



How teachers perceive healthy eating and physical activity of primary school children

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Abstract. Raising healthy individuals is a *sine qua non* of education. Healthy eating plays an important role in the development of children. Childhood is a key period for acquiring and sustaining lifelong healthy eating and physical activity habits. Hence, the main purpose of this study is to evaluate the healthy eating and physical activity behaviors of primary school children from the perspective of teachers. We use Bronfenbrenner's social ecological model as our conceptual framework to take into account the multi-layered structure of the issue at hand, examining the chronosystem, policies, institutions, interpersonal relationships and individual factors. Based on maximum diversity sampling, a total of 11 teachers were interviewed from six Turkish schools at different socio-economic levels. The data were analyzed using descriptive and content analysis methods. Attributes related to consumer society impact the implications of school policies. Even with mandated changes at the local and national policy levels to increase the availability of healthy food at school canteens, children have easy access to and an appetite for unhealthy foods. Policy decisions are closely related to school conditions as well as parental, peers and teacher profiles. The present study underscores the multi-dimensional nature of school health-promoting policies with a holistic perspective.

Keywords: Healthy eating, physical activity, school health, primary school children, teacher opinions, obesity

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INTRODUCTION

Raising healthy individuals is one of the fundamental goals of schooling (MEB, 1973). Education is broadly perceived to have a significant and meaningful role in developing healthy habits, with schools representing the specific sites for instruction and training that will extend into lifelong health practices. Learning about healthy eating and physical activity in a supportive learning environment and employing a specifically designed health education program is considered to be very important for all students. The importance of a sufficient and healthy diet is indisputable for improving the health of individuals, families and the community, especially during early childhood. Healthy habits that children acquire early on make positive contributions to their future lives. Primary schools play a critical role in the development of early childhood eating practices, particularly in relation to making healthy food choices. In the context of Turkey, increasing rates of obesity in all age groups have brought the issue of healthy eating and physical activity to national importance.

Social changes in Turkey, such as industrialization, urbanization and globalization have resulted in changes in eating habits which have led to increased consumption of unhealthy foods (Aslan, 2007; Güler, Yıldırım, & Altun, 2007). A significant impact of economic and cultural globalization has helped to the introduction of American style fast-food nutrition, which first gained popularity in Turkey during the 1980's. Chains such as McDonald's or Burger King are often considered to represent "Western" modernity, providing a sense of choice, convenience, consistency, and whose presence has spread throughout Turkish society (Akarçay & Suğur, 2015).

In addition to unhealthy eating, physical activity levels of children have decreased by watching TV, computer use and the rise in popularity of video games. The inactive life style has

dramatically increased the frequency of obesity among children. World Health Organization (WHO) data indicate that the global number of overweight and obese individuals increased ten-fold over the last four decades across childhood cohorts (WHO, 2017). This issue is most frequently observed in developing countries which have led to significant health issues. The rates of obesity also directly correlate to increases the rate of diabetes and coronary diseases at early ages (WHO, 2017). According to the results of the Research Report of Growth Monitoring among School Age Children in Turkey (TOÇBİ), 14.3 % of children in the 6-9 age group are overweight and 6.5% are obese. Data from the Turkey Childhood (Primary School 2nd Grade Students) Obesity Surveillance Initiative COSI-TUR (2014) study, carried out in Turkey with support from the World Health Organization, also shows that 14.2 % of the children who took part in the study are overweight and 8.3% are obese. The study also examined the healthy living habits of children, their access to healthy foods, and spare time activities. Unsurprisingly, the results suggest that Turkey, as in most of the developed world, must place renewed attention to increase the healthy eating and physical activity rates of children. The COSI-TUR (2014) study provided quantitative data supporting the need to develop national guidelines for healthy eating habits and physical activity practices for Turkish children. However, these studies lack in-depth qualitative data that effectively links the findings to broader political, social, environmental and individual factors that have an impact on the healthy eating and physical activity behaviors of children. According to the most recent data from 2016 (COSI-TUR 2016, p.32), the rate of obese children increased from 8.3 % to 9.9 % in the 6-9 age group in Turkey, while the rate of overweight children stayed almost the same (14.3%). In other words, approximately one in ten children is obese.

The primary goal of this study is to evaluate the healthy eating and physical activity behaviors of primary school children from the perspective of teachers. We use Bronfenbrenner's social ecological model as our conceptual framework to take into account the multi-layered structure of the issue at hand. Viewing the interlacing dimensions of the problem from the teachers' vantage point, we assess the roles of the chronosystem, policies, institutions, interpersonal relationships and individual factors. We seek to illuminate the agency of each embedded system with respect to fostering or inhibiting healthy eating and exercise habits. We conclude with a discussion of teacher recommendations for improving the current and future health status of primary school students in their care.

Healthy Eating and Physical Activity

The definition of "diet" by the Ministry of Health, involves conscientious behaviors for taking the sufficient nutritional elements at the proper times in order to preserve and improve health and to increase the quality of life (Ministry of Health, General Directorate of Public Health, 2017). A sufficient and balanced diet corresponds to the daily consumption of nutrient groups comprised of vitamins, minerals, proteins, carbohydrates and unrefined fats at amounts suggested by experts. In addition to healthy eating, physical activity is also important for the health of children. According to the WHO, physical activity encompasses all bodily movements such as work, play, and recreational activities that consume the energy generated by the musculoskeletal system (WHO, 2018). Regular physical activity contributes to strengthening the heart, lungs, muscles and bones of children while also providing weight control and protecting them against health risks such as diabetes, cancer and obesity (CDC, 2019). The Physical Activity Guideline (PAG) published for children in America indicates that children aged 6-15 should engage in daily physical activity for one hour or more (CDC, 2008; WHO, 2010).

