



## STUDENTS' FOOD CONSUMPTION IN A SCHOOL CANTEEN: ANALYSIS OF WHAT THEY CHOOSE FROM THE CANTEEN GALLERY AND WHAT THEY DISCARD, BY GENDER AND AGE

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### Introduction/background

Recently, many countries, including Portugal, have implemented strategies for promoting young people's healthy lifestyles, and school canteens are seen as appropriate places to encourage healthy eating (Aracenta-Bartrina et al., 2008). In addition to educating and empowering students to make healthy choices, canteens are also seen as socialization spaces where the pleasure for healthy meals must also be promoted (Atie-Guidalli, 2012). This work intended to evaluate not only the quality of the canteen food provided in a school (in the Southern region of Portugal, Alentejo) but also the students' food choices and opinions about the canteen service, in order to assess the efficiency of the national canteen programme in this school. The aim was to find evidence of good practices as well as needs for improvement. Therefore, the objectives of this study were (i) to characterise the school canteen conditions, both the food service provided and the students' perceptions about it; (ii) to observe the students' food choices and preferences; (iii) to analyse students' food consumption, i.e. what they actually eat from the complete meal and what they discard; (iv) to find significant statistical differences between gender and between school level groups; (v) and, if pertinent, to formulate recommendations to improve the canteen service and the students' healthier behaviour.

### Theoretical/analytical framework

Healthy diet influences the growth and development of children and young people as well as their quality of life, helping to prevent the occurrence of health problems such as obesity and some related cancers (Aracenta-Bartrina et al., 2008). Thus, it is important to encourage the acquisition of a balanced diet during childhood and adolescence, aiming at enduring for the lifetime. Children's and young people's food choices usually do not take into account their nutritional needs, they are rather influenced by their family habits, culture and socio-economic situation (Loureiro, 2004). As children grow up, the family's impact on their food choices tends to decrease whereas the peers' influence tends to increase, so that helping adolescents to make their personal decisions becomes a priority and, naturally, the school plays an important role in their health education (Currie et al., 2012; WHO, 2006). In this sense, school canteens are one of the important factors in promoting children's and young people's healthy habits and so national legislation can be an important strategy (Aracenta-Bartrina et al., 2008) if put in place correctly. In addition to the relevance of policy regulations contributing to provide a correct offer of balanced food in school canteens, there is also a need for students' nutritional education in order to empower them to make healthy food choices. This study considered both perspectives: the delivered canteen food and the students' food consumption.

### Methodology/methods

The sample included the 5 canteen employees and 484 students: 252 of 2nd cycle (10-12 years old; 46% girls) and 232 of 3rd cycle (13-17 years; 49% girls). Data collection combined qualitative and quantitative methods:

# Research based ABSTRACTS

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- Content analysis of international and national rules for healthy food canteens and daily menus;
- Semi-structured interviews with the canteen employees about food acquisition, storing and canteen delivering;
- Application of the national canteen evaluation scale SPARE (2009);
- Students' questionnaire about what they eat in the canteen and their opinions about it;
- Systematic observation of what students select into their trays, what they leave behind and what they consume.

## Key Results

- The school menus did not show all information required by national rules and 35.5% of them did not match the supplied meals.
- According to the SPARE (2009) scale, the meals were quantitatively and qualitatively 'Acceptable' and hypocaloric: lipids and especially carbohydrates were under the recommended level but proteins were at correct level.
- The school canteen was more frequented by 2nd Cycle students, by those who lived far away from the school and by those receiving a free lunch ticket (for socio-economic reasons).
- Only 12.2% of students consumed full meals: soup and vegetables were the most despised foods whereas the main dish (fish or meat), accompanying carbohydrates and fruits were the most preferred choices. Vegetable consumption was clearly insufficient.
- Students discarded about 15% of the meal as they left part of it in the dish, especially the girls.
- Girls consumed more soup and vegetables ( $p < 0.05$ ) while boys ate more bread and fruit ( $p < 0.05$ ). The 2nd Cycle students tended to make healthier food choices than those of the 3rd Cycle, consuming more fish, accompanying vegetables and fruits.
- Most of the younger students (77.2%) considered the food service 'Good' or 'Very good' while most of the older students (64.4%) considered it 'Acceptable' or 'Unacceptable'.
- Students were more satisfied with the staff treatment and the dining room and more dissatisfied with the delivered food.

## Conclusions

In general, the school canteen was able to provide an adequate service according to international and national rules and the delivered meals were hypocaloric and quantitatively and qualitatively 'Acceptable' according to the SPARE (2009) scale. However, the nutritional intake varied with the students' choices and preferences. Most students discarded food and so had incomplete meals, soup and accompanying vegetables being the most neglected portions of the meal. The main dish (meat or fish) and the accompanying carbohydrates were widely preferred.

Gender and age (10-12 years old students in 2nd Cycle; 13-17 years old students in 3rd Cycle) determined students' eating behaviours and their satisfaction with school food service: girls consumed more soup and vegetables while boys ate more bread and fruits; the younger students (2nd Cycle) had higher fish consumption complemented with vegetables and fruits rather than the older ones (3rd Cycle). The latter were more critical and demanding about the food school service.

## Implications

Although it is important to study the quantity and quality of the food delivered in school canteens following policy regulations, this study highlighted the relevance of analysing the actual students' food consumption by looking not



only at what they choose from the canteen gallery but also at what they discard from their dishes. The study also showed that gender and age are determinants in children's and young people's eating choices and behaviours.

Therefore, the present study points out the need for taking into consideration the students' gender and age for the planning and implementation of intervention programmes in school healthy eating in order to empower students to make healthy food choices. In addition, appropriate school interventions can ensure positive changes by enhancing school canteens' role as models of healthy eating for students' families to learn about and be able to improve their home meals and their diet lifestyle. To be effective, such programmes must create strong interactions between the school and the students' families.

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