Systematic assessment of the nutrition environment at Maastricht University

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Date: 10.07.2017

Abstract

Background: Overweight and obesity are still a challenging problem worldwide. The university time is a critical period for weight gain. Previous research indicates the potential of the university setting to counteract this development, by creating a health supporting nutrition environment. The first step in this process is the assessment of the current nutrition environment. The systematic assessment of the nutrition environment at the university will be subject of this study. As there are, to date, no reliable tools to systematically assess the nutrition environment specified to the university setting, the aim of this study is first, to develop an assessment tool. Second, the developed tool is aimed to have a high degree of feasibility, which will be tested at Maastricht University, the Netherlands.

Method: On the basis of the already existing tool Nutrition Environment Measure Survey (NEMS) the tool University Nutrition Environment Measure Survey (UNEMS) was developed. The original tool was adjusted to special requirements of the university setting, the Dutch culture and product offer. Different food outlets should be separately assessed with UNEMS. The tool was pilot tested at Maastricht University in May 2017.

Results: Four different instruments were developed specified to cafeterias, snack shops, food vending machines and beverage vending machines at the university. Instruments comprise observational aspects, regarding promotion, availability of healthy options, pricing, or informational aspects, which are assessed by a trained rater. In the pilot study, one cafeteria, one snack shop, three food vending machines and four beverage vending machines were assessed. All facilities scored under the average of the total UNEMS-score (37-44%). The majorities of sub-categories in all facilities scored under the average as well.

Discussion: UNEMS showed to be able to identify problematic aspects in the nutrition environment and to point out areas for improvements. At Maastricht University the most problematic areas were availability of healthy options and the lack of nutritional information.

The tool showed a high degree of feasibility. Further research on reliability and validity should follow to support the use of this tool.

Background

Overweight and obesity are still a challenging problem worldwide, making obesity prevention efforts relevant and necessary. (1) Identifying phases in life, where excessive weight gain is likely can contribute to the implementation of health promotion activities in relevant life stages.

The university time is a critical period for weight gain. (2) Especially in the period of transition from secondary school to university. Students have to adjust to a new environment, which may support this development. (3) The fact that on average students spend 6 hours per day in the university indicates the promising role of the university setting in order to influence students' behavior. (4) Weight gain can be influenced by two main factors, physical activity and eating behavior. (5, 6) In this study, the focus will lie on eating behavior among university students. A healthy eating behavior is not only expected to prevent weight gain, but it is also assumed to have a positive influence on academic performance.(7) Therefore supporting a healthy eating behavior among students may lead to a variety of positive effects.

But how can the university support healthy eating behavior among students? To answer this question, factors that may impact eating behavior and can be changed by the university, should be identified. A cross-sectional study conducted in 2013 by Pelletier et al. showed an association between frequent campus area purchasing and diets higher in fat and added sugars. According to these results unhealthy food and beverage options on campus may contribute to unhealthy diets among university students.(8) A qualitative study conducted by Deliens et al. supports this suggestion and the environmental influence on eating behavior. The researchers examined determinants of eating behavior in university students in Belgium and identified individual factors, social networks, macro environmental factors, and physical

environmental factors, such as availability, accessibility, appeal and price of food products. (9) In a systematic review conducted by Caspi et al. focusing on nutrition environments surrounding residences, accessibility and availability showed a relation to multiple dietary outcomes. (10) In summary these studies emphasize the nutrition environment as a relevant factor in influencing eating behavior.

The relevance of environmental factors can also be found in the Model of Community Nutrition Environment, which is based on an ecological approach of health behavior (Figure 1). The model identifies four types of nutrition environments that influence eating behavior; the community nutrition environment, the organizational nutrition environment, the consumer nutrition environment, and the information environment. (11) Based on the Model of Community Nutrition Environments, Glanz et al. developed an assessment tool called Nutrition Environment Measure Survey (NEMS) which is used to assess the community nutrition environment and the consumer nutrition environment in specific neighborhoods. (12, 13)

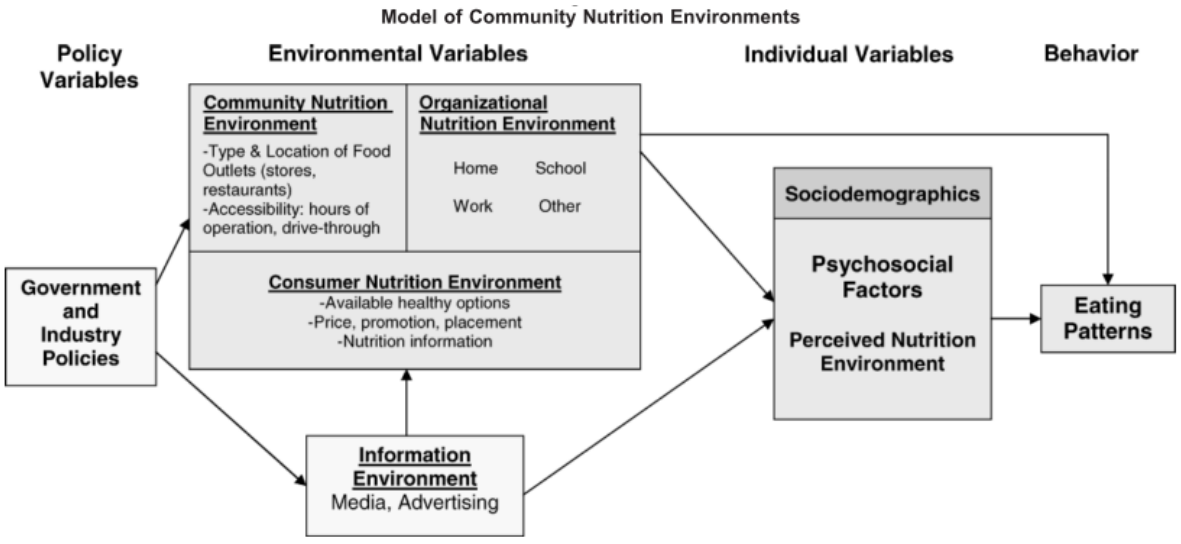

Figure 1: Model of Community Nutrition Environments

In order to create an organizational nutrition environment at university that supports healthy eating behavior among students the current nutrition environment should be assessed. The nutrition environment that will be in focus of this study is at Maastricht University, the

Netherlands. The most numerous food providing facilities at this university are cafeterias, snack shops, food vending machines and beverage vending machines. All four facilities offer different varieties of products which are fitted to specific purposes. The cafeterias are mainly providing lunch, e.g. pizza, or noodles, the snack shops mainly snacks and beverages, e.g. candy, sandwiches, and soda, the food vending machines exclusively snacks, and the beverage vending machines exclusively beverages. Because of the differences in product supply this study is aimed at assessing these facilities separately. This is assumed to give a more detailed overview, and therefore allow more detailed indications for improvement.

To date, there are no reliable and feasible assessment tools specialized to validly, specifically assess the university nutrition environment. As a result the purpose of this study is first, the development of such an assessment tool, in order to assess the healthiness of the nutrition environment and identify aspects that indicate room for improvement. Moreover, the assessment tool is aimed to have a high degree of feasibility, what leads to the second aim of this study, to test feasibility of the developed assessment tool in a pilot study at Maastricht University. A high degree of feasibility will increase chances for dissemination.

Methods

Development of the tool

The already existing tool to assess community and consumer nutrition environments NEMS was selected as basis for the development of a specified tool for universities. NEMS comprises observational measures to assess the nutrition environment. It includes one instrument specified on the assessment of stores (NEMS-S) and one for restaurants (NEMS-R), in order to meet the specific requirements of each facility. Each instrument includes measures, a protocol and a scoring sheet.

Measures within each instrument include items which assess the type and location of food outlets, availability of healthful choices and information, pricing, promotion, and placement

of healthier food products. (14) They comprise a checklist of certain environmental aspects. The rater, who collects data, fills in the checklist only via observation. The protocol includes instructions for each item in order to increase reliability. In the context of data analysis, every item is associated with points for each possible answer which can be reviewed in the corresponding scoring sheet. Items that imply a health supporting aspect, e.g. “Do signs/banners show healthy menu options?” get +3 points if the answer is “yes”, and 0 points if the answer is “no”. Items that imply an aspect that is connected to an unhealthy nutrition environment, e.g. “Do signs/banners encourage overeating?” get -3 points if the answer is “yes”, and 0 points if the answer is “no”. In regard to availability of healthful choices, the number of healthy choices in the categories, e.g. main dishes and main dish salads in the restaurants are counted and associated with points according to the number of healthful choices. In stores categories, e.g. fruits and vegetables are assessed and scored in the same way. The sum of all points in one instrument results in the total NEMS-score for this facility and represents the overall healthiness of the nutrition environment with regard to all different assessed categories. The total score serves as quantification of the observed nutrition environment and can be used to compare different facilities or neighborhoods. Both instruments have a high degree of reliability and feasibility.(12, 13) NEMS can be conducted by non-professionals and no interaction with employees of the food outlets is needed.

To date, the tool has solely been used in the USA for different large-scale studies, where the community and consumer nutrition environment of whole neighborhoods for example in California or Minnesota were assessed. (15-18) As the aim of this study is to assess only the consumer nutrition environment at the university, the measures needed to be adjusted to the specific characteristics of the university setting.

From the 10th and the 17th of April 2017 the primary researcher attended an online training to learn how to use NEMS and to be equipped to adapt the instrument for the university setting.

The adjustments were conducted in contact with the project coordinator of NEMS. The focus lied mainly on the translation of measures from the community nutrition environment to the organizational nutrition environment. The aim was to change as least as possible from the original NEMS to maintain reliability. The adjusted tool is named University Nutrition Environment Measure Survey (UNEMS).

As there are four different food providing facilities at Maastricht University, four different instruments were developed.

NEMS-R was used as a basis for the cafeteria instrument (UNEMS-C). For UNEMS-C the categories promotion, availability of healthy options in the categories main dishes, main dish salads, salad bar, side items, bread, desserts and beverages, facilitators and barriers and overall food pricing were maintained from the original tool. However, the products were changed, in order to meet the Dutch food supply.

NEMS-S was used as a basis for the snack-shop instrument (UNEMS-SS). The basic constructs from the original tool were translated into UNEMS-SS. The products had to be adjusted to a snack-shop, so that some items (e.g. ground beef) were excluded. Very specific and detailed items were changed into more general categories, because of the limited product variety in a snack-shop compared to a grocery store (e.g. a list of single fruits was translated into the category “fruits”).

As there is no publication about a specific NEMS tool for vending machines and this is not part of the online training the instrument specifically for vending machines developed by the group of researcher around Goodman was used as a basis. (19) For the purpose of this study the tool they used was translated into UNEMS-BV for beverage vending machines and UNEMS-FV for food vending machines. Again, the products were changed to the Dutch nutrition environment.

The protocols and scoring sheets also changed according to the adjusted measures. The basic structure of scoring system maintained as in the original tool. In regard to data analysis, a digital scoring sheet in Excel was developed to digitalize scoring and store the data.

Pilot study

After the development phase the tool was tested at Maastricht University. Due to limited resources, one faculty of the university was selected to be in focus of the assessment in this pilot study. The Faculty of Health, Medicine, and Life Science and Psychology is placed in the periphery of Maastricht and has no food providing facilities in the near surrounding. The nutrition environment at Maastricht University is the primary nutrition environment to which the students are exposed during their time at the faculty.

Data were collected by the primary researcher in May 2017. The facilities under investigation were one cafeteria, one snack-shop, three food vending machines and four beverage vending machines that are placed at the faculty. Machines that were selling hot beverages were excluded from data collection. The primary researcher observed every facility separately and filled out the printed measures. In addition to the measures, the start and end time of every observation was noted, in order to assess feasibility.

After data collection the results were entered into the digital scoring sheet. The total UNEMS-score was calculated for all facilities separately. In addition, sub-scores for each category within the measures were calculated.

Results

The UNEMS

The results of the development are measures, protocols, scoring sheets for each instrument, UNEMS-C, UNEMS-SS, UNEMS-BV, and UNEMS-FV and one digital scoring sheet for all instruments in Excel (See Appendix 1-3). The digital scoring sheet can be accessed with this

link:

https://www.dropbox.com/sh/27w5huj2gdy6i53/AAD3UgC3UZ0odKxahGqq5VxSa?dl=0.

The measures are developed to be printed and filled out by the rater while observing the facility. The protocols are intended to be studied by the rater in advance to data collection. Analysis of data can be done with the scoring sheets by hand or directly entered into the digital scoring sheet. The scoring results in a total UNEMS-score for each facility. This score gives an indication if the nutrition environment is supporting or impeding students to make healthier food choices. Further, the total score is split into sub-scores for each category in each instrument to identify specific, problematic aspects.

All four instruments start with basic information, e.g. location of the facility, which are not considered within analysis. Each instrument comprises a checklist with measures of environmental aspects, e.g. the existence of certain promotion efforts, the existence of nutritional information, or the price of certain products.

UNEMS-C includes 11 categories with in total 47 single items. The categories are promotion, availability of healthy main dishes, main dish salads, options in the salad bar, side items, bread, desserts, and beverages, pricing of healthy compared to unhealthy beverages, facilitators and barriers of healthful choices and overall food pricing. Items are for example the number of options in regard to fruits without added sugar, or if unhealthy items are presented at point-of-purchase. Points are associated with each item, as in the original NEMS. The total UNEMS-score for cafeterias ranges from -55 points to 83 points. Negative sub-scores indicate in general the predominant existence of unhealthy aspects, e.g. unhealthy promotional efforts or products, and positive scores the predominant existence of healthy aspects, e.g. promotion that supports healthy food choices, or the availability of healthy main dishes.