It is important to recognize that individual and biological factors do play a role in determining healthy eating and physical activity habits. However, the issue of physical inactivity compounded by unhealthy eating is not an individual issue; rather it represents a multi-dimensional problem with many contributing factors. Indeed, behaviors related with healthy eating and physical activity cannot be explained by reducing them to a single factor. In the present study, healthy eating and physical activity behaviors are contextualized within the matrix of political, social, economic, cultural and environmental conditions of the society. The analysis then narrows the focus as to how these factors may or may not relate to individual life

style attitudes and behaviors. Utilization of a multi-dimensional perspective allows for a more nuanced examination of how interrelated behaviors work in concert to either support or interrupt healthful eating and physical activity levels. The social ecological model is used as our conceptual framework to take into account the multi-layered structure of the issue at hand.

Socio-Ecological Model

The social ecological model was first put forth by Bronfenbrenner (1977) who describes his theory as resembling Russian nesting dolls. Layers within this system include environmental interactions with a range of political and societal policies, institutions, as well as interpersonal relationships that shape the overall development of the individual (Golden & Earp, 2012). Policies include those that are related with the subject at the local and national level. Examples of these types of policies underscore societal norms and values resulting from the interaction of components including the physical environment and the neighborhood. Institutional practices are included under this layer and have a direct bearing on the formation of interpersonal relations between fellow students, teachers, administrators, and parents. Within the chronosystem, the individual remains centrally located, and draws upon the various inputs provided by the surrounding environments to produce, navigate, and manage a relationship to the overarching system of child's growth and development.

a. Consumer Society as Chronosystem: The social problems must be contextualized in relation to the 'spirit of the times' we live in. To arrive at a general understanding of contemporary societal problems requires an analysis of the economic, political, and social conditions that articulate to a specific problem(s). One way to approach the concept of the spirit of the times can be viewed through Hegel's use of the term "zeitgeist". Today, this concept is used to express the general state of mind, style of thinking and feeling that dominates social life in connection with the social and cultural values of the time we live in.

The social structure plays a major role in shaping the habits and tendencies of children about eating and physical activity. Unhealthy eating and inactivity cannot be evaluated independent of the popular consumer culture that dominates today's post-industrial capitalistic societies (Baudrillard, 2008; Bauman, 2010; Bocoock, 1997; Featherstone, 2005). Human relations are continuously replaced by relations with objects in today's consumer society, where consumption emerges as a source of prestige (Baudrillard, 2008; Featherstone, 2005). At the chronosystemic level, the healthy eating and physical activity states of individuals are considered to be in relation with the overarching presence of mass media and the proliferation of marketing and branding strategies targeting even the youngest of audiences. Media has the potential to have both negative and positive impacts on all behaviors of individuals, but the aggressive marketing of unhealthy products to children has negative influence

b. Policies: The policies placed within the context of the macro-system. In this regard, the policies and regulations on healthy eating and physical activities put forth by the Ministry of National Education, local administrations and local governments are important. Provisions to increase the class hours devoted to physical activity and games in primary schools, regulations on limiting the unhealthy food sold at canteens, providing milk and snacks to children at primary schools, and "healthy eating friendly school" projects provide examples of the policies implemented by the Ministry of National Education. Policies that promote increasing the amount of green area per person are among significant factors that determine the physical activities of individuals in the urban settings as well.

c. Institutions/Schools: Schools are important for protecting and improving the health of children. They are the basic places where ministry related policies are enacted. The acquisition of knowledge gained at the school for improving one's health contributes to an individual's long-term health, thereby decreasing societal healthcare costs for individuals. Children who receive health education at schools have also been shown to transfer lessons learned in school to later life (Özcebe, 2012).

d. Interpersonal relationships: Family is the most important institution where the socialization of children takes place. Families have significant responsibility in ensuring that children acquire and sustain healthy eating habits. Socio-economic and educational attainment

levels of families also have an impact on the healthy eating and physical activity levels of children. Unhealthy eating continues to be a major issue in our society as a result of socio-economic inequalities. Meat, chicken, fish, milk and its derivatives, and legumes that are rich in proteins, vitamin B, iron, zinc, and calcium are all under consumed by families with low income (Baysal, 2003: 66). According to the National Food and National Health and Nutrition Strategy Report (2003: VI), 50 % of the daily energy requirements in Turkey is provided by bread and grain products. When food consumption tendencies are longitudinally examined, the consumption of bread, milk-yoghurt, meat, fresh vegetables, and fruits has decreased, whereas dry legume, egg and sugar consumption has increased.

In contrast to global issues in which students and parents have little immediate control, teachers and peers take on increasingly important roles that have impacts on the states of healthy eating and physical activity of students at the interpersonal relations level. Teachers are important role models for students and students use the information acquired by observing the behaviors of teachers in shaping their own behaviors. Similarly, students acquire or change behaviors through social learning amongst and between peers while at school by observing each other's eating and physical activity behaviors.

e. Individual: In addition to socialization in the family, individual attitudes developed by the individual himself/herself have an impact on their nutritional preferences and the amount of physical activity. Factors such as gender, age and genetics are among those that are considered to influence the attitude and behaviors of individuals. However, factors contributing to obesity point to more to issues of personal choice(s) and style of life. That is, obesity emerges more frequently as a result of an inactive way of life and the consumption of high calorie foods. It is not common that obesity emerges as a result of a genetic disorder. Still, some physical and psychological disorders have been determined to be related with obesity. Altunkaynak and Özbek (2006) classified these factors under three headings: (1) various anomalies related with the storage of energy in the body; (2) psychological factors that force the individual to eat as a mechanism of relaxation; (3) genetic disorders related to carbohydrate and fat storage.

