

# Danger Facing Pupils After School: Food and Non-Food Products Sold Around Schools

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**Abstract:** Providing access to food around schools constitutes an important part of nutritional environment of children and adolescents. This study intends to determine the proximity of food outlets to secondary schools in the center of Gaziantep, the presence of hawkers and whether there are differences according to socio-economic zones. In this qualitative study, schools were chosen according to the socioeconomic status of the neighborhoods. The data were recorded by investigators through on-site observations. Boiled corn in cups, single cigarette as well as vendors of snacks, fruits, fried chips, ice cream, sweets and beverages were being sold in the vicinity of all the schools. It was observed that about one quarter of the students went to the various shops and hawkers at the end of the school day. The socioeconomic status of a neighborhood had no impact in terms of the variety of products sold. Price of boiled corn sold in cardboard cups of the same size varied between TRY 1-2 (0.26-0.52 USD) according to the income level of the neighborhood in which it was sold. Despite the current legislation in our country, sales of single cigarette to those under 18 are still a cause for concern. It is necessary to take measures for controlling the access of school children to unhealthy food and non-food products.

**Keywords:** Food Choice, Food Environment, Food Retail Environment, School Health, Smoke

## 1. Introduction

The school environment is the sort of environment that influences the working and learning efficiency, health, safety, behavior and habits of the students and school employees. All environmental factors that adversely affect human health threaten the school environment as well. At the same time, the school represents the initial phase whereby the child takes the first step toward entering the community life for the first time. In this period, a child's eating habits are influenced just as much by his friends as his family. The popular culture, TV commercials and the individual desire to spend money have all created a new set of eating habits in school children. During this period, children tend to spend money at school and choose the kind of food they wish to consume. One of the biggest impacts of globalization on children's lives is the proliferation of fast food venues. Fast food and drinks often pose many health risks such as high calories, fat and salt. If we want the

future generations of society to grow up as healthy individuals, it is necessary to take necessary precautions from early ages [1-3].

The environment outside the school can be assessed from two perspectives; first, the presence of 'competitive foods' and food venues that compete with the food sold at schools; second, the proximity of food outlets to schools. Foods that are accessible, usable, economical and acceptable by pupils are determined, in part, by environmental conditions and, in part, direct targeting of pupils [4].

Providing access to food around schools is an important element of the food environment of children and adolescents. Bagels, pastries, corn, candies, different kinds of desserts, ice cream and sandwiches are sold around schools. The conditions for preparing and selling this sort of food around schools are often not in line with hygiene rules [5].

Obesity rates are high among school age children. From this point of view, availability of food with high calories at home, in schools as well as in shops and in restaurants around houses

and schools is worrying. Improving access to healthy eating options, such as small stores, as well as to healthy food products offered by supermarkets for junior high and high school students can be a potential strategy for improving weight results among students [6].

In order to reach the objectives in the letter sent by the Ministry of Education to the Directorates of National Education on September 10, 2007 and the directive 1008 of 17 April 2007, it was reported that hawkers and illegal buffets operating around schools selling products that adversely affect student health should be prevented besides ensuring new students canteens operate in hygienic environments in cooperation with the Municipalities and Police Departments [7]. The Turkish Public Health Agency issued a warning on its website about food purchased from school canteens and buffets as well as unpackaged food [8].

This study intends to determine the proximity of food outlets to secondary schools in the center of Gaziantep, the presence of hawkers and whether there are differences according to socio-economic zones.

## 2. Material and Methods

The population of this qualitative study was secondary schools located in the metropolitan districts of Şahinbey and Şehitkamil in Gaziantep. A total of 9 schools were chosen through random sampling from three schools apiece from high, medium and low income regions according to Turkish Statistical Institute's domestic income figures. The schools selected from high income neighbourhoods are located in Güvenevler, Atatürk and Fatih; the schools selected from middle-income neighbourhoods are in Güneykent, Güneş and Kolejtepe; and the schools selected from low-income neighborhoods are in Perilikaya, Selahattin Eyyubi and Ocaklar. The data were obtained by the investigator spending one day at each school, making observations over a 30-minute period at the end of the school day. In addition, hawkers and places selling food around the school were recorded.

