The empirical data were collected in four high schools (three public and one private) in Athens and involved 300 high school students 12-14 years old using a quasi-experimental and questionnaire survey technique. Respondents were presented with flash cards of sets of branded and heavily advertised drinks (coca-cola, Milko chocolate flavored milk, plain milk, Amita orange juice) and snacks (Chocolate chip Cookies, Molto chocolate filled croissant, high milk content Kinder Delice chocolate wafer and ION chocolate bar) available from the school canteens. They also answered a self-administered questionnaire. Data was analysed using multiple response sets analysis, one-way ANOVA and cross-tabulation with χ^2 tests to test for gender differences and explore interactions between variables.

The students were given the necessary instructions and explanations. It was made clear that the questionnaire was to be used for purely scientific purposes that participation was strictly voluntary and not related to the course of Home Economics, although the questionnaires were given out during class time, and that the answers would be anonymous and impossible to cross-reference back to the respondents.

Research Findings

Sample description

The sample consisted of 153 boys and 147 girls. The almost equal distribution between the sexes was expected, because schools usually try to have equally distributed number of girls and number in each class.

The age of the respondents ranged from 13 (51%) to 14 (45.7%) years old, as the questionnaires were distributed to high school students of class A and B where Home Economics is taught. Only 10 children (3.4%) were older by one (2.7%) or two (0.7%) years.

The socioeconomic profile of the respondents is that of affluent professional and white-collar worker middle class and sufficiently representative of the Athens suburbia. The assessment of the demographic profile is based purely on the researchers' knowledge and judgment and cannot be validated as for reasons of research ethics no demographic questions other than age and gender were asked of the children.

Dietary choices

Multiple response sets analysis on SPSS was performed to explore children's' preferences and choices of school snacks and drinks. It has to be made clear that all products included in the experiment flash cards were available at the school canteens and are heavily branded and advertised on TV and through extensive IMC programs targeted at 10-16 year olds.

Case Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
\$drinks ^a	260	86.7%	40	13,3%	300	100,0%
\$sweets ^a	218	72.7%	82	27,3%	300	100,0%

a. Dichotomy group tabulated at value 1.

According to the table above, students are more likely to prefer drinks to sweets. The difference between these two choices is important as a very big number of the sample showed that probably eating is less important than drinking while at school. This can be explained by the fact that in most Athens high schools nowadays there is no drinking water from a tap available anymore. This measure was taken in order to stop kids from throwing water bombs at each other, a game very popular with the students but rather irritating to teachers, parents and neighbors. As drinking and eating take place in Greek high schools in the courtyard, the weather may also affect the nutritional choices of the pupils interviewed.

\$drinks Frequencies

		Responses		Percent of Cases
		N	Percent	
\$drinks ^a	Coca Cola	73	21.2%	28.1%
	Milko	83	24.1%	31.,9%
	Milk	19	5.5%	7.3%
	Amita	170	49.,3%	65.4%
Total		345	100.0%	

a. Dichotomy group tabulated at value 1.

The majority (65.4%) of the participating students interviewed replied that Amita (a strong brand extended into different juices and energizing drinks) is the drink they prefer more. This has to do mainly with the different packaging options that Amita offers which are very suitable for school use, and also to the strong image of the brand both in parents' and children's minds. Milko, a chocolate flavored milk is heavily advertised and promoted but because of the strong parental influence on the pupils minds that chocolate is always unhealthy it is consumed by only 31.9% of the respondents. It is interesting though that coca cola was chosen by 28% of the respondents indicating that Greek pupils are totally adopting the western lifestyle. Plain milk was frowned upon by over 90% of the children that participated in the research, despite its being advertised and also heavily branded.

\$sweets Frequencies

		Responses		Percent of Cases
		N	Percent	
\$sweets ^a	Cookies	93	34.7%	42.7%
	Molto	56	20.9%	25.7%
	Kinder Delice	48	17.9%	22.0%
	ION	71	26.5%	32.6%
Total		268	100.0%	

a. Dichotomy group tabulated at value 1.

Results related to sweets preferences showed that children prefer fancy cookies because they are handier for breaks and have different tastes mainly fitting to all weather conditions, and because of the variety offered as students at this age are variety seekers. It is also important to notice that ION chocolate is a strong brand with a long tradition in the Greek market is part of pupils choices regardless of other similar or better known brands like the imported kinder, a brand which has been heavily marketed for years into the Greek market.