METHOD

This study employs qualitative research methods to investigate factors that contribute on healthy eating and physical activity levels of primary school children, as observed by teachers. The methodology enabled the researcher to carry out detailed examinations on phenomena (Merriam, 1998; Yıldırım & Şimşek, 2005). The socio-economic level of schools was considered as an important factor for understanding the current state of healthy eating and physical activity levels of children. Therefore, using the method of maximum variation sampling—conditions from a wide range of varieties are selected in maximum variation sampling—, teachers working at schools representing different socio-economic levels were included in the study, with the goal being to identify the similarities and differences between schools at different socio-economic levels (Glesne & Peshkin, 1992; Yıldırım & Şimşek, 2005). Primary schools located in central Aydın province was classified as those that represented upper, middle and lower socio-economic levels. Six schools were selected in total, two schools from each socio-economic level (low, medium, high socio-economic level). Face-to-face semi-structured interviews were carried out with eleven teachers working at six different schools in total. Of the interviewed teachers, eight were female and three were male. Data acquisition continued until the principle of data saturation disallowed the collection of new data. Table 1 presents a summary of various demographic characteristics of the participants.

A problem centered semi-structured pre-interview form, that incorporated pertinent elements from the literature, containing ten basic questions related to policies focused on healthy eating and physical activity was initially prepared for the study. Additional questions focused on school facilities and addressed the interrelationships between the school, families, teachers and peers, as well as knowledge, attitudes and behaviors of students. A pilot interview was carried out with two teachers; and questions revised to produce the final form of the interview.

Table 1. *Demographic characteristics of participants*

Code Name	School Code	School Type	Age	Gender
Canan	School 1	Low SES	60	F
Emel	School 1	Low SES	38	F
Fatma	School 2	Low SES	43	F
Ayşe	School 2	Low SES	49	F
Mustafa	School 3	Moderate SES	52	M
Didem	School 3	Moderate SES	48	F
Ahmet	School 4	Moderate SES	51	M
Zeynep	School 4	Moderate SES	34	F
Yüksel	School 5	High SES	42	M
Şükran	School 5	High SES	38	F
Nazlı	School 6	High SES	52	F

The interviews of the study were carried out in a private room provided by the school, (e.g., in the guidance counselor's room or the teacher's classroom). Participants were informed about the study before the interviews and approvals were received for voice recording. Three teachers did not want any voice recording, so the interviewer took notes during these interviews. All interviews were transcribed line by line into Word documents. NVIVO qualitative analysis software was used to carry out descriptive and content analyses for the data. Since the issue at hand requires a complex and multi-layered evaluation, a socio-ecological model was used as a framework for the processes of structuring the interview questions and the analyses of the interviews.

Precautions taken to ensure credibility (internal validity), fittingness (transferability - external validity), consistency (internal reliability) and conformability (external reliability) can be summarized as follows (Şencan, 2005). The meaning formed by the examined findings, the detailed explanation of the context formed by this meaning (e.g. information on which schools the responses came from), the alignment between the findings with the theoretical framework, and the use of alternative approaches for explaining the findings established proofs of the internal validity of the study (Miles & Huberman, 1994). Also, interrater validity calculated as .92 based on Miles and Huberman's formula 'reliability= number of agreements / (total number of agreements + disagreements) (Miles & Huberman, 1994, p.64). Voice recordings were made for the participants who gave their consent on taking voice recordings, thereby improving the credibility of the study. Detailed notes were taken during the interview for participants whose consent could not be taken for voice recording, and the notes were immediately transferred to the Word document. Purposive sampling methods were preferred to increase credibility, and the related criteria were indicated in detail. External validity in qualitative studies can be ensured using detailed explanations for each procedural step in order to generate analytical generalizations (Yıldırım & Şimşek, 2005). At this point, the qualifications of the related teachers were reported in detail in a manner identical to the process used for developing interview questions, school selection, and teacher selection. Study findings were coded by both researchers in order to ensure consistency and agreement between the researchers was taken as a basis of verification during the coding process (Yıldırım & Şimşek, 2005). An important step for ability confirmation was the detailed description by the researchers of the role they play. The epistemological stance of researchers was related to the requirement that any concepts of

healthy eating and physical activity should be taken into consideration in a multi-dimensional manner, and not only as an individual preference.

For ethical principles, after getting permission from the Ministry of Education, we got consent from the principals of schools first. As a third step, we explained the aim of the study all adult participant candidates, and interviewed with participants who gave consent. It has been asked, we could record interviews to increase reliability. For participants who did not give consent we took only notes during interview. All names are alias to ensure confidentiality.

RESULTS

After the analysis of the data, findings were organized under the six themes as follow: (1) consumer society; (2) policies; (3) school environment; (4) interpersonal relations; (5) individual factors and (6) recommendations for the future.

Theme 1. Spirit of the Times: Consumer Society

“Consumer culture” can be considered as one of the concepts that best reflects the spirit of the times with regard to healthy eating and physical activity. The subcategories under this title are presented in Table 2.

Table 2. Codes related to consumer society regarding healthy eating and physical activity

Subcategories related to consumer culture

- Contribution of mass media and advertising
 - Unbearable lightness of the ability of purchasing
 - Purchasing as a status symbol
-

Subcategories related to unhealthy eating

- Easy access to unhealthy packaged food
 - Preferences of food which is easy to prepare
 - Increasing consumption of fast food
 - Change in palates toward unhealthy food
-

Subcategories related to physical activity

- Digitalization of children's play
 - Inactivity caused by urban life
-

At the chronosystem level mass media and advertising and the ability of purchasing as a status symbol were coded as representing consumer culture. In modern societies, due to increasing pace of life and industrialization, consumers seek convenient foods. Consumption of these new products is widely accepted and advertisement of these products is common in mass media. One female teacher's observation on advertising and how this undermines healthy eating habits of children is as follows:

“So all of them fall under the influence of effective advertisements or as I stated before, the additives in packaged foods increase appetite and desire to eat... families also consume fast-food type foods because it makes their life easier.” (Didem, Moderate SES, School 3, K, 48).

Similarly, another teacher emphasized the impact of advertising in encouraging children's consumption of attractively packaged unhealthy foods:

“There is also the effect of advertising, children know what is healthy or unhealthy in terms of food when you ask, but when they see that attractive unhealthy food they can't help it.” (Nazlı, High SES, School 6, K, 52).