The study was approved by the Ethics Committee of Gaziantep University on 08.05.2017 with approval number 2017/183.

## 3. Results

Distribution of shops and hawkers located 100 meters from the schools: 22.2% sold snacks, 44.4% fruits, 11% fried chips, 77.8% ice cream, 11.1% sweets and 11.1% beverages. There were tea houses near 55.6% of the schools and internet cafes near 77.8%. The rate of schools with internet cafés and / or coffee shop in their vicinity was 88.9%. Internet cafes and / or tea houses were available in 2 of the schools in the low socioeconomic regions (66.7%) and in all of the other regions. Boiled corn in cups and cigarettes were being sold within a 100 meter parameter of all the schools observed. There was sale of cigarettes on platforms around the schools. However, according to the information obtained from interviews with students, it was found that "single" cigarette was also sold by

small grocery stores. There were no fast food outlets near any of the schools. It was observed that about one quarter of the students went to the various shops and hawkers at the end of the school day. Schools located in middle and upper class neighborhoods with a good socio-economic status had a more tidy and orderly look in comparison to other schools. The product range and prices of nearby markets and shops were also different. The price of boiled corn sold in cardboard cups of the same size was sold for TRY 1 0.26 USD) around schools in lower income neighborhoods, TRY 1.5 (0.39 USD) around schools in medium income neighborhoods and TRY 2 (0.52USD) in higher income neighborhoods. No significant price differences were observed in other products sold. Fried chips on a skewer are prepared with a single potato, which is peeled and put on a skewer and prepared using a special cutter before being fried and sold for TRY 2 (0.52USD). Children's dialogues with the vendors were shorter, but there was no significant difference in the spending habits of children as they used coins. It was observed that the socioeconomic status of a neighborhood had no impact in terms of the variety of products sold. Single cigarette was sold in all shops in the surrounding areas and there was no price difference by regions.

## 4. Discussion

This study was conducted in order to identify the relationship between food venues around schools and the students found that there was at least one hawker operating around the schools included in the study sample. A similar study in Malatya found that 75.4% of the schools had groceries/ hawkers selling food items around them and 87.8% of these also sold cigarettes [9]. The higher rates in our study may be related to the way the study has been planned. The sale of cigarettes around almost every school is especially worrisome. The sale of single cigarette is another issue that needs to be addressed. The legislation prohibits the selling of single cigarette to those under 18. However, pupils have access to single cigarette around schools. More stringent measures are needed to prevent considering the influence of friends in starting smoking and the relatively young age when children have their first cigarette according to research.

Although it is a positive outcome that none of the schools have fast food outlets in their vicinity, it is also worth noting that students have access to and purchase various unhealthy snacks. This can lead to a negative effect on healthy eating behaviors, as well as lesser consumption of regular meals due to the filling feeling one gets from eating snacks, though its duration is short. Much of the study on food sales venues around schools focuses on the relationship between obesity and the food outlets around schools [6, 10-13]. Although no relationship was found in this regard in most studies, it may be useful to investigate the effect of unhealthy diet on obesity as well as other health problems and the development of poor eating habits that extend into adulthood. There are also studies suggesting that the nutritional environment around the school plays a minor role in adolescents' quality of diet [14].

Although there was no difference between the ranges of products offered around schools depending on the socio-economic level of the area they are located in, the difference in the price of corn is striking. In similar studies conducted in different countries, comparisons were made between the socio-economic level of the areas where the schools were located and distances of fast-food outlets to schools, and different results were obtained.