UNEMS-SS includes 7 categories with 28 single items. The categories are promotion, the availability of healthy main dishes, main dish salads, bread, snack items and beverages, pricing of healthy compared to unhealthy snack items and beverages, and overall pricing. Items assess for example the number of healthy main dish salads available, or the price of regular compared to baked chips. The minimum total UNEMS-score is -30 points and the maximum is 71 and for snack shops.

UNEMS-BV and UNEMS-FV are the same expect for one item, which focuses on beverages or snacks. Both instruments include 7 categories with 22 single items. The categories are promotion, distribution of slot spaces, the availability of healthy snacks/beverages, pricing of healthy and unhealthy snacks/beverages, facilitators and barriers, and general pricing. In the category distribution of slot space the number of all slots in the vending machine is counted and each product is assigned to one of three categories which are based on the Healthy Vending Guide. (20) The total UNEMS-score for food vending machines ranges from -25 to 54 points, the UNEMS-score for beverage vending machines from -24 to 49 points.

In all instruments the highest total score represent the best environment that supports healthier food choices that can be measured with this tool. All scores can be expressed in percentages which indicates how much of the total points are achieved, so that 0% equal the lowest points possible and 100% the highest score possible. The higher the percentage of the score, the higher is the healthiness of the nutrition environment. The translation from absolute numbers to percentages compensates the use of different scales and facilitates comparison. All instruments include a comments section where the rater is asked to fill in important information the rater noticed while observing the facility.

Pilot study results

The results of the pilot study are four total UNEMS-scores for each facility (Figure 2). The cafeteria at Maastricht University achieved 43% and the snack shop 40% of the highest

possible score. All food vending machines were combined into one total score which resulted in 37% of the total score achieved. The food vending machines therefore score the lowest total score of all facilities investigated. Also all beverage vending machines were combined to one total score which can be translated into 44% of the total score are achieved. The beverage vending machines score the highest of all facilities investigated.

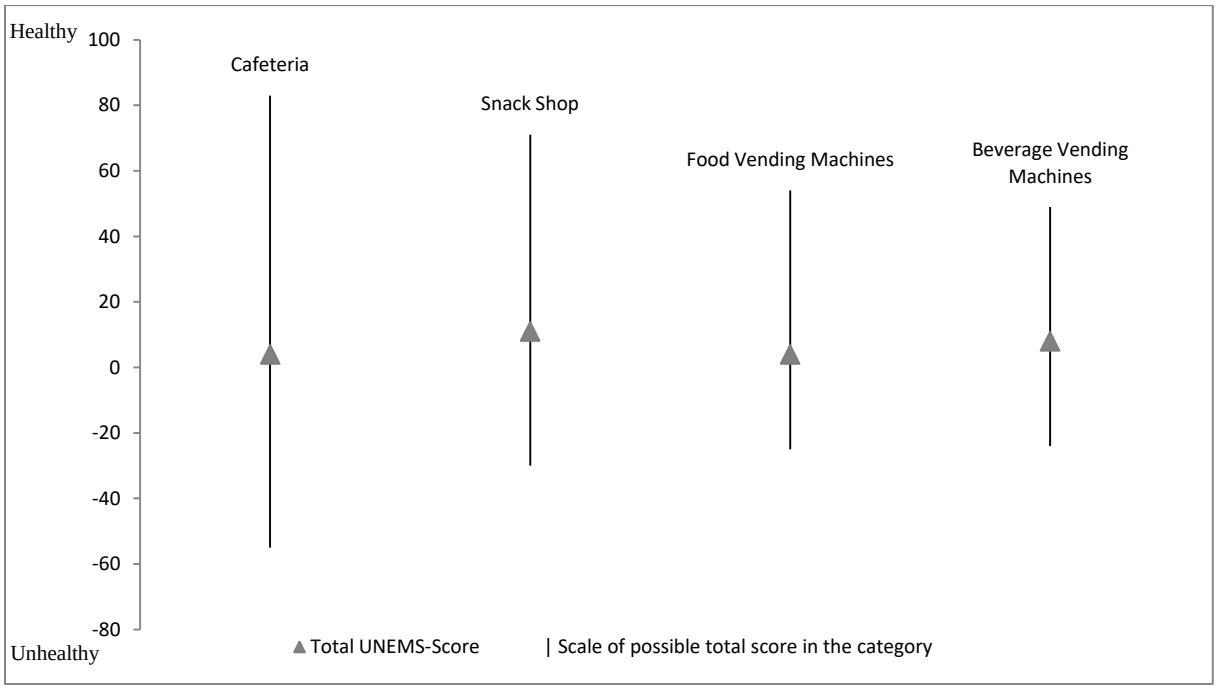

Figure 2: Total UNEMS-scores all facilities

Cafeteria

The completion time for the cafeteria assessment was 30 minutes. Within the cafeteria scoring the categories that score the lowest were main dishes, main dish salads, bread, facilitators and food pricing (0%). Four categories score above the average in their categories. These categories are promotion (70%), side items (83%), desserts (67%), pricing of the beverages (53%) and barriers (75%). The other two categories score under the average; salad bar (33%) and availability of beverages (33%) (Figure 3).

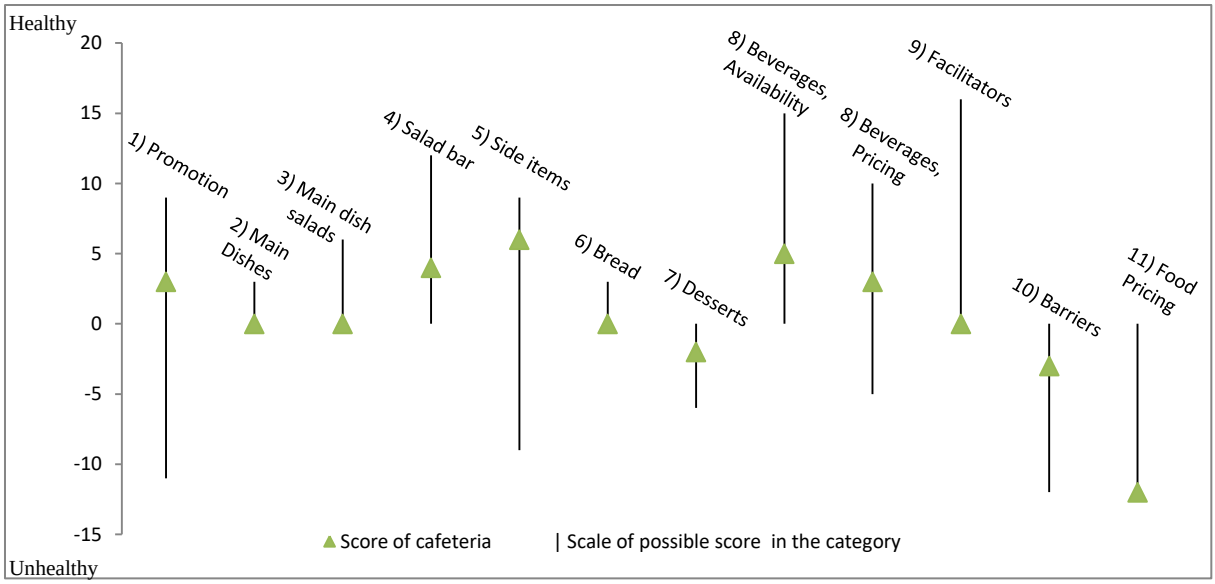

Figure 3: Results Cafeteria Scoring

Snack Shop

The completion time for the assessment of the snack shop was 35 minutes. In the snack shop scoring the lowest points score the categories main dishes, main dish salads, bread and food pricing (0%). Only the category promotion scores above the average (85%); the other four left categories are slightly under the average; availability of snack items (40%), pricing of snack items (40%), availability of beverages (46%) and pricing of beverages (33%) (Figure 4).

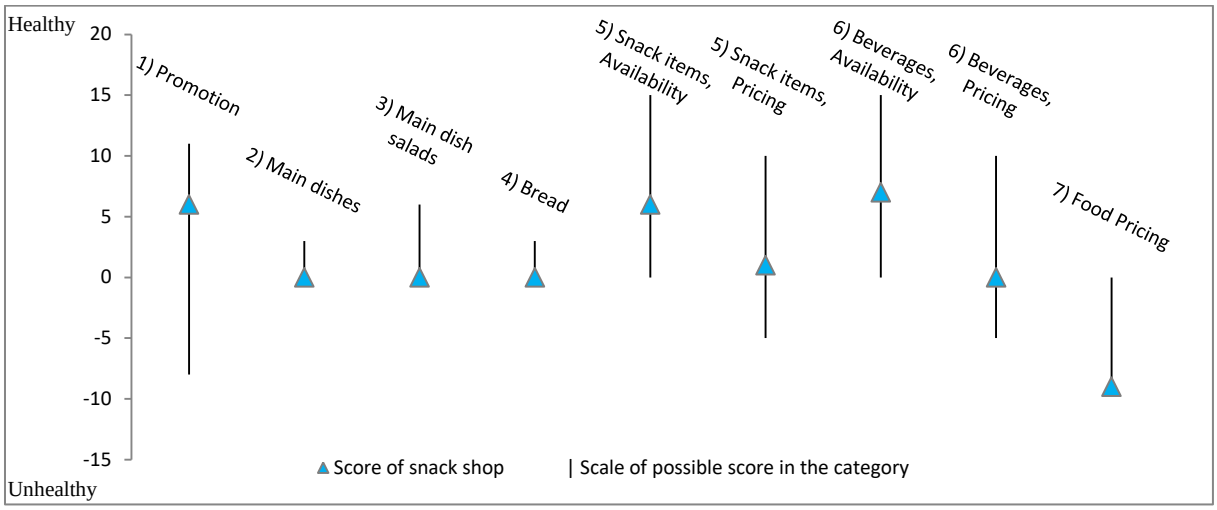

Figure 4: Results Snack Shop Scoring

Food vending machines

The average completion time for all assessed food vending machines was 5 minutes. The categories distribution of slot spaces and facilitators/barriers score the lowest possible scores (0%). Only the category general pricing scores the highest score possible (100%). Except the promotion category (65%) all other categories do not score above the average; availability of snacks (22%) and pricing of snacks (33%) (Figure 5).

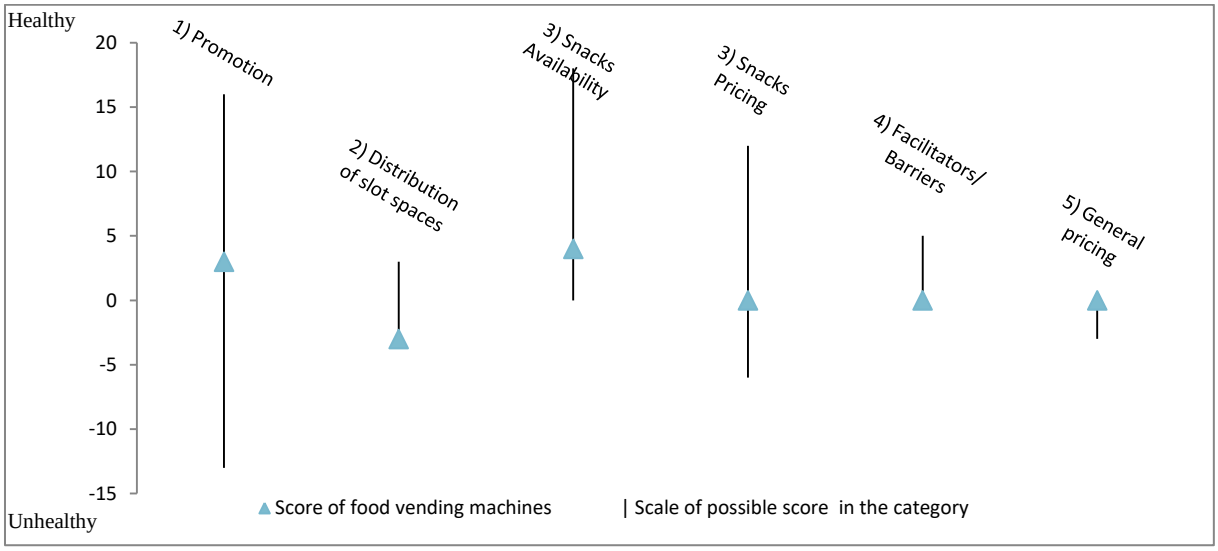

Figure 5: Results of all food vending machines combined

Beverage vending machines

The average completion time for all beverage vending machines was 3 minutes. Three categories of the beverage vending machines assessment score above the averages; promotion (55%), pricing of beverages (60%), and general pricing category which achieves the highest score (100%). Availability of beverages scores 13% and the category facilitators/barriers 40% of the total scale. The distribution of slot space scores the lowest score possible (0%) (Figure 6).