In addition to the influence of mass media, participating teachers state that parents see the ability of purchasing as a status symbol. While parents in the past traditionally preferred homemade food, their habits are changing in favor of ready-made foods. Teachers consider this purchasing behavior as an example of conspicuous consumption. Some parents encourage their children to buy high calorie foods of limited nutritional value from the school canteen such as acidic drinks, chips, and biscuits:

“Mothers do not get up for kids. If they are awake, they just give money to buy something for breakfast. Buying something from the canteen is perceived as a luxury. It is something desired. They buy things like sandwiches or stuff with cream from the canteen...” (Canan, Low SES, School, K, 60).

A teacher working at a High SES school explains the tendency of children to eat unhealthy foods both at school and at home as such:

“There is always fast food and ready-made food for eating...Children always have a tendency to eat pastries and they do not want to eat vegetables or what their mother cooks. So, their mothers cook what they enjoy [unhealthy pastries]” (Nazlı, High SES, School 6, K, 52).

This quote also shows change in children’s palate towards unhealthy foods. Easy access to packaged food was also commonly mentioned as a reason for changing palate for unhealthy foods. The observations of a teacher from a moderate SES school are indicative of this shift:

“Unfortunately, the most striking thing that attracts my attention is that children are geared towards packaged food...” (Zeynep, Moderate SES, School 4, K, 34).

In addition to the changing eating habits and nutritional transition at the social level, participating teachers also commonly mentioned changes caused by urban lifestyle. These changes result in children’s lack of physical activity at the urban setting. Along with these, changes in children’s play culture are also mentioned. In this regard, digitalization of children’s games is emphasized by the teachers. A male teacher indicated his opinions regarding these issues as follow:

“I think no one plays out on the streets anymore. In the past, our parents or brothers and sisters used to come to our playground to call us for dinner. Now, children do not leave the house. They don’t go out and they are not taken out. Indeed, children do not want to go out even if they are asked to do so. At home they have their computer, tablet, phone... Mothers give two-year-old children their phone so that they would stop crying. Children get used to it. An inactive life where they sit for hours. Television is also very effective for this.” (Ahmet, Moderate SES, School 4, M, 51)

Thus, participating teachers emphasized the limited opportunities for children to spend time outside to play in the urban setting and the digitalization of children’s games as reasons for lack of physical activity among children.

Theme 2. Policies

The policies that are thought to influence the formation of healthy eating and physical activity behaviors, as well as the implications that these policies can have on daily life, are examined under this theme. The participants mentioned three basic institutions that produce policies directed towards improving healthy eating and physical activity. These institutions are the “municipality,” the “General Directorate of Youth and Sports”, and the “Ministry of National Education”. Many different categories have been generated through the policies promulgated by the Ministry of National Education; however, the factors emphasized by the participants are presented in Table 3.

Ministry of National Education has taken two important steps recently that directly relate to physical activity and nutrition. These policies advocate increasing the hours of physical activity courses to five hours a week for the first three years of primary school and mandating new dietary arrangements that emphasize availability of nutritious food choices at school canteens.

Although our main framework was socio-ecological model, we also questioned the influence of socioeconomic level of schools as contributing factor. The teachers from different SES offered various opinions on the effectiveness of the policies regarding canteen regulations. Teachers working at a low SES school stated that although they do not have a canteen at school, students still purchase sandwiches and drinks from an adjacent gas station and bring them to school. A teacher working at another low SES school criticized the fact that the policy does not prohibit some packaged goods sold at the school canteen, such as crackers., Another teacher from the same school criticized the lack of prohibitions on colored and sugary foods. On the other hand, a teacher working at a low SES school, mentioned positive impacts of distribution of milk and dried nuts to students.

Table 3. Codes related with the policies developed for healthy eating and physical activity

Subcategories for teachers' perception on the effectiveness of policies of the Ministry of National Education at the school level

Views on canteen regulation for restricting unhealthy foods

- Access to unhealthy foods outside the school

Perception on increase of physical education course hours

- Positive but not implemented fully
- There are other 'more important courses'

Barriers to carry out physical activity course

- Heavy load of school curriculum
- Insufficiency of break times at schools

Subcategories for teachers' perception of other policies regarding physical activity

- Local government/urban and regional planning
- General Directorate of Youth and Sports

A teacher from moderate SES school stated that the policy decisions regarding the food sold at school canteens was too late, whereas another teacher evaluated these policies as a positive development. Moreover, some teachers from high SES schools who supported current policy regulations for canteens stated that school inspections are carried out regularly for canteens, and that the desires and demands of students are also taken into consideration. One of the teachers working at a moderate SES school stated that the control on sale of packaged foods in school canteen will not be a solution, and spoke to a possible unintended consequence of the current policy:

"In essence, I believe we cannot go too far with prohibitions. For instance, we do not sell such things at our canteen in school, but there is a market right next to the school and children can buy such things from there. Indeed, there are students who shop from over the school wall. I don't believe we can prevent this with prohibitions. Perhaps it results in just the opposite, maybe prohibitions are more tempting." (Ahmet, Moderate SES, School 4, M, 51).

So regarding the new policies while some teachers viewed it positively, others stated that we cannot go too far with banning unhealthy food at school, but most teachers emphasized that the policies have arrived too late to significantly alter students' attitudes, beliefs, and behaviors about eating healthy food.

Teachers from different SES schools also held varying opinions on the new policy about increasing physical activity course hours. Teachers from low SES schools said that students already have enough opportunities to play outside the school. Therefore, instead of using the new extra hours for physical activity courses, teachers preferred to use this time for other courses in which students lack skills.

"Now, this is not our priority. Because the child already plays all day long with his/her friends in the neighborhood. The children, here, even play outside when it is raining. Therefore, we do not need such things. We use this course hour to teach the children new behaviors. Such as waiting in line, learning the rules, playing games by the rules...." (Ayşe, Low SES, School 2, F, 49).

Whereas some of the teachers working at moderate SES schools indicated that they use this time to compensate for other courses, while some teachers indicated that the physical education class increases the productivity of students in the other classes.