There are studies showing that shops selling food in low-income regions are facing obstacles to provide healthy food choices. It was also shown that the prevalence of fast food outlets around schools is related to the socioeconomic level and the food products purchased by students were supplied via places such as smaller grocery stores and buffets. The product range also depends on the socioeconomic level. Low income and minority children were found to have more access to fast food outlets and buffets as they often lacked the means of mobility to take them to school and back home as opposed to wealthy or white pupils [1, 4, 15, 16]. It was also found that exposure to unhealthy food in the school environment is inversely related to the neighborhood income level, but that commercial intensity partially accounts for this relationship [10]. The impact of the socioeconomic level may not have been clearly depicted in this study. Private schools where children from higher socioeconomic backgrounds go were mostly not included in the study because such schools provide transportation services for their students through shuttle services picking them up from the school garden or the exit gate.

This study could not be able to determine whether the distance of the hawker or shops to the schools has an impact on shopping and eating behaviors. Some studies showed that spatial clustering and the distance to schools are important parameters in students' eating behaviors [4, 11, 15-17].

The fact that the price of most snacks varies between TRY 1-2 (0.26-0.52 USD) which most pupils can afford should also be taken seriously as they are mostly driven by an impulse to spend money on their own. Other studies have emphasized that acting as autonomous consumers may create in students a distorted self-perception seeing themselves as economically independent individuals and that pupils have an influence on prices as consumers [4, 17]. One study has shown that price is a more influential factor in buying decisions in poor neighborhoods than distance [16]. It was also found that the cost of healthier food can be another limiting factor restricting consumption by children and adolescents living in poorer regions [1].

Sold around almost every school, corn is considered one of the leading genetically modified food products. Despite ongoing work on GMOs, it is considered that it is not currently possible to make a definite judgment on their benefits or harmful effects since there is not enough experimental evidence. It is especially important to take the necessary measures to reduce the risks to future generations, without delay [18].

Finally, internet cafés or tea houses located near schools

must be considered in terms of their appropriateness for pupils seeking to spend their leisure time.

It should be kept in mind that food products offered to pupils at food venues around schools and on the way home to school and vice versa contribute to obesity among young people, although there are some school-related controls on food served in schools for children who spend a significant amount of time at school.

## 5. Conclusion

Especially when considering the impact of the wish to become an independent individual, making one's own spending decisions, influence of friends, the consumption society and advertising, it is necessary to control the access to unhealthy food of school children who spend most of their time in school. Due to the widespread sale of corn, the long term effects of corn found in every season and considered to be genetically modified should be investigated. Despite the legislation, still more strict controls and sanctions are required to prevent the sale of single cigarette to individuals under 18. Interventions and policies aimed at food retailers around schools should take into account the socioeconomic status of the neighborhoods where they are located. Collaboration between families, the school and local managers is considered to be important in this regard. There is a need for further research into food sources around schools and the extent they are used by students and the causes.

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## References

- [1] Silveira BM, Kliemann N, Silva DP, Colussi CF & Rossana Pacheco da Costa P. Availability and Price of Food Products with and without Trans Fatty Acids in Food Stores around Elementary Schools in Low- and Medium-Income Neighborhoods. *Ecology of Food and Nutrition*, 2013, 52: 63–75.
- [2] Karakaş H, Törnük F. Geleneksel Gıdaların Okul Çağı Çocuklarının Beslenmesindeki Rolü Üzerine Bir Araştırma. *Cumhuriyet Üniversitesi Fen Fakültesi Fen Bilimleri Dergisi*, 2016, Cilt 37, No. 3.
- [3] Pekcan, H. Okul Sağlığı. Ç. Güler, L. Akın (Eds.). *Halk Sağlığı Temel Bilgiler*. Ankara: Hacettepe Üniversitesi Yayınları 2006, s. 454-479.
- [4] M. Caraher, S. Lloyd, M. Mansfield, C. Alp, Z. Brewster, J. Gresham. Secondary school pupils' food choices around schools in a London borough: Fast food and walls of crisps. *Appetite* 103 (2016) 208-220.
- [5] Garipağaoğlu M, Özgüneş N. Okullarda Beslenme Uygulamaları. *Çocuk Dergisi* 2008, 8 (3): 152-159.