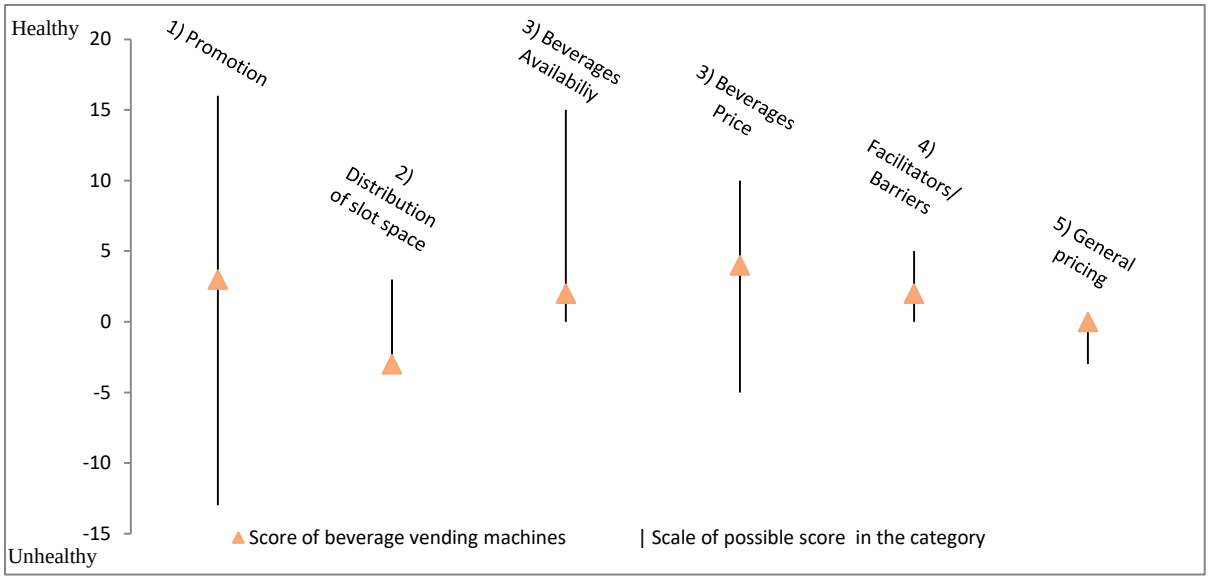

Figure 6: Results of all food vending machines combined

Discussion

To date, there are no reliable tools to assess the university nutrition environment. Therefore, the present paper describes the systematic development of the UNEMS on the basis of the already existing tool NEMS which has shown to be reliable and feasible in assessing community nutrition environments. The use of this already existing tool as basis is assumed to be an advantage in developing an assessment toll specified to the university setting. Basic constructs, the procedure of data collection and analysis of the data were maintained throughout the process of adaption. UNEMS was tested in a pilot study at Maastricht University.

The total UNEMS-scores for all four facilities at Maastricht University were all under the average of the maximum score (37-44%). This indicates the big room for improvement in all facilities. The pilot study results can give indications about which aspects should be in focus of improvements. All four assessed facilities showed a similar picture. In all facilities the promotion category scored above the average (55-85%) whereas the categories that assessed the availability of healthy main dishes, snacks or beverages scored in most cases 0%. All facilities lacked healthy options, or there were no information provided on which the

consumer can identify healthy options. Based on the results of this assessment two main aspects of improvements can be stated in order to increase the UNEMS-score; first, labeling all products with nutrition information, especially in the cafeteria and the vending machines; second, increasing the offer of healthful options. The assumption that the improvement of these aspects will influence dietary behavior is supported by a systematic review conducted by Roy et al. They identified providing healthy options and nutrition messages or nutrient labeling as potentially useful interventions to influence dietary behavior among young adults in college and university settings. (21) The role of food labeling in facilitating consumers to select healthier food products, influence calorie intake and consumption size is also supported by other systematic reviews and meta-analysis. (22, 23) These findings imply that the improvement of these aspects is likely to have an influence on dietary behavior and justify the assumption that a higher UNEMS-score represent a more health supporting nutrition environment.

According to the Model of Community Nutrition Environment dietary behavior is not solely directly influenced by environmental variables but also mediated by individual variables. A survey to assess, among other aspects, students' perception of the current nutrition environment at Maastricht University in May 2017 provides information in this context. (4) One of the results was that the majority of students think that the university offers not enough healthy food options. Furthermore, the majority of students name healthy snack items, the salad bar, and the ingredients in sandwiches as specific points for improvement. These perceptions are in line with the results of the UNEMS. The survey was conducted as the starting point of the implementation of the Healthy University Initiative at Maastricht University. The underlying idea of this initiative is to establish a healthy environment for students, employees and visitors in regard to dietary behavior, physical activity and mental well-being, which is inspired by the project of the Healthy Sydney University. (24) The effort to establishment this comprehensive initiative indicates the university's awareness of its

students and employees health. Such an ecological approach is assumed to positively influence policies about the nutrition environment and can be a start for changes in the current nutrition environment.

Conclusively it can be stated that based on this pilot study, UNEMS is able to identify problematic aspects in the nutrition environment. The fact that the results are in line with results of a survey about the perception of the nutrition environment indicates reliability of the tool. However, reliability testing is needed in order to strengthen this statement. Results about inter-rater reliability, test-retest reliability and validation were not assessed with this pilot study and should be in focus of further research. The pilot study did reveal aspects of the tool that should be further investigated. The fact that for every category in each instrument the maximum and minimum score is different impedes comparison between categories. The use of percentages to express the scores facilitates comparison between categories, but is not an optimal solution. UNMES assesses in some categories only healthy options and in some healthy and unhealthy options. The assessment of exclusively healthy aspects in the nutrition environment could be one solution, however the influence of the existence of unhealthy products would be not considered with this method. Another solution could be the use of a ratio of unhealthy and healthy products. However, the degree of feasibility is assumed to decrease, when the whole product variety of a snack shop or a cafeteria has to be assessed. Although the tool shows room for improvement, the pilot study indicates that the aim of a high feasibility is achieved. The completion times were from 3-5 minutes for food and beverage vending machines, to 30-35 minutes for the cafeteria and snack shop. The difference can be explained by the reduced number of items used for the assessment of the food and beverage vending machines. Further, the vending machines include significant fewer products than the cafeteria and snack shop. Although the pilot study showed acceptable completion times, the hours for the online training and the study of the protocols should be taken into account. It can be stated that the more facilities one rater assesses the more justifiable is the

preparation time. The online training of NEMS is assumed to be still useful in train the rater to use UNEMS properly, as the basic procedure remained.

In future, UNEMS can serve as a first systematic assessment of the nutrition environment at universities in order to set the basis for the development of a health supporting environment of students and employees. Furthermore, the tool can be used as a pre- and posttest in interventional studies. UNEMS signifies the first step in studying the influence of the nutrition environment on eating behavior among students at Maastricht University. The next step, studying the impact of an improved nutrition environment on the actual eating behavior should follow. The improvement of relevant aspects in the nutrition environment will then lay the foundation of a health supporting environment at universities, for students and employees and support the establishment of a Healthy Maastricht University.

Acknowledgements

The author would like to thank Margaret Clawson, NEMS master trainer and the project coordinator for NEMS for her contribution to the development of UNEMS.

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Appendix 1

Cafeteria Measures

Rater ID:

Cafeteria ID:

Cafeteria location:

Date: ___/___/___

Start time:

End time:

	Data Source			
	□ Site visit/ Observation	□ Internet	□ Interview	
	Hours of operation			
	Weekday		**Weekend**	
	□ Open	□ Closed	□ Open	□ Closed
	Opening time:		Opening time:	
	Closing time:		Closing time:	
	□ Open 24 hours □ Hours not listed			
	Access			
	□ Car	□ Foot only		
	Seating available			**Comments**
	□ Yes	□ No	□ Number of tables:	

1)	Promotion:		Select one		Comments	
a.	Do signs/table tents/displays encourage healthy eating?		□ Yes	□ No		
b.	Do signs/table tents/displays encourage unhealthy eating?		□ Yes	□ No		
c.	Do signs/table tents/displays encourage overeating (all-you-can-eat, super-size, jumbo, grande, supreme, king size)?		□ Yes	□ No		
d.	Do signs/table tents/displays promote water consumption?		□ Yes	□ No		
e.	1) Do signs/table tents/displays promote free refills on sugar drinks?		□ Yes	□ No		
	2) Do signs/table tents/displays promote free refill on diet drinks?		□ Yes	□ No		
2)	**Main Dishes/Entrees:**	**Tally list (optional)**			**Number**	**Comments**
a.	Total number of Main Dishes/Entrees		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Vegetarian Options		□ Yes	□ No		
3)	**Main dish salads:**				**Number**	**Comments**
a.	Total number of Main dish salads		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Low-fat or fat free salad dressings		□ Yes	□ No		
4)	**Salad bar**				**Number**	**Comments**
a.	Cafeteria has a salad bar?		□ Yes	□ No		
b.	Are there low-fat protein sources (undressed beans, fish, poultry, tofu)?		□ Yes	□ No		
c.	Are there nuts and or seeds available?		□ Yes	□ No		
d.	Are there unprocessed vegetables?		□ Yes	□ No		
e.	Are there dressing to choose from?		□ Yes	□ No		
f.	Are low-fat/fat free dressings available?		□ Yes	□ No		

5)	Side items			Number	Comments		
a.	Fruit (without sugar)	□ Yes	□ No				
b.	Fruit (with added sugar or syrup)	□ Yes	□ No				
c.	Healthy vegetables without sauce & not fried	□ Yes	□ No				
d.	Less healthy vegetables with sauce or fried	□ Yes	□ No				
e.	Cooked potato (without fat)	□ Yes	□ No				
f.	French fries	□ Yes	□ No				
6)	**Bread (for sandwiches)**			**Number**	**Comments**		
a.	Bread available?	□ Yes	□ No				
b.	Whole wheat or whole grain bread?	□ Yes	□ No				
7)	**Desserts**			**Number**	**Comments**		
a.	Ice Cream	□ Yes	□ No				
b.	Baked Goods/Cakes	□ Yes	□ No				
c.	Frozen Yogurt	□ Yes	□ No				
8)	**Healthy or low calorie beverage vs. unhealthy or sugar sweetened beverages**	**Select one**		**Number**	**Brand:**	**Price:**	**Bottle size:**
a.	1) Bottled water	□ Yes	□ No				
	2) Sweetened flavored water (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
b.	1) Diet soda	□ Yes	□ No				
	2) Soda	□ Yes	□ No				
c.	1) Low-calorie energy drink (<10cal/237ml, or <4cal/100ml)	□ Yes	□ No				
	2) Energy drink (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
d.	1) 100% fruit juice	□ Yes	□ No				
	2) Juiced flavored drink (not 100% fruit juice)	□ Yes	□ No				
e.	1) Coffee (without sugar)	□ Yes	□ No				
	2) Coffee drink (syrup/added sugar)	□ Yes	□ No				

9)	Facilitators			Comments
a.	Nutrition information available (paper or posted menu)?	□ Yes	□ No	
b.	Nutrition information available upon request?	□ Yes	□ No	
c.	Healthy items identified on menu with labels/icons?	□ Yes	□ No	
d.	Menu notations that encourage healthy request (e.g. whole wheat bread available upon request)?	□ Yes	□ No	
e.	Are reduced-size portions offered on the menu or a sign?	□ Yes	□ No	
		□standard		
f.	Are reduced-size portions available upon request?	□ Yes	□ No	
10)	**Barriers**			**Comments**
a.	Large portion size encouraged?	□ Yes	□ No	
b.	Menu notations that discourage special requests (e.g. No substitutions or charge for substitutions)?	□ Yes	□ No	
c.	All-you-can-eat or “Unlimited trips”?	□ Yes	□ No	
d.	Are any unhealthy items present at point-of-purchase (e.g. next to register)?	□ Yes	□ No	
11)	**Pricing**			**Comments**
a.	Sum of individual items compared to compo meal?	□ more	□ less	
		□ same	□ NA	
b.	Healthy entrees compared to regular ones?	□ more	□ less	
		□ same	□ NA	
c.	Healthy main dish salads compared to regular ones?	□ more	□ less	
		□ same	□ NA	
d.	Reduced-size portions upon request compared to regular portions?	□ more	□ less	
		□ same	□ NA	

25 Appendix 1

Snack Shop Measures

Rater ID:

Snack Shop ID:

Snack Shop location:

Date: ___/___/___

Start time:

End time:

	Data Source				
	□ Site visit/ Observation	□ Internet	□ Interview		
	Hours of operation				
	Weekday		**Weekend**		
	□ Open	□ Closed	□ Open	□ Closed	
	Opening time:		Opening time:		
	Closing time:		Closing time:		
	□ Open 24 hours □ Hours not listed				
	Access				
	□ Car	□ Foot only			
	Seating available			**Comments**	
	□ Yes	□ No	□ Number of tables:		

1)	Promotion	Select one		Comments
a.	Are healthy items identified on menu or a brochure with icons or labels?	□ Yes	□ No	
b.	Do signs/table tents/ displays highlight healthy menu or shop options?	□ Yes	□ No	
c.	Do signs/table tents/ displays encourage healthy eating?	□ Yes	□ No	
d.	Do signs/table tents/ displays encourage unhealthy eating?	□ Yes	□ No	
e.	Do signs/table tents/ displays encourage overeating (all-you-can-eat, super-size, jumbo, grande, supreme, king size)?	□ Yes	□ No	
f.	Do signs/table tents/ displays promote water consumption?	□ Yes	□ No	
g.	1) Do signs/table tents/displays promote consumption of unhealthy or sugared drinks?	□ Yes	□ No	
	2) Do signs/table tents/displays promote consumption of healthy or diet drinks?	□ Yes	□ No	

2)	Main Dishes/Entrees:	Tally list (optional)	Select one		Number	Comments
a.	Total number of Main Dishes/Entrees		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Vegetarian Options		□ Yes	□ No		

3)	Main dish salads:	Tally list (optional)	Select one		Number	Comments
a.	Total number of Main dish salads		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Low-fat or fat free salad dressings		□ Yes	□ No		

4)	Bread (for sandwiches)	Select one		Number	Comments
a.	Bread available?	□ Yes	□ No		
b.	Whole wheat or whole grain bread?	□ Yes	□ No		