"We have five hours of physical education and game courses. But I should tell outright that we do not use all five hours. Instead, we do math. So that the children do not lag behind... We think they can find the time to play games no matter what. We do not give too much importance to that." (Ahmet, Moderate SES, School 4, M, 51).

Teachers working at high SES schools indicated that children certainly obey the hours required in the curriculum for physical activities. Teachers from high SES schools indicated that parents require this for their children. They also reported that students are cognizant of these hours and demand them when activity times are precluded in lieu of other forms of coursework.

In addition, there was also one teacher who completed physical education classes as scheduled, but who believed that these classes should be given by physical education teachers in order for them to be more effective (Emel, Low SES, School 1, F, 38). However, another teacher working at a high SES school stated that they cannot spare sufficient time for physical activities and structured games due to the time pressure needed for preparing students for high-stakes exams.

“Now, for instance, I did not go out for physical education classes much when I was teaching third class. I could not. I tried to do it but could not. Why? Because the curriculum is so heavy that we have to be up to date because the children are preparing for exams. They are preparing for private school exams and there is not much time on our hands.” (Şükran, High SES, School 5, F, 38).

Teachers working at low and moderate SES schools indicated the negative impacts of double-shift education, insufficient garden space, and the lack of an indoor sports facility for the wintertime. Participants from a moderate SES school and one from a low SES school also indicated the short break times from the classes as barriers to physical activity.

Beyond the policies of the Ministry of National Education, teachers also criticized the urban and regional planning by the local Municipality. Several participants were critical of the lack of green areas and parks in cities where families can perform sports activities together with their children. Policies of General Directorate of Youth and Sports were also criticized by some teachers. A teacher stated that their class attempted to participate in the activities provided by the General Directorate of Youth and Sports, but their application was rejected due to a lack of staff members. In general, teachers mentioned difficulties they face to execute the physical education course.

Theme 3. School Environment

This theme examined policies centered on the health and well-being of students at schools and the availability of necessary school resources to actualize these policies. Schools have significant potential to inhibit or support health of children through improved nutrition and opportunities for physical activity. Various categories emerged relating to the level of healthy eating and physical activity at schools. Table 4 presents a summary of the related factors described by the participating teachers.

Table 4. *Codes related to school environment for healthy eating and physical activity*

Practices related to school meal time
Food variety in the school canteens
Physical environments of the schools
- Lack of indoor sports facility
- Small size of schoolyard
Equipment of the school for physical activities

While some differences were observed regarding the meal times at schools, a majority of students attending full day schools regularly eat breakfast after the first lesson of the day. In this case, a limited number of students bring food from home, but the majority of students prefer to eat foods such as toast or a bagel that they purchase from the school canteens. Some teachers reported that they prepare a food list together with the parents of the students for the school meal time.

“...We provide a list. In general, children eat individually. We do not have collective meals in the classroom. But we prepare a weekly nutrition list for individual meals with the class representative mother. They generally follow it but sometimes they do not have what they need at home. Or the mothers do not prepare it. We hand out a list to make sure that everyone eats the same thing. Foods that anyone can buy and eat.” (Ahmet, Moderate SES, School 4, EM, 51).

Teachers who prepare a nutrition list indicated that they also include things that students like or easily available at home.

"Potato, pasta, we write down whichever they like. Boiled potato or fried with pasta. They like toast. We have toast day once a week. If they want to they can bring their toast from home on that day..." (Ahmet, Moderate SES, School 4, M, 51).

The Variety of foods available at school canteens differs among schools. One of the schools from a low socio-economic level does not have a student canteen. Two teachers, one from low SES and one from moderate SES, said that the foods at schools are not healthy enough. Three of the teachers working at moderate SES schools said that foods such as toast, yogurt drink, bagels, and packaged foods are sold at their schools, and that regular canteen inspections are made within the scope of the latest regulations. A teacher working at a moderate SES school stated that they tried selling fresh fruit at their canteen, but it was discontinued due to insufficient sales. Similarly, a teacher working at a high SES school summarized the process at their school:

"Toast or similar foods that are not banned at the canteens which are unhealthy. Now, what I'm saying is if you really want to eat toast, do not eat that but prepare one at home for yourself. Well, the canteen manager tried to sell homemade food once but there wasn't much demand. Perhaps it was expensive for children. There were people who were buying it last year but since children do not eat vegetables etc. the owner sells chicken and rice such kinds of foods... They also tried to sell fresh fruits at once. I also encouraged the students to buy. They used to buy once or twice. But then they stopped completely... so even that didn't work." (Nazlı, High SES, School 6, F, 52).

However, one of the high SES school offered healthy food alternatives such as vegetables, soups, and fresh fruits for lunch time, and the majority of the students ate there. Relatively better conditions at high SES schools were mentioned compared to low SES schools. However, all the participating teachers from different SES schools noted that although there are efforts to increase the nutritious food offered at school canteens, children tend to like and eat unhealthy foods.

The physical environment of the schools also mentioned as a problem by the participating teachers. A majority of the teachers stated that their schoolyard is insufficient for supporting physical activities. While some teachers emphasized the need for an indoor sports facility, and some reported basic athletic equipment as missing or simply not available. Teachers from moderate SES schools, where double-shift education is continued, were particularly vocal about the limited and insufficient size of schoolyard and that the equipment in the schoolyard. These teachers also reported that there are no indoor sports facilities in almost any of the schools that's why physical activity classes cannot be carried out in the yard during the winter months. As a result, students remain inside the classroom during physical education courses. By contrast, teachers working at high SES schools indicated that they have sufficient playgrounds.

Theme 4. Interpersonal Relations

This theme discusses interpersonal relations among family, teacher, and peers, and cultural capital of the families. The categories are presented below in Table 5. Teachers, especially those working at low SES schools indicated a lack of knowledge and understanding among parents in relation to supporting and reinforcing healthy eating habits and physical activity. The apparent gap between the implementation of school policies and reinforcement at home exemplifies the effects of cultural capital which comprises the social assets of a person (education, intellect, style of speech, style of dress, etc.) that promote social mobility in a stratified society, or the lack thereof.