Factors affecting dietary choices

Advertisements

Only 1.7% of the children said that they always buy advertised products whilst 75% said they never or very rarely do. The mean is 1.77 (on a scale of 1=never to 5=always) with a standard deviation of 0.895 which means that the influence of advertising is overall low. As expected, it is television advertising that was most often mentioned (by 86.67% of children in an open-ended question worded as “Where did you see the ads?”. Interestingly, however, 75% of the respondents (they chose ‘always’ and ‘most of the times’) change the channel they are watching during advertisements.

The observation is confirmed by the fact that brands are of insignificant influence on their dietary choices as only 10.7% said that they are highly influenced by what brand the product they buy is and almost half of the children (47.3%) said that the brand of the product has very small or no influence on their choices.

Family influence in the form of parental advice

The children’s self-reported influence which was measured in the question “How much does the advice your parents give you influence what you buy at school?” was almost equally split between not being influenced by parental advice (not at all and very little =34%, moderately =29% and a lot and very much =37%).

Peer group influence

When asked if they are influenced by what their peers eat in choosing food products boys and girls were found to be significantly different. There is a 1% statistically significant difference between the two sexes (p-value=0.007 <0.01) and it is boys that seemed more affected by the dietary choices of friends and peers, since the mean of the boys’ answers is 2.08 compared to the girls’ mean of 1.80 on a scale of 1=not at all to 5= Very much. It is interesting, however, that

overall peer group influence is reported as insignificant as 76.4% said that they were not at all influenced or that the influence was very low whilst a mere 6.6% reported high levels of influence by their friends.

School curriculum

Studying Home Economics, a course including several chapters on nutrition and its importance, seems to influence children's self-reported behaviors towards a healthier diet as only 13,3% of the respondents said that the class does not influence their choices at all and another 24% reported low levels of influence.

There were no statistically significant differences between boys and girls and the same applies to knowledge of and interest in the ingredients and nutritional values of the products they consume. This result contrasts with the literature review findings ^[26]. It is here suggested that it can be attributed to the fact that girls are generally more concerned about their body weight, which is consistent with the psychology literature ^[1,2,3].

The children reported that they care about the ingredients of what they eat (43% said always and most of the times and the mean was 3.37 on a scale of 1=never to 5=always) and the nutritional value (61.3% and 3.74 respectively) but they do not really know as much as they would like to, as food labeling is not compulsory. The responses to the question 'Do you know the ingredients / nutritional value of the products you consume?' was 27% and 1.85 and 45% and 2.29 respectively.

What is most encouraging for educators as well as in terms of the long-term outlook of creating a culture of healthy eating is that the more the children report that they are influenced by Home Economics the more they are interested in knowing what they eat and also, the more they actually report they make the effort to find out (the Chi-square test of the impact of influence of Home Economics on knowledge of the ingredients had a value of 36.090 and a 2-sided significance of 0.003 whilst for nutritional value the indicators were higher (48.814 and 0.000 respectively).

Conclusions limitations and recommendations for further research

This is the first study of school eating habits of adolescents and the only one exploring the effect of advertising and education in tandem. It has demonstrated that teenage girls not only follow overall healthier diets than boys, but also are less susceptible to peer-group influences and advertisements. School educational programs on nutrition were found to be effective in promoting healthier eating habits for both genders

The research is by its nature exploratory and purposefully limited in scope by the authors' intention to uncover and highlight the issues rather than to explain behavior. As such, it provides valuable insights that can form the basis of an in-depth investigation involving the families. Its descriptive value is greater than its interpretive power because of the few demographic and total lack of psychographic questions which was a choice of favouring research ethics (as the participants were underage) over data depth.

Finally, a better understanding of the factors influencing breakfast and school lunch and snacking habits of adolescents can be gained by comparing urban and rural areas as well as different school systems and cultural environments.

As the preliminary findings indicate, the influential role of formal school-based education in promoting healthier eating habits is significant, thus it is here proposed that this is where the emphasis should be placed if we are to develop a culture of healthy eating in adolescents, habits that will follow them for the rest of their lives thus resulting in a healthier populace.

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