5)	Snack items:	Select one		Number	Price	Package size
a.	1) Fruit (raw, without sugar)	□ Yes	□ No			
	2) Fruit (raw, with added sugar or syrup)	□ Yes	□ No			
b.	1) Healthy vegetables (without sauce & not fried)	□ Yes	□ No			
	2) Less healthy vegetables (with sauce or fried)	□ Yes	□ No			
c.	1) Baked, or low fat chips	□ Yes	□ No			
	2) Chips	□ Yes	□ No			
d.	1) Nuts, or Seeds	□ Yes	□ No			
	2) Cookie	□ Yes	□ No			
e.	1) Muesli bar	□ Yes	□ No			
	2) Candy bar (E.g., Snickers)	□ Yes	□ No			

6)	Healthy or low calorie beverage vs. unhealthy or sugar sweetened beverages	Select one		Number	Brand:	Price:	Bottle size:
a.	1) Bottled water	□ Yes	□ No				
	2) Sweetened flavored water (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
b.	1) Diet soda	□ Yes	□ No				
	2) Soda	□ Yes	□ No				
c.	1) Low-calorie energy drink (<10cal/237ml, or <4cal/100ml)	□ Yes	□ No				
	2) Energy drink (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
d.	1) 100% fruit juice	□ Yes	□ No				
	2) Juiced flavored drink (not 100% fruit juice)	□ Yes	□ No				
e.	1) Coffee (without sugar)	□ Yes	□ No				
	2) Coffee drink (syrup/added sugar)	□ Yes	□ No				

7)	Pricing	Select one		Comments
a.	Sum of individual items compared to combo meal/items?	□ more	□ less	
		□ same	□ NA	
b.	Healthy main items compared to less healthy ones?	□ more	□ less	
		□ same	□ NA	
c.	Healthy snacks compared to less healthy ones?	□ more	□ less	
		□ same	□ NA	

29 Appendix 1

Food-Vending Machines Measures

Rater ID:

Vending ID:

Date: ___/___/___

Start time:

End time:

1)	**Location**	**Comments**		
a.	GPS coordinates			
b.	Brief description of machine location			
c.	Mark if machine is located near (ca. 30m) any of the following:			
	c1. Bathrooms	□ Yes	□ No	
	c2. Cafeteria	□ Yes	□ No	
	c3. Free learning-space	□ Yes	□ No	
	c4. Staff offices	□ Yes	□ No	
	c5. Lecture hall	□ Yes	□ No	
	c6. Other:	□ Yes	□ No	
d.	Is the machine next to another FOOD vending machine?	□ Yes	□ No	
e.	Is the machine next to another BEVERAGE vending machine?	□ Yes	□ No	
2)	**Machine Characteristics**			**Comments**
a.	Is the machine operational?	□ Yes	□ No	
b.	Does machine feature any of the following? (mark all that apply)			
	b1. Credit card or reader	□ Yes	□ No	
	b3. Refrigeration	□ Yes	□ No	

	b4. Cash pay	□ Yes	□ No	
	b5. Student ID reader	□ Yes	□ No	
3)	**Promotion**			**Comments**
a.	Does the food vending machine have signs or other displays that promote general healthy food choices?	□ Yes	□ No	
b.	Does the food vending machine have sign or displays that promote unhealthy food choices	□ Yes	□ No	
c.	Are specific healthy or healthier items in the food vending machine identified using signs or displays (e.g. icons)?	□ Yes	□ No	
d.	What unhealthy option(s) is depicted on the exterior of the machine			
	d1. Regular (non-baked) chips	□ Yes	□ No	
	d2. Non-diet soda	□ Yes	□ No	
	d3. Fruit-flavored drink (not 100% fruit)	□ Yes	□ No	
	d4. Energy drink	□ Yes	□ No	
	d5. Flavored milk	□ Yes	□ No	
	d6 Milk (>1% fat)	□ Yes	□ No	
	d7. Non-diet sports drink	□ Yes	□ No	
	d8. Dairy dessert (ice cream)	□ Yes	□ No	
	d9. Grain dessert (cookies)	□ Yes	□ No	
	d10. Other	□ Yes	□ No	
	d11. None of these	□ Yes	□ No	
e.	What healthy option(s) is depicted on the exterior of the machine			
	e1. Baked Chips	□ Yes	□ No	
	e2. Water	□ Yes	□ No	
	e3. Diet Soda	□ Yes	□ No	

	e4. 100% fruit juice	□ Yes	□ No	
	e5. 1% fat/ skim unflavored milk	□ Yes	□ No	
	e6. Low calorie sports drink	□ Yes	□ No	
	e7. Fruits	□ Yes	□ No	
	e8. Vegetables	□ Yes	□ No	
	e9. Other_____	□ Yes	□ No	
	e10. None of these	□ Yes	□ No	

4)	Distribution of slots	GREEN items	YELLOW items	RED Items	Other/Non-nutritive	Empty	Total
a.	Number of slots in Food Machine (Use the chart in Appendix A)						

5)	Snack items:	Select one		Number of Slots	Price:	Package size:	Comments
a.	1) Fruit (raw, without sugar)	□ Yes	□ No				
	2) Fruit (raw, with added sugar or syrup)	□ Yes	□ No				
b.	1) Dried fruit	□ Yes	□ No				
	2) Fruit snacks (not 100% fruit)	□ Yes	□ No				
c.	1) Healthy vegetables (without sauce & not fried)	□ Yes	□ No				
	2) Less healthy vegetables (with sauce or fried)	□ Yes	□ No				
d.	1) Baked, or low fat chips	□ Yes	□ No				
	2) Chips	□ Yes	□ No				
e.	1) Nuts, or Seeds	□ Yes	□ No				
	2) Cookie	□ Yes	□ No				
f.	1) Muesli bar	□ Yes	□ No				
	2) Candy bar (E.g., Snickers)	□ Yes	□ No				

6)	Facilitators/Barriers		Comments

a.	Is nutritional information posted on or near the vending machines for food items?	□ Yes	□ No	
b.	Is nutrition information posted on or near the vending machine for specific items (e.g., only healthy options)?	□ Yes	□ No	
7)	**Price**			**Comments**
a.	Healthy items in the vending machine compared to regular items	□ more	□ less	
		□ same	□ N/A	

Appendix A

SAMPLE VENDING MACHINE ITEMS CATEGORIZED BY GO, SLOW, WHOA

	GO Almost anytime	SLOW Sometimes	WHOA! Once-in-a-while
Snacks—Non-Refrigerated	▪ Popcorn (fat-free or low-fat) ▪ Whole grain cereal (hot or cold) with at least 5g fiber and no greater than 6g sugar per serving ▪ Whole grain cereal bar ▪ Whole grain crackers ▪ Rice cakes ▪ Soy crisps ▪ Fruit cup in fruit juice ▪ Jerky (low sodium)	▪ Whole grain cereals (hot or cold) with at least 3g fiber and no more than 6g sugar per serving ▪ Baked chips ▪ Animal crackers ▪ Graham crackers ▪ Pretzels ▪ Nuts and seeds (plain or with spices) ▪ Nuts (light sugar covering or honey-roasted) ▪ Peanut butter and crackers ▪ Ready-to-eat cereal (low fat, whole grain) ▪ 100 Calorie Snack Packs ▪ Fruit cup in light syrup ▪ Whole-grain, low-fat muffins ▪ Low-fat granola bar ▪ Whole-grain, low-fat fig bars ▪ Trail mix (plain) ▪ Dried fruit ▪ Jerky	▪ Candy ▪ Cookies, cakes, and pies ▪ Doughnuts ▪ Pastries ▪ Muffins ▪ Pop tarts ▪ Buttered popcorn ▪ Chips ▪ Snack mixes ▪ Cheese-flavored crackers ▪ Fruit cup in heavy syrup
Snacks—Refrigerated	▪ Fruits and vegetables without added fat, sugar or salt ▪ Fat-free or low-fat yogurt, plain ▪ Fat-free or low-fat cheese or cottage cheese ▪ Hard-boiled eggs	▪ Fruits or vegetables with added fat, sugar or salt ▪ Fat-free or low-fat flavored yogurt with no more than 30g of total sugar per 8 oz serving ▪ Low-fat or reduced fat pudding ▪ Reduced-fat cheese or cottage cheese	▪ Vegetables fried in oil ▪ Pudding ▪ Yogurt made from whole milk ▪ Frozen desserts
Beverages—Refrigerated	▪ Water without flavoring or additives ▪ Fat-free or 1% (low-fat) milk, plain	▪ Reduced-fat (2%) milk, plain ▪ Fat-free or 1% flavored milk with up to 150 calories per 8 oz serving ▪ 100% fruit juice ▪ 100% vegetable juice ▪ No- or low-calorie beverages with up to 10 calories per 8 oz serving ▪ Smoothies (made with low-fat yogurt or other low-fat dairy alternatives and/or fruit/juice)	▪ Reduced-fat (2%) milk, flavored ▪ Whole milk, plain ▪ Whole milk, flavored ▪ Regular soda ▪ Sweetened teas, lemonade, and fruit drinks with less than 100% fruit juice ▪ Sports drinks, energy drinks, etc. with more than 10 calories per 8 oz serving

34 Appendix 1

Beverages-Vending Machines Measures

Rater ID:

Vending ID:

Date: ___/___/___

Start time:

End time:

1)	**Location**	**Comments**		
a.	GPS coordinates			
b.	Brief description of machine location			
c.	Mark if machine is located near (ca. 30m) any of the following:			
	c1. Bathrooms	□ Yes	□ No	
	c2. Cafeteria	□ Yes	□ No	
	c3. Free learning-space	□ Yes	□ No	
	c4. Staff offices	□ Yes	□ No	
	c5. Lecture hall	□ Yes	□ No	
	c6. Other?	□ Yes	□ No	
d.	Is the machine visible, next to another FOOD vending machine?	□ Yes	□ No	
e.	Is the machine visible, next to another BEVERAGE vending machine?	□ Yes	□ No	
2)	**Machine Characteristics**			**Comments**
a.	Is the machine operational?	□ Yes	□ No	
b.	Does machine feature any of the following? (Mark all that apply)			
	b1. Credit card or reader	□ Yes	□ No	
	b3. Refrigeration	□ Yes	□ No	

	b4. Cash pay	□ Yes	□ No	
	b5. Student ID reader	□ Yes	□ No	
3)	**Promotion**			**Comments**
a.	Does the vending machine have signs or other displays that promote general healthy drink choices?	□ Yes	□ No	
b.	Does the vending machine have signs or displays that promote unhealthy drink choices	□ Yes	□ No	
c.	Are specific healthy items in the vending machine identified using signs or displays (e.g. icons)?	□ Yes	□ No	
d.	What unhealthy option(s) is depicted on the exterior of the machine			
	d1. Regular (non-baked) chips	□ Yes	□ No	
	d2. Non-diet soda	□ Yes	□ No	
	d3. Fruit-flavored drink (not 100% fruit)	□ Yes	□ No	
	d4. Milk (>1%fat)	□ Yes	□ No	
	d5. Energy drink	□ Yes	□ No	
	d6. Flavored milk	□ Yes	□ No	
	d7. Non-diet sports drink	□ Yes	□ No	
	d8. Dairy dessert (ice cream)	□ Yes	□ No	
	d9. Grain dessert (cookies)	□ Yes	□ No	
	d10. Other	□ Yes	□ No	
	d11. None of these	□ Yes	□ No	
e.	What healthy option(s) is depicted on the exterior of the machine			
	e1. Baked Chips	□ Yes	□ No	
	e2. Water	□ Yes	□ No	
	e3. Diet Soda	□ Yes	□ No	

	e4. 100% fruit juice			☐ Yes	☐ No			
	e5. 1% fat/ skim unflavored milk			☐ Yes	☐ No			
	e6. Low calorie sports drink			☐ Yes	☐ No			
	e7. Fruits			☐ Yes	☐ No			
	e8. Vegetables			☐ Yes	☐ No			
	e9. Other			☐ Yes	☐ No			
	e10. None of these			☐ Yes	☐ No			
4)	**Distribution of slots**	**GREEN items**	**YELLOW items**		**RED Items**	**Other/Non-nutritive**	**Empty**	**Total**
a.	Number of slots in Beverage Machine (Use the chart in Appendix A)							
5)	**Healthy or low calorie beverage vs. unhealthy or sugar sweetened beverages**		**Select one**		**Number of slots**	**Brand:**	**Price:**	**Bottle size:**
a.	1) Bottled water		☐ Yes	☐ No				
	2) Sweetened flavored water (>10cal/237ml, or >4cal/100ml)		☐ Yes	☐ No				
b.	1) Diet soda		☐ Yes	☐ No				
	2) Soda		☐ Yes	☐ No				
c.	1) Low-calorie energy drink (<10cal/237ml, or <4cal/100ml)		☐ Yes	☐ No				
	2) Energy drink (>10cal/237ml, or >4cal/100ml)		☐ Yes	☐ No				
d.	1) 100% fruit juice		☐ Yes	☐ No				
	2) Juiced flavored drink (not 100% fruit juice)		☐ Yes	☐ No				
e.	1) Coffee (without sugar)		☐ Yes	☐ No				
	2) Coffee drink (syrup/added sugar)		☐ Yes	☐ No				
6)	**Facilitators/Barriers**				**Comments**			

a.	Is nutrition information posted on or near the vending machines for every item in the machine?	□ Yes	□ No	
b.	Is nutrition information posted on or near the vending machine for specific items (e.g., only healthy options)?	□ Yes	□ No	
7)	**Price**			**Comments**
a.	Healthy items in the vending machine compared to regular items	□ more	□ less	
		□ same	□ NA	