"I think eating habits go parallel with the education level of the family. Protein, carbohydrate, fruit-vegetable distribution and especially vegetables are more proportional as the education levels of the families increase. For instance, when we talk about this neighborhood, breakfast culture is very low. They generally tend to prefer packaged foods. Especially the mothers...And one thing that I pay attention to in my profession is that working mothers are more attentive to eating. They try to cook at home for their children instead of giving them packaged foods. But housewives tend to lean more towards food provided at the school canteens for their children." (Emel, Low SES, School 1, F, 38).

Teachers, particularly those working at low SES schools, point out that parents cannot implement healthy options in their lives due to lack of knowledge or financial difficulties, even

if, the teachers provide information about healthy eating and nutritious food lists for parents. By contrast, teachers working at moderate SES schools suggested that parents are somewhat more conscious of healthy eating and physical activities. On the other hand, one teacher from a high SES school indicated that mothers generally prepare some form of pastry for meal times because preparing healthy foods is difficult for them (Nazlı, High SES, School 6, F, 52). A teacher working at a high SES school explains the influence of families on nutrition choices and the concept of the “conscious parent” as follows:

“Families have more impact. It does not work out even if we tell the families to bring fruits or dried nuts. Conscious families give importance to this. I see families who send vegetables with their children. But if the child is not used to it from before, then it becomes difficult...I do not mean university graduate parents when I say conscious parents. There are some university graduates who are not interested. What I mean by consciousness is valuing their health, as well as that of the child.” (Şükran, High SES, School 5, F, 38).

This teacher, working at a high SES school, emphasized that being educated is not enough for choosing healthy food. The more important factor is that the level of consciousness about what constitutes good or bad food and make an effort to eat healthily.

Table 5. Codes related to interpersonal relations regarding healthy eating and physical activity

Subcategories about family influences

Cultural capital of the family

- Educational level of mothers
- Level of consciousness

Socio-economic level of the family

- Inhibits healthy food choices

Family participation to school programs

Subcategories about peer influences

- Peer influences on food choices
 - Peer influence on physical activity/inactivity
-

Subcategories about teacher influences

- Teachers as role models
 - Teacher’s perception of good nutrition
-

Another category associated with the family is the socio-economic level of families. Some teachers working at low SES schools indicated that their respective schools do not have any real concept of healthy eating, or that the parents have unhealthy habits (smoking, substance abuse, etc.) which influence children negatively. In line with this observation, another teacher agreed that the students “eat whatever they can find” or that they do not have much option because of their financial situation. One of the teachers working at a low SES school explained the profile of the low-income parents at their school as follows:

“They need to have income. For that, they need to find a job which is very difficult. Because most are ex-convicts and employers do not want such people. Therefore, it is very difficult for them to find a job.” (Ayşe, Low SES, School 2, F, 49).

The same teacher made the following remarks regarding the lack of healthy eating at their school:

“One day, a student of mine in the first grade came to school without having breakfast and so I gave him a biscuit that I had with me. And then during lunch the student went home and came back. We started the ceremony for 12th of March, the acceptance of the National Anthem. He first said, “My stomach is aching” and I thought it was because of what he ate. But actually, he has not eaten anything for lunch either. The mother also did not give the

child any money so that he could buy food. The child fainted during the ceremony and we gave him something to eat." (Ayşe, Low SES, School 2, F, 49).

Regarding the participation of the families in trainings at the schools, a teacher working at a low SES school indicated that the parents are open to training and that they often participated in school organized training sessions. Comparatively, though, a teacher working at moderate SES school indicated that parent participation in trainings organized by schools was very low. At high SES schools, parent participation seems related with both parents' attitude towards school and teacher.

According to many teachers, peer influence is another factor that has a significant effect on eating habits and student participation in physical activities in school. Students are affected adversely from each other when they see other students consuming unhealthy foods. Teachers also state that students can become negatively affected from each other during group participation in physical activities.

Teachers also have the ability to be positive role models for healthy eating habits and physical activity. Participating teachers in our study, generally see themselves as good role models for healthy eating. A teacher did acknowledge that she has shortcomings on the subject and is trying to improve herself. It was observed that the perceptions of teachers on "healthy eating" varied a lot. For example, one teacher believed that it might be a healthier alternative for students to eat toast they bring from home instead of consuming the packaged goods at schools. Another teacher working at a high SES school said they suggest foods like French fries on the nutrition lists due to the demands from the students. However, in general teachers were aware of their significant role in their students' lives.

Theme 5. Individual Characteristics

This theme focused on the individual characteristics or preferences of students with regard to healthy eating and physical activity behaviors from the perspective of the teachers. Participating teachers indicated that children have interest in being physically active but usually not in disciplined sports. According to teachers, only very small percentages of primary school children participate in athletic activities. A teacher working at a low SES school said that there are students who play sports regularly (three soccer players, two basketball players). Another teacher working at a moderate SES school mentioned three students who take part in activities such as soccer, gymnastics, and folk dancing from among a class of twenty-five. Lastly, a teacher working at a high SES school pointed out a student who was involved in judo. Almost all of the teachers indicated that children prefer spending their time at home in front of a computer by playing video games or watching television. In this regard, increasing rates of obesity among children were also mentioned by teachers.

Theme 6. Recommendations for the future

Teachers were asked about what needs to be done in the future to increase healthy behavior among children. Participating teachers suggested increasing control on the packaged foods sold in school canteens. In addition, they recommended selling fresh fruits and vegetables at school canteens and preparing the food lists for the students with the help of nutritionists. They also recommended offering healthy eating classes for parents.

Recommendations of the teachers regarding the increase of physical activity among the students were as follows: improving the physical conditions of the schools and building playgrounds for students, receiving support from physical education teachers for the physical education class, developing policies for encouraging students to participate in sports starting from the primary school years and the use of public service announcements for increasing healthy eating and physical activity habits. In addition, carrying out activities for increasing the knowledge of parents and an overall increase in parental participation in school health awareness training sessions have been among the most emphasized options among these suggestions.