- [6] Tang X, Ohri-Vachaspati P, Abbott JK, Aggarwal R, Tulloch DL, Lloyd K, Yedidia MJ. Associations between food environment around schools and professionally measured weight status for middle and high school students. *Child Obes.* 2014 Dec; 10 (6): 511-7. doi: 10.1089/chi.2014.0065.
- [7] Okul Kantinleri Genelgesi. (2007). T. C. Resmi Gazete, 2133, 10 Eylül 2007. [http://sdb.meb.gov.tr/okulsagligi/okul\\_kantinleri.pdf](http://sdb.meb.gov.tr/okulsagligi/okul_kantinleri.pdf). Accessed: 12.09.2017.
- [8] <http://www.thsk.gov.tr/guncel/haberler/222-obezite-diyabet-ve-metabolik-hastaliklar-daire-baskanligi-haberler/okullar-aciliy-or-saglikli-beslenelim-hareket-edelim.html>. (accessed: 12.09.2017).
- [9] Şahin T. Malatya Kent Merkezindeki Devlet İlköğretim Okullarının Bazı Sağlık Kriterleri Yönünden Değerlendirilmesi. İnönü Üniversitesi Sağlık Bilimleri Enstitüsü Doktora Tezi. (Danışman: Prof. Dr. Metin F Genç). Malatya 2008.
- [10] Kestens Y, Daniel M. Social Inequalities in Food Exposure Around Schools in an Urban Area. *American Journal of Preventive Medicine*, 2010; 39 (1): 33– 40.
- [11] Peter L. Day, Jamie Pearce. Obesity-Promoting Food Environments and the Spatial Clustering of Food Outlets Around Schools. *American Journal of Preventive Medicine* 2011; 40 (2): 113–121.
- [12] Buck C, Börnhorst C, Pohlmann H, Huybrechts I, Pala V, Reisch L, Pigeot I, on behalf of the IDEFICS and the I Family consortia. Clustering of unhealthy food around German schools and its influence on dietary behavior in school children: a pilot study. *International Journal of Behavioral Nutrition and Physical Activity* 2013, 10: 65.
- [13] Seliske LM, Pickett W, Boyce WF, Janssen I. Association between the food retail environment surrounding schools and overweight in Canadian youth. *Public Health Nutrition*: 12 (9), 1384–1391 doi: 10.1017/S1368980008004084.
- [14] Clark EM, Quigg R, Wong JE, Richards R, Black KE, Skidmore PML. Is the food environment surrounding schools associated with the diet quality of adolescents in Otago, New Zealand? *Health &Place* 30, 2014, 78–85.
- [15] June M. Tester, Irene H. Yen, Laraia B. Mobile Food Vending and the After-School Food Environment. *Am J Prev Med* 2010; 38 (1): 70–73.
- [16] Estrade M, Dick S, Crawford F, Jepson R, Ellaway A, McNeil G. A qualitative study of independent fast food vendors near secondary schools in disadvantaged Scottish neighbourhoods. *BMC Public Health* 2014, 14: 793.
- [17] Seliske L, Pickett W, Rosu A, Janssen I. The number and type of food retailers surrounding schools and their association with lunchtime eating behaviours in students. *International Journal of Behavioral Nutrition and Physical Activity* 2013, 10: 19.
- [18] Kaynar P. Genetik Olarak Değiştirilmiş Organizmalar (GDO)'ya Genel Bir Bakış (A General Perspective on Genetically Modified Organisms (GMOs)). *Türk Hijyen ve Deneysel Biyoloji Dergisi* 2009; 66 (4): 177-185.