Appendix A

SAMPLE VENDING MACHINE ITEMS CATEGORIZED BY GO, SLOW, WHOA

	GO Almost anytime	SLOW Sometimes	WHOA! Once-in-a-while
Snacks—Non-Refrigerated	▪ Popcorn (fat-free or low-fat) ▪ Whole grain cereal (hot or cold) with at least 5g fiber and no greater than 6g sugar per serving ▪ Whole grain cereal bar ▪ Whole grain crackers ▪ Rice cakes ▪ Soy crisps ▪ Fruit cup in fruit juice ▪ Jerky (low sodium)	▪ Whole grain cereals (hot or cold) with at least 3g fiber and no more than 6g sugar per serving ▪ Baked chips ▪ Animal crackers ▪ Graham crackers ▪ Pretzels ▪ Nuts and seeds (plain or with spices) ▪ Nuts (light sugar covering or honey-roasted) ▪ Peanut butter and crackers ▪ Ready-to-eat cereal (low fat, whole grain) ▪ 100 Calorie Snack Packs ▪ Fruit cup in light syrup ▪ Whole-grain, low-fat muffins ▪ Low-fat granola bar ▪ Whole-grain, low-fat fig bars ▪ Trail mix (plain) ▪ Dried fruit ▪ Jerky	▪ Candy ▪ Cookies, cakes, and pies ▪ Doughnuts ▪ Pastries ▪ Muffins ▪ Pop tarts ▪ Buttered popcorn ▪ Chips ▪ Snack mixes ▪ Cheese-flavored crackers ▪ Fruit cup in heavy syrup
Snacks—Refrigerated	▪ Fruits and vegetables without added fat, sugar or salt ▪ Fat-free or low-fat yogurt, plain ▪ Fat-free or low-fat cheese or cottage cheese ▪ Hard-boiled eggs	▪ Fruits or vegetables with added fat, sugar or salt ▪ Fat-free or low-fat flavored yogurt with no more than 30g of total sugar per 8 oz serving ▪ Low-fat or reduced fat pudding ▪ Reduced-fat cheese or cottage cheese	▪ Vegetables fried in oil ▪ Pudding ▪ Yogurt made from whole milk ▪ Frozen desserts
Beverages—Refrigerated	▪ Water without flavoring or additives ▪ Fat-free or 1% (low-fat) milk, plain	▪ Reduced-fat (2%) milk, plain ▪ Fat-free or 1% flavored milk with up to 150 calories per 8 oz serving ▪ 100% fruit juice ▪ 100% vegetable juice ▪ No- or low-calorie beverages with up to 10 calories per 8 oz serving ▪ Smoothies (made with low-fat yogurt or other low-fat dairy alternatives and/or fruit/juice)	▪ Reduced-fat (2%) milk, flavored ▪ Whole milk, plain ▪ Whole milk, flavored ▪ Regular soda ▪ Sweetened teas, lemonade, and fruit drinks with less than 100% fruit juice ▪ Sports drinks, energy drinks, etc. with more than 10 calories per 8 oz serving

Note: 10 calories per 8 oz = ca. 4 calories per 100ml

Appendix 2

Cafeteria Protocol

These measures are developed to assess the food environment of cafeterias at Maastricht University. Cafeterias are facilities were hot and cold lunch or dinner is sold to students and staff of the University.

This protocol includes the survey items and specific instructions to every item.

Rater ID:

Cafeteria ID:

Cafeteria location:

Date: ___/___/___

Start time:

End time:

Record Rater ID, Cafeteria location, the date of the data collection and start and end time of the data collection.

	Data Source		
	□ Site visit/ Observation	□ Internet	□ Interview

Data source

Select everything that applies in your situation.

An interview is not when staff is asked about specific questions. An interview would be a conversation with for example the manager. This should be only considered when questions cannot be answered via observation or asking the staff.

Check this section before and after the data collection in one cafeteria.

	Hours of operation				
a.	Open 24 hours		□ Yes	□ No	
b.	Hours listed		□ Yes	□ No	
c.	**Weekday**		**Weekend**		
d.	□ Open	□ Closed	□ Open		□ Closed
e.	Opening time:		Opening time:		
	Closing time:		Closing time:		

Hours of operation

Mark everything that applies in your situation.

Weekday is defined as Monday, Tuesday, Wednesday, Thursday and Friday. Weekend is defined as Saturday or Sunday. If a cafeteria opens or closes multiple times per day, fill in the first opening time and the last closing time. If the hours are not listed, mark the ‘no’ at question b and leave d and e or only e blank.

	Access	
	□ Car	□ Foot only

Access

Record how costumer can access the cafeteria. Mark ‘car’ only when there are specific parking lots for this cafeteria. When there are only general parking lots at the University somewhere nearby, select Foot only.

	Seating available			**Comments**
	□ Yes	□ No	□ Number of tables:	

Seating available

Record whether tables are available. Seating includes only furniture that are in the direct environment of the cafeteria. For example stairs in the surrounding where maybe costumers eat are **not** included. Count the number of tables that are in the direct environment of the cafeteria. If tables are standing together in a group count every single table in this group as one. For example a group of three tables count as three tables and not one.

1)	Promotion:	Select one		Comments
a.	Do signs/table tents/displays encourage healthy eating?	□ Yes	□ No	
b.	Do signs/table tents/displays encourage unhealthy eating?	□ Yes	□ No	
c.	Do signs/table tents/displays encourage overeating (all-you-can-eat, super-size, jumbo, grande, supreme, king size)?	□ Yes	□ No	
d.	Do signs/table tents/displays promote water consumption?	□ Yes	□ No	
e.	1) Do signs/table tents/displays promote consumption of unhealthy or sugared drinks? (e.g., free refills)	□ Yes	□ No	
	2) Do signs/table tents/displays promote consumption of healthy or diet drinks? (e.g., free refills)	□ Yes	□ No	

1) Promotion

a. Do signs/table tents/displays encourage healthy eating?

Note if healthy eating in general is encouraged. For example “Fruits and Vegetables will boost your energy”.

b. Do signs/table tents/displays encourage unhealthy eating?

This item can be related to nutritional value, type of food or price (combo discounts). For example “Try out our new American cheesecake”, or posters featuring pictures of high-fat foods.

c. Do signs/table tents/displays encourage overeating (all-you-can-eat, super-size, jumbo, grande, supreme, king size)?

This item is related to quantity. For example promotion of a king size menu on a poster.

e. Do signs/table tents/displays promote water consumption?

Mark whether if promotion encourages drinking or buying water.

e. 1) Do signs/table tents/displays promote consumption of unhealthy or sugared drinks?

e. 2) Do signs/table tents/displays promote consumption of healthy or diet drinks?

Signage if free refills on sugar and diet drinks are promoted. If there is no free refill service mark no.

Record any other promotion effort visible for the customer and add it to the comments.

2)	Main Dishes/Entrees:	Tally list (optional)	Select one		Number	Comments
a.	Total number of Main Dishes/Entrees		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Vegetarian Options		□ Yes	□ No		

1) Main Dishes/Entrees

The tally list serves as a support to structure the counting, as this can be confusing depending on the number of dishes.

It is recommended to filled out all three lines a, b, and c simultaneously. That means if one main dish is identified at the same time decide if this is a healthy option and/or a vegetarian option.

a. Total number of Main Dishes/Entrees

Count the total number of main dishes and entrees available. If there is one menu for all dishes in the cafeteria use this as a source. If there is no comprehensive menu available count every main dish and entree via observation. Do not include main dish salads.

Use the following guidelines:

- **Definition of a main dish/entrée**: It must be distinctly different either in ingredients, proportion of ingredients or preparation method. Differ only in size or quantity is not enough, so that items that only differ in size are counted as one item.

  Example: A cheeseburger and a double cheeseburger have proportionately different ingredients, making one higher in percent fat than the other. (*Count as 2 entrees,* ***not*** *1*)

  Example: Fram-raised Catfish, grilled or breaded and pan-fried (*Count as 2 entrees,* ***not*** *1*)

- Count every type of entrée only once. The combination of two entrees is not a third entrée.

  Example: FAJITAS (*Count as 2 entrees,* ***not*** *4*)

  Steak: Seasoned Steak Grilled to Perfection

  Chicken: Grill and Marinated Chicken Breast

  ~~Combo: Grilled an Marinated Chicken Breast with Seasoned Steak~~

  ~~Double: Your Choice of Chicken, Steak, or as a Combo~~

- If the entrée is listed with an option of "chicken or beef" or similar choices, count each item as a separate entrée.

Example: CURRIES: Choice of Chicken, Beef or Pork (*Count as 12 entrees, **not** 4*)

- Panang
- Massaman
- Red Curry
- Pineapple Curry

- If the same entrée is prepared with different sauces, count them as different entrees

  Example: Hot wings offered in BBQ, Honey Mustard or Lemon Pepper (*Count as 3 entrees, **not** 1*)

  Example: Spaghetti with marinara sauce, meat sauce or Alfredo sauce (*Count as 3 entrees, **not** 1*)

- Soup is counted as an entrée if it is priced similar to other entrees
- Count "build your own" as one item

  Example: Build your own omelet (with choices of ingredients) (*Count as 1 entrée*)

  Example: Build your own pizza (Count as 1 entrée)

- If a buffet is featured or you can "build your own" dish by combining different items at a buffet or the like, count it as one entrée if the price is always the same. Note this in comments.

b. Healthy options

If at least one main dish can be categorized as healthy mark "yes, if not mark "no". Use the following criteria to categorize the dishes.

<u>If nutrition information is available:</u>

- Count the number of entrees that meet all three of the following criteria (only if calories from saturated fat are available, if not only a and b have to be met):

  a. Entrees = <800 calories

     Burgers/Sandwiches = <650 calories

  b. <30 % of calories from fat (see % Fat Chart)

  c. < 10% calories from saturated fat (if information is available)

% FAT CHART

Count entrees and main dish salads with the following maximum amounts of calories and total fat (30% calories from fat) as healthful choices. Look at the nutritional information listed by each entrée. Find where each entrée falls in the calorie range listed. Then, see if the grams of fat given for that range are equal to or less than the fat content of the entrée. If the fat grams in the entrée are greater than the chart, it is not counted as a healthy option.

Calories	≤ grams of fat
≤ 179	5 grams
180 - 209	6 grams
210 - 239	7 grams
240 - 269	8 grams
270 - 299	9 grams
300 - 329	10 grams
330 - 359	11 grams
360 - 389	12 grams
390 - 419	13 grams
420 - 449	14 grams
450 – 479	15 grams
480 - 509	16 grams
510 – 539	17 grams
540 - 569	18 grams
570 - 599	19 grams
600 – 629	20 grams
630 – 659	21 grams
660 – 689	22 grams
690 – 719	23 grams
720 – 749	24 grams
750 – 779	25 grams
780 – 800	26 grams

If saturated fat data are available, then items must also have no more than 10% saturated fat calories to count as healthful. See chart below:

Calories	≤ grams of saturated fat
≤ 149	1 gram
150 – 239	2 grams
240 – 319	3 grams
320 – 419	4 grams
420 – 499	5 grams
500 – 589	6 grams
Remember, burgers and sandwiches ≤ 650 calories	
590 – 689	7 grams
690 –769	8 grams
770 – 800	9 grams

If nutrition information is **not** available:

Record the number of entrees identifies as “light fare”, “ light”, “heart healthy”, “healthy”. If a menu does not have any healthy options, write “0” in the column for number.

c. Vegetarian options

Count every item that you identified as a main dish or entrée and include no meat as a vegetarian option (e.g. fish, pork, beef, chicken). Dishes with other animal products like eggs, milk or cream are counted as vegetarian options.

3)	Main dish salads:	Tally list (optional)	Select one		Number	Comments
a.	Total number of Main dish salads		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Low-fat or fat free salad dressings		□ Yes	□ No		

3) Main dish salads

Again, the tally list can help to structure the counting. The method is the same as in the previous section.

a. Total number of Main dish salads

Record the total number of main dish salads. See definition of main dish salad below. If there are no main dish salads on the menu, mark “no” and write “0” in the box for the number. This is separate from any salad bar offerings.

Definition of Main dish salad:

- A main dish salad is of sufficient size to be the central part of a meal (or meal in itself) and typically contains at least one protein source as an integral ingredient (see list for examples).
- Do not count salads that are listed under the following sections of the menu or that are clearly smaller in size than the main dish salads (e.g., their price is half of the average main dish salad price):
    - Appetizers
    - Side items, side orders, or sides
    - Extras
- If in doubt about the ingredients, and the price is similar to other main dishes on the menu, count it as a main dish salad.
- Do not count the following salads as a main dish, unless they have a high-protein ingredient (see Protein Sources below)
    - Pasta salad
    - Caesar salad

Protein Sources
▪ Tofu ▪ Chicken or turkey (poultry) ▪ Fish or seafood ▪ Beef or pork (do **not** count bacon as a protein source) ▪ Vegetarian chili ▪ Pinto beans, soybeans, chickpeas (or hummus) or other legumes ▪ Egg (unless used only as a garnish)

b. Healthy options

If at least one main dish salad can be categorized as healthy mark “yes”, if not mark “no”. Use the following criteria to categorize the main dish salads.

If nutrition information is available:

1. Count the number of main dish salads that meet all three of the following criteria (only if calories from saturated fat are available, if not only a and b have to be met):
    a. <800 calories
    b. <30 % of calories from fat (see % Fat Chart)
    c. < 10% calories from saturated fat (if information is available)

<u>If nutrition information is not available:</u>

- Record the number of main dish salads with < two high-fat ingredients (see Supplementary Information below for list)
- If there is no low-fat or fat-free dressing available, then the salads cannot be counted as healthy options
- If there are none that meet the criteria or if the salad ingredients are not listed write a "0" in the column for the number.