DISCUSSION

Healthy eating and physical activity habits include individual as well as social factors. The study findings were interpreted using a socio-ecological model, which allowed us to see the relations between structural and individual characteristics. Teacher opinions, from different SES schools, examined within the context of the socio-ecological model proved essential in developing a more comprehensive perspective towards healthy eating and physical activity. Understanding the dynamic interaction between the social system at the macro level and the individual at the micro level provides a richer and more nuanced understanding of the multi-dimensional problems related with healthy eating and physical activity. In this regard, parallel to the perspective of relational sociology, we feel that structural factors cannot be separated from the agent, and that they need to be conceptualized as a supplementary part of the agent itself (Köngeter and Smith, 2014). Thus, the social components that are thought to have an impact on the preferences of the individual were examined in more detail instead of an in-depth examination of the preferences of the individual and individual based factors, which have been examined in many different studies.

Here, a general assessment shall be made on the study findings based on the socio-ecological model. Viewing our findings through the analytical lens of a chronosystem, we believe that important changes to contemporary life styles, specifically changes in eating habits, eating culture(s), and tastes, are based around the reification of consumer culture in the mediated lives of school-age children. Urbanization, increasing industrialization, greater media exposure, and targeted product branding to children have dramatically increased the rise of fast food culture and the consumption of packaged foods. This finding supports the results of studies pointing out the change in the palates of primary school children (Cooke, 2007). The fact that access to unhealthy food has become easier is among the prominent factors of this change. Further support is provided by a comparative health study between countries showing that difficulties related with access to healthy food are among the obstacles related to consuming healthy foods (Lappalainen, Saba, Holm, Mykkanen, & Gibney, 1997). Further studies show that in many developing countries, changes in consumption habits are directly associated with increased immobility and sedentary way of life, particularly in large urban areas, leading to an overall increase in serious health issues (Mehri, Solhi, Garmaroudi, Nadrian, & Sighaldehy, 2016).

Our findings demonstrate that, the policy implementations at the macro level have mutual interaction between the different layers within the socio-ecological system. For example, improvements at the policy level are more difficult to implement if they are not in accordance with the facilities and other support structures of the schools. Teachers were generally positive regarding the policies implemented by the Ministry of Education for encouraging healthy eating and physical activity. However, there are also participants who believed that these policies are either too late to alter student attitudes and behaviors or are simply ineffective. Even though regulations on limiting the sale of unhealthy foods at school canteens have contributed to an increase in the awareness and consciousness levels of students and families, children are able to access unhealthy foods from a multitude of non-school channels. Indeed, some families at the low SES level actually direct their children towards consuming unhealthy packaged foods. Policy implementations, then, can contribute in meaningful ways by directing students towards healthier eating options. That being said, it has become apparent that policies and arrangements at the school level will not be sufficient; there is a need for improving the levels of knowledge and consciousness of families, especially for the mothers.

In general, teachers say that they have positive attitudes towards healthy eating, as do the families, but that these attitudes are not reflected in student behaviors, or that there is no continuity with regard to such behaviors. Such negative behaviors may persist because some teachers included foods such as French fries, homemade toast, cakes, pastries in the eating lists they prepared for the students and parents. As such, providing trainings on healthy eating to teachers may contribute to a more successful implementation of policy initiatives. Our study indicates that improvements can be made at school canteens, particularly for the sale of fresh fruits and vegetables. Such activities fall within the scope of established policies that are already

in effect, but which have not been fully implemented. Distributing seasonally available fresh fruits and vegetables on certain weekdays, in addition to milk and dried nuts, as snacks at schools may have an impact on the healthy eating habits of the children. These products can be distributed free of charge to the students in our country that is quite rich in citrus fruits. In a symbiotic relationship, farmers will be financially supported for contributing to the healthy eating habits of children, especially those from lower income level households, thus reducing the inequalities due to injustices in income distribution.

Even though families with low SES were identified by some teachers to be less conscious about making healthy food choices, there may also be children from some educated families who also regularly consume unhealthy foods. This is an indication of the impact our consumer-based society has on the conscious and the subconscious purchasing behaviors of families. To this extent, it can be argued that individuals in consumer societies have themselves been consumed by the symbolic meaning; they themselves have become the objects through which consumer products become culturally meaningful. The desire to eat fatty and unhealthy food rests within a socially constructed notion where the pursuit of specific types and brands of products bestows a momentary form of fleeting power and prestige. As a contributing member of consumer society, the successful individual willingly trades their sense of self to become a branded product who works in the service of unconscious and unbridled consumption. The messaging received, via any number of devices, by all members of society, including school children, is that identity formation is tied not simply to their own consumption of specific products; rather it is fundamentally relational to mediated images portraying actors engaging in their desire to consume and finding joy in the relationship between self and product (Carter, et.al., 2011).

Representations of self, as individuals and as social beings, are necessarily made through the purchase of specific products that socially recirculate to produce an idealized representation of the self as an empowered purchasing agent. Individual identity becomes inseparable from the subject's representation as an object defined by consumption patterns. Importantly, the pursuit to be consumed by consumption is not perceived or constructed as being abnormal, quite the opposite. The dehumanizing activities of modern consumption are by necessity embodied and naturalized as a defense, and in full support, of a "healthy" economy—in the absence of hyper-consumption the economy, and thus the individual is deemed at-risk, unhealthy and sick—therefore fully consumed, and brand identified, individuals are socially recognized and valorized (Baudrillard, 2008). The notion of endless choice, the eternal gift of neoliberal capitalism, is reduced to one choice: mindless, endless consumption.