Supplementary Information: Main Dish Salads	
Note: If a salad comes dressed, it cannot be counted as healthful, unless low-fat or fat-free dressing is an option on the menu (included in separate list of dressings).	
Yes	**No**
▪ Grilled, chargrilled or charbroiled chicken breast salad ▪ Grilled fish or seafood salad ▪ Turkey breast or ham as ingredients ▪ Vegetable salad	▪ Salads with three or more of the following: • Avocado or guacamole • Bacon • Cheese • Croutons • Egg (**if already have a protein source**) • Fried (crispy) noodles, tortilla strips (or similar fried garnishes) • Nuts • Olives • Pesto • Sausage or pepperoni • Salami, bologna, pastrami, corned beef or other high-fat lunch meat (roast beef, okay) • Sour cream ▪ Mayonnaise-based salads such as tuna salad, chicken salad

Supplementary Information: Main Dish Salads	
Note: If a salad comes dressed, it cannot be counted as healthful, unless low-fat or fat-free dressing is an option on the menu (included in separate list of dressings).	
Yes	**No**
	▪ Caesar salad ▪ Salad topped with fried chicken or other fried meat ▪ Salad in a fried shell (e.g., taco salad)

c. Low-fat or fat free salad dressings

Record whether low-fat or fat free salad dressings are available. If yes, record how many there are. If none, mark "no" and write "0" in the column for number.

If nutrition information is available, check to see if any dressings qualify using fat chart. Some do but may not be labeled as low-fat or fat free.

4)	Salad bar	Select one		Number	Comments
a.	Cafeteria has a salad bar?	□ Yes	□ No		
b.	Are there low-fat protein sources (undressed beans, fish, poultry, tofu)?	□ Yes	□ No		
c.	Are there nuts and or seeds available?	□ Yes	□ No		
d.	Are there unprocessed vegetables?	□ Yes	□ No		
e.	Are there dressing to choose from?	□ Yes	□ No		
f.	Are low-fat/fat free dressings available?	□ Yes	□ No		

4) Salad bar

a. Cafeteria has a salad bar?

Record if there is a salad bar, where the costumer can make his/her own salad.

b. Are there low-fat protein sources (undressed beans, fish, poultry, tofu)?

Record the number of low-fat protein sources (undressed beans, fish, poultry, tofu). Protein sources with mayo or other dressings that are not specifically labeled as low-fat or fat free are not counted as a low-fat protein sources. The protein sources can still be flavored.

c. Are there nuts and/or seeds available?

Record the number of nuts and/or seeds available at the salad bar. If there are nuts and/or seeds mixed count the number of container.

d. Are there unprocessed vegetables?

Record the total number of fresh, unprocessed vegetables (can be sliced or cooked with no fat, no sauce or dressings)

e. Are there dressing to choose from?

Record the total number of dressings available at the salad bar, regardless if healthy or unhealthy.

f. Are low-fat/fat free dressings available?

Record the number of low-fat/fat free dressings available at the salad bar. If nutrition information is available, check to see if any dressings qualify using fat chart. Some do but may not be labeled as low-fat or fat free.

5)	Side items	Select one		Number	Comments
a.	Fruit (without sugar)	□ Yes	□ No		
b.	Fruit (with added sugar or syrup)	□ Yes	□ No		
c.	Healthy vegetables without sauce & not fried	□ Yes	□ No		
d.	Less healthy vegetables with sauce or fried	□ Yes	□ No		
e.	Cooked potato (without fat)	□ Yes	□ No		
f.	French fries	□ Yes	□ No		

5) Side items

a. Fruit (without sugar)

Record the number of fruit side dishes without added sugar (see Supplementary Information for guidance) and mark “yes”. If there are no fruit side dishes without added sugar, mark “no” and write “0” in the column for number. If there is nutrition information, check to make sure that fruit qualifies as something there may be added sugar not noted on the menu.

Supplementary Information: Fruits Without Added Sugar	
Yes	*No*
▪ Fresh fruit or canned fruit (in fruit juice) ▪ Fresh fruit compote ▪ Fresh fruit salad without dressing or on the side ▪ Fresh fruit with yogurt ▪ Fresh fruit plate with cottage cheese	▪ Cinnamon apples ▪ Fruit canned in syrup ▪ Fruit salad with dressing ▪ Applesauce (unless specifically know that no sugar is added)

b. Fruit (with added sugar or syrup)

Record the number of fruit side dishes with added sugar. Again, check the nutrition information if available. Fruits in baked goods are not counted as fruits in this category.

c. Healthy vegetables without sauce & not fried

Look for any vegetables separately listed as "sides or "extras" and see if they meet the criteria of non fried vegetables without added sugar (see table below). If there is any indication of a sauce (e.g. steamed broccoli with a buttery sauce) it does not count.

If vegetables are listed "separately" and not as part of an entrée (e.g., you have a choice of vegetables that are grouped below or above the entrée), these are counted, if they are healthy.

Salad listed as a side when there is low-fat or fat free dressing counts. Again, if there are nutrition information available make sure that the vegetable qualifies. For example, it might say "steamed broccoli" but the nutrition information states 80 calories with 6 grams of fat which would mean that this item would not quality as a non-fired vegetable. Without the nutrition information the rater would classify the "steamed broccoli" as a vegetable without sauce and not fried.

Supplementary Information: Non-fried Vegetables Without Added Sauce	
Note: Do not count vegetables that are a part of a main dish, such as those found in stew or spinach lasagna. Do not count vegetables on the salad bar.	
Yes	**No**
▪ Raw (e.g., sliced tomato) ▪ Steamed ▪ Grilled or chargrilled ▪ Baked	▪ Mixed dishes, such as lasagna, pot pie, stew, spinach calzone, or shepherd's pie ▪ Fried, stir-fried ▪ Breaded

▪ Pickled	▪ Au gratin ▪ Casserole ▪ Creamed ▪ Scalloped ▪ With sauce ▪ Glazed ▪ Sauteed ▪ Potatoes ▪ Pinto beans or other dried beans or peas

d. Less healthy vegetables with sauce or fried

Record the number of separately listed vegetables that are fried and/or with sauce. See also the supplementary information for non-fried vegetables without added sugar.

e. Cooked potato (without fat)

Record if cooked potatoes without fat are available. If there are different sort of cooked potato record the number and add a comment on which types.

f. French fries

Record if there are French fries as sides available. If there are different sort of French fries (e.g. curly) record the number of variations and add a comment on which types.

6)	Bread (also for sandwiches)	Select one		Number	Comments
a.	Is there bread available?	□ Yes	□ No		
b.	Whole wheat or whole grain bread?	□ Yes	□ No		

6) Bread (also for sandwiches)

a. Is there bread available?

Record whether there is bread available. Also bread used for sandwiches count here.

b. Whole wheat or whole grain bread?

Record whether whole wheat or whole grain bread is available and note in the comments to which percentage. If there are no information about the percentage of whole grain in the bread, don't count it. Don't count bread only because it has a dark color!

7)	Desserts	Select one		Number	Comments
a.	Ice Cream	□ Yes	□ No		
b.	Baked Goods/Cakes	□ Yes	□ No		
c.	Frozen Yogurt	□ Yes	□ No		

7) Desserts

Record whether ice cream is available. If yes, count the numbers of different ice creams. Different flavors count as different items.

Example: If there are one chocolate and one vanilla ice cream note 2 ice creams.

Example: If there are 2 cookie, 1 chip, and 2 pretzel 100-cal snack packs, then note 4 varieties as baked goods.

Do not count different sizes of the same item as 2 separate items.

8)	Healthy or low calorie beverage vs. unhealthy or sugar sweetened beverages	Select one		Number	Brand:	Price:	Bottle size:
a.	1) Bottled water	□ Yes	□ No				
	2) Sweetened flavored water (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
b.	1) Diet soda	□ Yes	□ No				
	2) Soda	□ Yes	□ No				
c.	1) Low-calorie energy drink (<10cal/237ml, or <4cal/100ml)	□ Yes	□ No				
	2) Energy drink (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
d.	1) 100% fruit juice	□ Yes	□ No				
	2) Juiced flavored drink (not 100% fruit juice)	□ Yes	□ No				
e.	1) Coffee (without sugar)	□ Yes	□ No				
	2) Coffee drink (syrup/added sugar)	□ Yes	□ No				

8) Healthy vs. unhealthy beverages

53 Appendix 2

In this section healthy and unhealthy beverages will be recorded. This section consists out of two main steps. First you record the variety of products in each category. For example, if the cafeteria offers water (a.1)) from three different brands record “3” under “number”. If there is more than one size offered by the same brand count them separately. For example if one brand offers water bottles in the size 250ml and 500ml count them as two items.
After the counting of every item you select the cheapest item in each category, for example the cheapest diet coke available in the cafeteria. Don’t look at the price per liter! For example if there is a diet coke from brand X with 250ml and it costs 1,99€ (=7,96€ per liter) and another diet coke from brand Y with 200ml and it costs 1,70€ (=8,50€ per liter), record here the brand, price and bottle size from the diet coke from brand Y, because this is the cheaper option available in the cafeteria, regardless of the price per liter.

a. 1) Bottled water

First count the number of available water items in the cafeteria. After that pick the cheapest bottle of water and note down the brand, the price and the size.

a. 2) Sweetened flavored water

First count the number of available sweetened flavored water items in the cafeteria. Pick the cheapest bottle of sweetened and flavored water and note down its brand, price and bottle size. The water should not be colored. The water should have more than 4 calories per 100 ml. If there are only waters under this amount of calories, select “no”. Keep in mind that the water should have more than 4 calories per 100 ml and <u>not</u> per bottle. You may need to calculate this.

b. 1) Diet soda

First count the number of available diet soda items in the cafeteria. Record the brand, price and bottle size of the cheapest diet soda available in the cafeteria. Count only diet soda which is labeled as “zero”, “sugar-free”, “zero-sugar” or with similar terms.

b. 2) Soda

First count the number of available soda items (e.g., coca cola, fanta, pepsi) in the cafeteria. Record the brand, price, bottle size of the cheapest soda in the cafeteria.

c. 1) Low-calorie energy drink

First count the number of available low-calorie energy drinks items in the cafeteria. After that record the brand, price, and bottle size of the cheapest low-calorie energy drink available in the cafeteria. An energy drink should have less than 4 calories per 100ml. Keep in mind that the energy drink should have less than 4 calories per 100ml and not per can or bottle. If there is no energy drink with less than 4 calories per 100ml select “no”.

c. 2) Energy drink

First count the number of available energy drink items (e.g., redbull, monster) in the cafeteria. After that record the brand, price, and bottle size of the cheapest energy drink. The energy drink should have more than 4 calories per 100ml. Keep in mind that the energy drink should have more than 4 calories per 100 ml and not per can. If there is no energy drink with more than 4 calories per 100ml select “no”.

d. 1) 100% fruit juice

First count the number of available 100% fruit juice items in the cafeteria. After that, record the brand, price, and bottle size of the cheapest 100% fruit juice. If there is no 100% fruit juice available select “no”. The information about 100% fruit juice should be directly on the bottle. If you are not sure, don’t note it.

d. 2) Juiced flavored drink

First count the number of available juice flavored drink items in the cafeteria. After that record the brand, price, and bottle size of the cheapest juiced flavored drink, so which includes not 100% fruit juice.

e. 1) Coffee (without sugar)

First count the number of available coffee items without sugar in the cafeteria. After that record the brand, price, and bottle size of the cheapest coffee.

e. 1) Coffee drink (syrup/added sugar)

First count the number of available coffee drink items in the cafeteria. After that record the brand, price, and bottle size of the cheapest coffee drink, which is sweetened with syrup or sugar.

9)	Facilitators	Select one		Comments
a.	Nutrition information available (paper or posted menu)?	□ Yes	□ No	
b.	Nutrition information available upon request?	□ Yes	□ No	
c.	Healthy items identified on menu with labels/icons?	□ Yes	□ No	
d.	Menu notations that encourage healthy request (e.g. whole wheat bread available upon request)?	□ Yes	□ No	
e.	Are reduced-size portions offered on the menu or a sign?	□ Yes	□ No	
		□ standard		
f.	Are reduced-size portions available upon request?	□ Yes	□ No	

9) Facilitators

a. Nutrition information available (paper or posted menu)?

Nutrition information must be listed visible for the costumer without asking for more than one item. If there are nutrition information but not for every item, select “yes” and add this information in the comments.

b. Nutrition information available upon request?

If nutritional information are available upon request mark “yes”. If there are some nutrition information listed on the menu but you get more or more detailed information upon request mark in both categories “yes” and write this in the comment section.

c. Healthy items identified on menu with labels/icons?

Items must be either in a separate section identified as healthier choices or have a symbol with a footnote describing them as healthier choice. **Do not** include low-carb or vegetarian notations. If healthy entrees are identified, record if the cafeteria identifies standards for what constitutes a healthy item in the comment section (e.g., healthy entrees <600 calories).

d. Menu notations that encourage healthy request (e.g. whole wheat bread available upon request)?

Do menu notations encourage healthy request and indicate that it would make the selection a healthier choice? Only select “yes” if the notation is writte down, and not if it is possible upon request.

Example: Under the salad section the menu says, “Ask our staff for Fat-free Ranch Dressing.”

Example: Menu says, “Our sandwiches are topped with lettuce, tomato and cheese. For a lower-fat option, ask for lettuce and tomato only.”

e. Are reduced-size portions offered on the menu or a sign?

Record whether smaller portions are labeled as available on the menu or a sign, e.g., half-order vs. full-order.

Example: Taco Heap……..€6,79/€4,25 half

If multiple-size options are a standard part of the menu, mark “standard”

Example: Small vs. large pizza, 6” vs. 12” sub, regular vs. large burger

f. Are reduced-size portions available upon request?

Are reduced-size portions available upon request? Ask the staff if it is possible to get a smaller portion. If you can get reduced-size portions which are not labeled on the menu select “yes”. If there are no reduced-size portions or only the ones that are labeled on the menu select “no”.

10)	Barriers	Select one		Comments
a.	Large portion size encouraged (e.g., super-size items on menu)?	□ Yes	□ No	
b.	Menu notations that discourage special requests (e.g. No substitutions or charge for substitutions)?	□ Yes	□ No	
c.	All-you-can-eat or “Unlimited trips”?	□ Yes	□ No	
d.	Are any unhealthy items present at point-of-purchase (e.g. next to register)?	□ Yes	□ No	

10) Barriers

a. Large portion size encouraged (e.g., super-size items on menu)?

Does the cafeteria promote large portion sizes on the menu?

Example: super sized items, giant spuds, colossal burger

b. Menu notations that discourage special requests

Do menu notations discourage special requests?

Example: “no substitutions”, “Extra charge for substitutions”

c. All-you-can-eat or “Unlimited trips”?

Does **not** include beverages.

Example: All-you-can eat buffet including salad bar

d. Are any unhealthy items present at point-of-purchase (e.g. next to register)?

Example: Brownies or candy bars next to cash register.

11)	Pricing	Select one		Comments
a.	Sum of individual items compared to combo meal?	□ more	□ less	
		□ same	□ NA	
b.	Healthy entrees compared to regular ones?	□ more	□ less	
		□ same	□ NA	
c.	Healthy main dish salads compared to regular ones?	□ more	□ less	
		□ same	□ NA	
d.	Reduced-size portions upon request compared to regular portions?	□ more	□ less	
		□ same	□ NA	

11) Pricing

a. Sum of individual items compared to compo meal?

Identify if combo meals are more, the same, or less than purchasing individual items.

Definition of Combo meal

- A combo meal combines several menu items that would otherwise be sold separately
- It is not an entrée with side dish(es), but separate items with separate prices, put together as a “combo”
- It may include a drink but not necessarily

Example: Burger + fries + soda as a combo, vs. burger + fries + soda separately

b. Healthy entrees compared to regular ones?

Based on the healthy meal options you identifies in question 2, are similar menu items more expensive, the same, or less expensive? If there are no healthy items, mark NA.

c. Healthy main dish salads compared to regular ones?

Based on the healthy salad options you identifies in question 3, are similar menu items more expensive, the same, or less expensive? If there are no healthy items, mark NA.

d. Reduced-size portions upon request compared to regular portions?

If question 9 f is “yes”, so if reduced-size portions are (maybe additionally to the one labeled on the menu) available upon request ask if this portion would be more expensive, the same, or less expensive compared to the regular-size portion. If question 9 f is “no” mark “NA”.

Snack Shop Protocol

These measures are developed to assess the food environment of Snack Shops at Maastricht University. Snack Shops are stores in the University building that are only accessible by staff and students.

This protocol includes the survey items and specific instructions to every item.

Rater ID:

Snack Shop ID:

Snack Shop location:

Date: ___/___/___

Start time:

End time:

Record Rater ID, Shop location, the date of the data collection and start and end time of the data collection.

	Data Source		
	□ Site visit/ Observation	□ Internet	□ Interview

Data source

Select everything that applies in your situation.

An interview is not when staff is asked about specific questions. An interview would be a conversation with for example the manager. This should be only considered when questions cannot be answered via observation or asking the staff.

Check this section before and after the data collection in one Shop.

	Hours of operation				
a.	Open 24 hours		□ Yes	□ No	
b.	Hours listed		□ Yes	□ No	
c.	**Weekday**		**Weekend**		
d.	□ Open	□ Closed	□ Open	□ Closed	
e.	Opening time:		Opening time:		
	Closing time:		Closing time:		

Hours of operation

Mark everything that applies in your situation.

Weekday is defined as Monday, Tuesday, Wednesday, Thursday and Friday. Weekend is defined as Saturday or Sunday. If a Shop opens or closes multiple times per day, fill in the first opening time and the last closing time. If the hours are not listed, mark the 'no' at question b and leave d and e or only e blank.

	Access	
	□ Car	□ Foot only

Access

Record how costumer can access the Shop. Mark 'car' only when there are specific parking lots for this Shop. When there are only general parking lots at the University somewhere nearby, select Foot only.

	Seating available			**Comments**
	□ Yes	□ No	□ Number of tables:	

Seating available

Record whether tables are available. Seating includes only furniture that are in the direct environment of the Shop. For example stairs in the surrounding where maybe costumers eat are **not** included. Count the number of tables that are in the direct environment of the cafeteria. If tables standing together in a group count every single table in this group as one. For example a group of three tables count as three tables and not one.

1)	Promotion	Select one		Comments
a.	Are healthy items identified on menu or a brochure with icons or labels?	□ Yes	□ No	
b.	Do signs/table tents/ displays highlight healthy menu or shop options?	□ Yes	□ No	
c.	Do signs/table tents/ displays encourage healthy eating?	□ Yes	□ No	
d.	Do signs/table tents/ displays encourage unhealthy eating?	□ Yes	□ No	
e.	Do signs/table tents/ displays encourage overeating (all-you-can-eat, super-size, jumbo, grande, supreme, king size)?	□ Yes	□ No	
f.	Do signs/table tents/ displays promote water consumption?	□ Yes	□ No	
g.	1) Do signs/table tents/displays promote consumption of unhealthy or sugared drinks?	□ Yes	□ No	
	2) Do signs/table tents/displays promote consumption of healthy or diet drinks?	□ Yes	□ No	

1) Promotion

a. Are healthy items identified on menu, a brochure or a display with icons or labels?

Healthy items must be identified on menu, a brochure or a display clearly visible for the costumer. **Do not** include low-carb or vegetarian notations. If healthy items are identified, record if the shop identifies standards for what constitutes a healthy item in the comment section (e.g., healthy entrees <600 calories).

b. Do signs/table tents/ displays highlight healthy menu or shop options?

This promotion may relate to nutritional value, type of food or cooking method (e.g. grilled or cooked food, salads or fruit). This promotion can be inside or outside the shop. For example “Eat healthy and try out our whole grain bread sandwiches”. Note in the comment which method is used to highlight healthy menu options.

c. Do signs/table tents/displays encourage healthy eating?

Note if healthy eating in general is encouraged. For example “Fruits and Vegetables will boost your energy”.

d. Do signs/table tents/displays encourage unhealthy eating?

This item can be related to nutritional value, type of food or price (combo discounts). For example “Try out our new American cheesecake”, or posters featuring pictures of high-fat foods.

e. Do signs/table tents/displays encourage overeating (all-you-can-eat, super-size, jumbo, grande, supreme, king size)?

This item is related to quantity. For example promotion of a king size menu on a poster.

f. Do signs/table tents/displays promote water consumption?

Mark whether if promotion encourages drinking or buying water.

g. 1) Do signs/table tents/displays promote consumption of unhealthy or <u>sugared</u> drinks?

2) Do signs/table tents/displays promote consumption of healthy or <u>diet</u> drinks?

Signage if free refills on sugar and diet drinks are promoted. If there is no free refill service mark no.

2)	Main Dishes/Entrees:	Tally list (optional)	Select one		Number	Comments
a.	Total number of Main Dishes/Entrees		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Vegetarian Options		□ Yes	□ No		

2) Main Dishes/Entrees

The tally list serves as a support to structure the counting, as this can be confusing depending on the number of dishes. Structure your way through the displays of the shop so that you observe every item in the shop.

It is recommended to filled out all three lines a, b, and c simultaneously. That means if one main dish is identified at the same time decide if this is a healthy option and/or a vegetarian option.

a. Total number of Main Dishes/Entrees

Count the total number of main dishes and entrees available. Count every main dish or entree via observation. Do not include main dish salads.

<u>Use the following guidelines</u>:

- **Definition of a main dish/entrée**: It must be distinctly different either in ingredients, proportion of ingredients or preparation method. Differ only in size or quantity is not enough, so that items that only differ in size are counted as one item.

  Example: A cheeseburger and a double cheeseburger have proportionately different ingredients, making one higher in percent fat than the other. (*Count as 2 entrees, **not** 1*)

Example: A sandwich with grilled chicken and a sandwich with fried chicken (*Count as 2 entrees, **not** 1*)

- If the same entrée is prepared with different sauces, count them as different entrees

  Example: Hot wings offered in BBQ, Honey Mustard or Lemon Pepper (*Count as 3 entrees, **not** 1*)

  Example: Spaghetti with marinara sauce, meat sauce or Alfredo sauce (*Count as 3 entrees, **not** 1*)

- Count "build your own" as one item

  Example: Build your own omelet (with choices of ingredients) (*Count as 1 entrée*)

  Example: Build your own pizza (Count as 1 entrée)

b. Healthy options

If at least one main dish can be categorized as healthy mark "yes, if not mark "no". Use the following criteria to categorize the dishes.

<u>If nutrition information is available:</u>

- Count the number of entrees that meet all three of the following criteria (only if calories from saturated fat are available, if not only a and b have to be met):
  a. Entrees = <800 calories

     Burgers/Sandwiches = <650 calories
  b. <30 % of calories from fat (see % Fat Chart)
  c. < 10% calories from saturated fat (if information is available)

% FAT CHART

Count entrees and main dish salads with the following maximum amounts of calories and total fat (30% calories from fat) as healthful choices. Look at the nutritional information listed by each entrée. Find where each entrée falls in the calorie range listed. Then, see if the grams of fat given for that range are equal to or less than the fat content of the entrée. If the fat grams in the entrée are greater than the chart, it is not counted as a healthy option.

Calories	≤ grams of fat
≤ 179	5 grams
180 - 209	6 grams
210 - 239	7 grams

240 - 269	8 grams
270 - 299	9 grams
300 - 329	10 grams
330 - 359	11 grams
360 - 389	12 grams
390 - 419	13 grams
420 - 449	14 grams
450 – 479	15 grams
480 - 509	16 grams
510 – 539	17 grams
540 - 569	18 grams
570 - 599	19 grams
600 – 629	20 grams
630 – 659	21 grams
660 – 689	22 grams
690 – 719	23 grams
720 – 749	24 grams
750 – 779	25 grams
780 – 800	26 grams

If saturated fat data are available, then items must also have no more than 10% saturated fat calories to count as healthful. See chart below:

Calories	**≤ grams of saturated fat**
≤ 149	1 gram
150 – 239	2 grams
240 – 319	3 grams
320 – 419	4 grams
420 – 499	5 grams
500 – 589	6 grams
Remember, burgers and sandwiches ≤ 650 calories	
590 – 689	7 grams
690 –769	8 grams
770 – 800	10 grams

If nutrition information is **not** available:

Record the number of entrees identifies as “light fare”, “light”, “heart healthy”, “healthy”. If a menu does not have any healthy options, write “0” in the column for number.

c. Vegetarian options

Count every item that you identified as a main dish or entrée and include no meat as a vegetarian option (e.g. fish, pork, beef, chicken). Dishes with other animal products like eggs, milk or cream are counted as vegetarian options.

3)	Main dish salads:	Tally list (optional)	Select one		Number	Comments
a.	Total number of Main dish salads		□ Yes	□ No		
b.	Healthy Options		□ Yes	□ No		
c.	Low-fat or fat free salad dressings		□ Yes	□ No		

3) Main dish salads

Again, the tally list can help to structure the counting. The method is the same as in the previous section.

a. Total number of Main dish salads

Record the total number of main dish salads. See definition of main dish salad below. If there are no main dish salads in the shop, mark “no” and write “0” in the box for the number. This is separate from any salad bar offerings.

Definition of Main dish salad:

- A main dish salad is of sufficient size to be the central part of a meal (or meal in itself) and typically contains at least one protein source as an integral ingredient (see list for examples).
- Do not count salads that are listed under the following sections of the menu or that are clearly smaller in size than the main dish salads (e.g., their price is half of the average main dish salad price):
    - Appetizers
    - Side items, side orders, or sides
    - Extras
- If in doubt about the ingredients, and the price is similar to other main dishes on the menu, count it as a main dish salad.

- Do not count the following salads as a main dish, unless they have a high-protein ingredient (see Protein Sources below)
    - Pasta salad
    - Caesar salad

Protein Sources
▪ Tofu ▪ Chicken or turkey (poultry) ▪ Fish or seafood ▪ Beef or pork (do **not** count bacon as a protein source) ▪ Vegetarian chili ▪ Pinto beans, soybeans, chickpeas (or hummus) or other legumes ▪ Egg (unless used only as a garnish)

b. Healthy options

If at least one main dish salad can be categorized as healthy mark “yes”, if not mark “no”. Use the following criteria to categorize the main dish salads.

<u>If nutrition information is available</u>:

2. Count the number of main dish salads that meet all three of the following criteria (only if calories from saturated fat are available, if not only a and b have to be met):
    a. <800 calories
    b. <30 % of calories from fat (see % Fat Chart)
    c. < 10% calories from saturated fat (if information is available)

<u>If nutrition information is not available:</u>

- Record the number of main dish salads with < two high-fat ingredients (see Supplementary Information below for list)
- If there is no low-fat or fat-free dressing available, then the salads cannot be counted as healthy options
- If there are none that meet the criteria or if the salad ingredients are not listed write a “0” in the column for the number.

Supplementary Information: Main Dish Salads	
Note: If a salad comes dressed, it cannot be counted as healthful, unless low-fat or fat-free dressing is an option on the menu (included in separate list of dressings).	
Yes	**No**
▪ Grilled, chargrilled or charbroiled chicken breast salad ▪ Grilled fish or seafood salad ▪ Turkey breast or ham as ingredients ▪ Vegetable salad	▪ Salads with three or more of the following: • Avocado or guacamole • Bacon • Cheese • Croutons • Egg (**if already have a protein source**) • Fried (crispy) noodles, tortilla strips (or similar fried garnishes) • Nuts • Olives • Pesto • Sausage or pepperoni • Salami, bologna, pastrami, corned beef or other high-fat lunch meat (roast beef, okay) • Sour cream ▪ Mayonnaise-based salads such as tuna salad, chicken salad ▪ Caesar salad ▪ Salad topped with fried chicken or other fried meat ▪ Salad in a fried shell (e.g., taco salad)

c. Low-fat or fat free salad dressings

Record whether low-fat or fat free salad dressings are available separately from the salad so as a single item. If yes, record how many there are. If none, mark "no" and write "0" in the column for number. If nutrition information is available, check to see if any dressings qualify using fat chart. Some do but may not be labeled as low-fat or fat free.