Participating teachers agreed that some families consider the "ability to purchase" foods from the market, instead of preparing them at home, were an indicator of status. Again, with regard to consumer society, Baudrillard (2008) argues that goods and commodities form a cultural system encompassing social values and a hierarchical order. The physical well-being of the individual student, and by extension the society, necessitates educational efforts to raise the levels of consciousness of families with regard to healthy eating and physical activity. Teachers working at low SES schools argue that it is necessary to increase the education levels of the parents. On the contrary, teachers working at high SES schools believe that one not need to be a "university graduate" in order to develop a critical consciousness of the issue. Similarly, representations of what it means to be a "university graduate" may also be related to Bourdieu's notion of cultural capital, or the lack thereof, that families use in distinguishing normal eating habits and generalized beliefs about taste. Holt (1998) argues that Bourdieu's theory can be used to understand the consumption habits of individuals within the context of social history. Linking cultural capital to the emergence of preferences will also contribute to a better understanding of issues to consumption patterns.

The general opinion of teachers is that we cannot escape the consumerist impulse to eat unhealthy foods. Urban life and the fact that individuals have become increasingly the targets of continuous tactical marketing, makes escaping the presence of, and easy access to unhealthy foods seem unrealistic. There were also teachers who stated that things were better back in the day when there were no canteens at schools, but the present study suggests that there is a

positive and important role for policy makers to make it easier for the whole society to access healthy foods, while making it more difficult to access unhealthy foods. Also, the study results posit that cultural changes, particularly the ubiquity of cell phone usage and computer gaming amongst primary school students are both striking in the rate of adoption and telling in terms of the need for research that critically examines the unintended consequences of these phenomena. The teachers reported that children are not involved in sufficient physical and socialization activities during a critical learning period, particularly when the culture of play has become increasingly digitalized. Several teachers argued that children want to be involved in physical activities, but that they lack interest in disciplined sports activities, and that only a small number of students were involved in a regular sports activity. Children prefer spending a majority of their time at home in front of a tablet or computer. Compounding the lack of interest in physical activities, teachers also mentioned the imposition of poorly designed urban spaces that lack public green spaces and do not support zones specifically designated for physical fitness and sports related activities. This poses a good example of the relationship between structure and agency. Children lead inactive lives in front of televisions and tablets inside cities, surrounded by physical and social structures that work against their nature to run, engage in nature, form social bonds through the playing of games, or to gain meaningful life lessons provided by participating in sports. Significantly, the current structuring of childhood, highlighted by an increasingly sedentary way of life, married to the immense popularity of watching television and playing video games, has been identified as a contributing factor for the increased rates of obesity among school age children in North America (Garde et al., 2015).

However, it is important to note that games and activities designed to increase participation rates of physical activity are gaining importance. Unfortunately, attempts by the Ministry of National Education to increase physical activity among children have proved to be insufficient. An exemplary project on this issue was put into practice in Antalya. Students were given 400 bicycles and were asked to ride them during the “Bicycle Module” course. Considering that there are 90,435 primary school children in the city of Antalya, only four out of a thousand students have been able to engage with and complete this project (Şık, 2017:15). While the impact of this project was quite limited, it represents one promising endeavor designed to get students outside and engaged in healthy activities. Similar to this project, bicycles are distributed in other cities as well. The Ministry of Health has declared that one million bicycles will be distributed to secondary school 5th, 6th and 7th grades, as well as selected universities as part of the “Project for Encouraging Physical Activity 2015-2018” (Memurlar.net, 2015). Even though these programs are all very positive, they remain as Band-Aid interventions and are not able to overcome the multi-dimensional problems caused by modern urban life on their own.

The significant findings of our study point to issues regarding the implementation of policies for increasing physical activity at schools. One of these problems is replacing physical activity courses with other courses which are considered as more “important”, such as mathematics, due to the insufficiency of the physical facilities of the school, as well as the heavy load of educational curricula and the need to prepare students to take high stakes tests. In accordance with this finding, a study has been carried out on secondary school students in Turkey in which 4% of the participants stated that they do not have any physical education lessons (Orhan & Yoncalık, 2016). In general, all participants stated that the physical facilities of their schools are limited. Özdemir (2011) carried out a study on 14 schools located at central Bartın, the results of which support the findings of our study. Based on the study findings, schools fail to provide activities in accordance with the age, physical characteristics and demands of the students due to the lack of facilities. In the absence of proper facilities, problems emerge during the implementation stage even when decisions are made at the policy level for increasing the physical activity levels of children. Action plans should be developed and implemented for eliminating the obstacles faced when putting the policy level decisions into effect.

The perspective provided by the socio-ecological model indicates that school health cannot be taken into consideration independent of other institutions that impact a student's social life. In this sense, local administrations have significant responsibilities for increasing

urban health (Irvin & Scali, 2010). Priority and resources should be given to low socioeconomic neighborhoods for improving the opportunities provided to disadvantaged children. An important factor for the improvement of community health is the basic right of individuals to freely move and exercise. This means that parks and facilities must be made available to the public where they can perform sports activities (Güreş, 2015; Turkish Healthy Cities Association, 2019).

The related literature points to schools as having a significant impact on the ability of students to develop healthy eating habits (Maes and Lievens, 2003). Meat, milk and milk products, fresh fruit and vegetable can be provided to families with small children by way of social support through local administrations, thereby contributing to the healthy eating habits of children. These efforts also hold promise for putting into effect the principle of social justice. As can be seen, there are many factors such as policies, institutions, interpersonal relations and individual preferences that have direct impacts on healthy eating and physical activity. There is a need for different studies that consider the issue from a multiple-layered perspective. Eating and physical activity programs at schools will contribute to improving the physical health's of children, while increasing school success. Considering that school age is a period when people are most geared towards acquiring knowledge and habits, the healthy eating and physical activity habits acquired by children during this period will make a positive impact on their adult lives. The focus in the present study was on the teacher opinions related to this subject. The issue of childhood obesity, and the role of education in combating this problem, involves a complex set of interrelated factors and interdependent variables. Therefore future studies should examine the opinions, beliefs and values of different stakeholders, including parents, students, school administrators, as well as local, regional, and national policy makers.

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