4)	Bread (for sandwiches)	Select one		Number	Comments
a.	Bread available?	□ Yes	□ No		
b.	Whole wheat or whole grain bread?	□ Yes	□ No		

4) Bread (also for sandwiches)

a. Is there bread available?

Record whether there is bread available. Also bread used for sandwiches count here.

b. Whole wheat or whole grain bread?

Record whether whole wheat or whole grain bread is available and note in the comments to which percentage. If there are no information about the percentage of whole grain in the bread, don't count it. Don't count bread only because it has a dark color!

5)	Snack items:	Select one		Number	Price	Package size
a.	1) Fruit (raw, without sugar)	□ Yes	□ No			
	2) Fruit (raw, with added sugar or syrup)	□ Yes	□ No			
	1) Healthy vegetables (without sauce & not fried)	□ Yes	□ No			
	2) Less healthy vegetables (with sauce or fried)	□ Yes	□ No			
	1) Baked, or low fat chips	□ Yes	□ No			
	2) Chips	□ Yes	□ No			
d.	1) Nuts, or Seeds	□ Yes	□ No			
	2) Cookie	□ Yes	□ No			
	1) Muesli bar	□ Yes	□ No			
	2) Candy bar (E.g., Snickers)	□ Yes	□ No			

5) Snack items

Record in this category for each item the number of varieties and additionally package size and price for the cheapest item in each category available in the shop.

a. 1) Fruit (raw, without sugar)

Record the number of raw fruits without added sugar (see Supplementary Information for guidance) available at the shop. The fruits can be sliced. If there are no fruits without added sugar, mark "no" and write "0" in the column for number. If there is nutrition information, check to make sure that fruit qualifies as something there may be added sugar not noted visible on the front of the package. Note the package size and price for the cheapest item available in the shop.

Supplementary Information: Fruits Without Added Sugar	
Yes	*No*
■ Fresh fruit or canned fruit (in fruit juice) ■ Fresh fruit compote ■ Fresh fruit salad without dressing or on the side ■ Fresh fruit with yogurt ■ Fresh fruit plate with cottage cheese	■ Cinnamon apples ■ Fruit canned in syrup ■ Fruit salad with dressing ■ Applesauce (unless specifically know that no sugar is added)

a. 2) Fruit (raw, with added sugar or syrup)

Record the number of raw fruits with added sugar. Again, check the nutrition information if available. The fruits can be sliced. Fruits in baked goods are not counted as fruits in this category. Note the package size and price for the cheapest item available in the shop.

b. 1) Healthy vegetables without sauce & not fried

Look for any vegetables which meet the criteria of non fried vegetables without added sugar (see table below). If there is any indication of a sauce (e.g. steamed broccoli with a buttery sauce) it does not count.

Salads that does not meet the criteria for main dish salads count in this category. if there is low-fat or fat free dressing . Again, if there are nutrition information available make sure that the vegetable qualifies. For example, it might say “steamed broccoli” but the nutrition information states 80 calories with 6 grams of fat which would mean that this item would not quality as a non-fired vegetable. Without the nutrition information the rater would classify the “steamed broccoli” as a vegetable without sauce and not fried. Note the package size and price for the cheapest item available in the shop.

Supplementary Information: Non-fried Vegetables Without Added Sauce	
Note: Do not count vegetables that are a part of a main dish, such as those found in stew or spinach lasagna. Do not count vegetables on the salad bar.	
Yes	**No**
▪ Raw (e.g., sliced tomato) ▪ Steamed ▪ Grilled or chargrilled ▪ Baked ▪ Pickled	▪ Mixed dishes, such as lasagna, pot pie, stew, spinach calzone, or shepherd’s pie ▪ Fried, stir-fried ▪ Breaded ▪ Au gratin ▪ Casserole ▪ Creamed

	▪ Scalloped ▪ With sauce ▪ Glazed ▪ Sauteed ▪ Potatoes ▪ Pinto beans or other dried beans or peas

b. 2) Less healthy vegetables with sauce or fried

Record the number of vegetables that are fried and/or with sauce. See also the supplementary information for non-fried vegetables without added sauce. Note the package size and price for the cheapest item available in the shop.

c. 1) Baked, or low fat chips

Record if there are baked or low fat chips available. Only count the items that are labeled with “low-fat” or “no-fat”. Note the package size and price for the cheapest item available in the shop.

c. 2) Chips

Record if there are Chips available. Note the package size and price for the cheapest item available in the shop.

d. 1) Nuts and/or Seeds

Record the number of nuts and/or seeds packages available in the shop. Note the package size and price for the cheapest item available in the shop.

d. 2) Cookie

Record the number of cookies packages available in the shop. Note the package size and price for the cheapest item available.

e. 1) Muesli bar

Record the number of muesli bars available in the shop. Note the package size and price for the smallest package size available.

e. 2) Candy bar (E.g., Snickers)

Record the number of candy bars available in the shop. Note the package size and price for the cheapest item available.

6)	Healthy or low calorie beverage vs. unhealthy or sugar sweetened beverages	Select one		Number	Brand:	Price:	Bottle size:
a.	1) Bottled water	□ Yes	□ No				
	2) Sweetened flavored water (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
b.	1) Diet soda	□ Yes	□ No				
	2) Soda	□ Yes	□ No				
c.	1) Low-calorie energy drink (<10cal/237ml, or <4cal/100ml)	□ Yes	□ No				
	2) Energy drink (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
d.	1) 100% fruit juice	□ Yes	□ No				
	2) Juiced flavored drink (not 100% fruit juice)	□ Yes	□ No				
e.	1) Coffee (without sugar)	□ Yes	□ No				
	2) Coffee drink (syrup/added sugar)	□ Yes	□ No				

6) Healthy vs. unhealthy beverages

In this section healthy and unhealthy beverages will be recorded. This section consists out of two main steps. First you record the variety of products in each category. For example, if the shop offers water (a.1)) from three different brands record “3” under “number”. If there is more than one size offered by the same brand count them separately. For example if one brand offers water bottles in the size 250ml and 500ml count them as two items.

After the counting of every item you select the cheapest item in each category, for example the cheapest diet coke available in the shop. Don’t look at the price per liter! For example if there is a diet coke from brand X with 250ml and it costs 1,99€ (=7,96€ per liter) and another diet coke from brand Y with 200ml and it costs 1,70€ (=8,50€ per liter), record here the brand, price and bottle size from the diet coke from brand Y, because this is the cheaper option available in the shop, regardless of the price per liter.

a. 1) Bottled water

First count the number of available water items in the shop. After that pick the cheapest bottle of water and note down the brand, the price and the size.

a. 2) Sweetened flavored water

First count the number of available sweetened flavored water items in the shop. Pick the cheapest bottle of sweetened and flavored water and note down its brand, price and bottle size. The water should not be colored. The water should have more than 4 calories per 100 ml. If there are only waters under this amount of calories, select “no”. Keep in mind that the water should have more than 4 calories per 100 ml and not per bottle. You may need to calculate this.

b. 1) Diet soda

First count the number of available diet soda items in the shop. Record the brand, price and bottle size of the cheapest diet soda available in the shop. Count only diet soda which is labeled as “zero”, “sugar-free”, “zero-sugar” or with similar terms.

b. 2) Soda

First count the number of available soda items (e.g., coca cola, fanta, pepsi) in the shop. Record the brand, price, bottle size of the cheapest soda in the shop.

c. 1) Low-calorie energy drink

First count the number of available low-calorie energy drinks items in the shop. After that record the brand, price, and bottle size of the cheapest low-calorie energy drink available in the shop. An energy drink should have less than 4 calories per 100ml. Keep in mind that the energy drink should have less than 4 calories per 100ml and not per can or bottle. If there is no energy drink with less than 4 calories per 100ml select “no”.

c. 2) Energy drink

First count the number of available energy drink items (e.g., redbull, monster) in the shop. After that record the brand, price, and bottle size of the cheapest energy drink. The energy drink should have more than 4 calories per 100ml. Keep in mind that the energy drink should have more than 4 calories per 100 ml and not per can. If there is no energy drink with more than 4 calories per 100ml select “no”.

d. 1) 100% fruit juice

First count the number of available 100% fruit juice items in the shop. After that, record the brand, price, and bottle size of the cheapest 100% fruit juice. If there is no 100% fruit juice available select “no”. The information about 100% fruit juice should be directly on the bottle. If you are not sure, don’t note it.

d. 2) Juiced flavored drink

First count the number of available juice flavored drink items in the shop. After that record the brand, price, and bottle size of the cheapest juiced flavored drink, so which includes not 100% fruit juice.

e. 1) Coffee (without sugar)

First count the number of available coffee items without sugar in the shop. After that record the brand, price, and bottle size of the cheapest coffee.

e. 1) Coffee drink (syrup/added sugar)

First count the number of available coffee drink items in the shop. After that record the brand, price, and bottle size of the cheapest coffee drink, which is sweetened with syrup or sugar.

7)	Pricing	Select one		Comments
a.	Sum of individual items compared to combo meal/items?	□ more	□ less	
		□ same	□ NA	
b.	Healthy main items compared to less healthy ones?	□ more	□ less	
		□ same	□ NA	
c.	Healthy snacks compared to less healthy ones?	□ more	□ less	
		□ same	□ NA	

7) Pricing

a. Sum of individual items compared to combo meal/items?

Identify if combo meals or items are more, the same, or less expensive than purchasing individual items. If there are no combo meal or items available select "NA".

Definition of Combo meal

- A combo meal combines several menu items that would otherwise be sold separately
- It is not an entrée with side dish(es), but separate items with separate prices, put together as a "combo"
- It may include a drink but not necessarily

Example: Burger + fries + soda as a combo, vs. burger + fries + soda separately

b. Healthy main items compared to less healthy ones?

Identify if healthy meal options or products in the same category (e.g., main dish salads) are more expensive, the same or less than regular meal options or products. If there are no healthy items, mark “NA”.

c. Healthy snacks compared to less healthy ones?

Identify if healthy snacks in the same category (e.g., fruits) are more expensive, the same or less than regular meal options or products. If there are no healthy items, mark “NA”.

75 Appendix 2

Food-Vending Machines Survey Protocol

Rater ID:

Vending ID:

Date: ___/___/___

Start time:

End time:

1)	Location			Comments
a.	GPS coordinates			
b.	Brief description of machine location			
c.	Mark if machine is located near (ca. 30m) any of the following:			
	c1. Bathrooms	□ Yes	□ No	
	c2. Cafeteria	□ Yes	□ No	
	c3. Free learning-space	□ Yes	□ No	
	c4. Staff offices	□ Yes	□ No	
	c5. Lecture hall	□ Yes	□ No	
	c6. Other:	□ Yes	□ No	
d.	Is the machine next to another FOOD vending machine?	□ Yes	□ No	
e.	Is the machine next to another BEVERAGE vending machine?	□ Yes	□ No	

1) Location

a. GPS coordinates

Fill in the coordinates of the location of the vending machine. You can use a GPS device or your smartphone.

b. Brief description of machine location

Give a brief description of the location of the machine, like “Next to the reception of the building X”.

c. Mark if machine is located near (ca. 30m) any of the following:

Mark all listed facilities that are located near the vending machine. Use 30 meters as an orientation but you don't have to really measure it. The facilities don't have to be visible. When there is a staff office around the corner select "yes" at question c4. If there are any other remarkable facilities nearby select "yes" at c6 and write a description in the comments.

d. Is the machine visible, next to another FOOD vending machine?

Mark "yes" if you can see a food-vending machine next to the food-vending machine you are standing in front of.

e. Is the machine visible, next to another BEVERAGE vending machine?

Mark "yes" if you can see a beverage-vending machine next to the food-vending machine you are standing in front of.

2)	Machine Characteristics	Select one		Comments
a.	Is the machine operational?	□ Yes	□ No	
b.	Does machine feature any of the following? (mark all that apply)			
	b1. Credit card or reader	□ Yes	□ No	
	b3. Refrigeration	□ Yes	□ No	
	b4. Cash pay	□ Yes	□ No	
	b5. Student ID reader	□ Yes	□ No	

2) Machine Characteristics

a. Is the machine operational?

Select "yes" if the vending machine is operational at the time of your observation.

b. Does machine feature any of the following? (Mark all that apply)?

Mark if the vending machine features any of the options listed in b1-b5.

3)	Promotion	Select one		Comments
a.	Does the food vending machine have signs or other displays that promote general healthy food choices?	□ Yes	□ No	
b.	Does the food vending machine have sign or displays that promote unhealthy food choices	□ Yes	□ No	
c.	Are specific healthy or healthier items in the food vending machine identified using signs or displays (e.g. icons)?	□ Yes	□ No	
d.	What unhealthy option(s) is depicted on the exterior of the machine			
	d1. Regular (non-baked) chips	□ Yes	□ No	
	d2. Non-diet soda	□ Yes	□ No	
	d3. Fruit-flavored drink (not 100% fruit)	□ Yes	□ No	
	d4. Energy drink	□ Yes	□ No	
	d5. Flavored milk	□ Yes	□ No	
	d6 Milk (>1% fat)	□ Yes	□ No	
	d7. Non-diet sports drink	□ Yes	□ No	
	d8. Dairy dessert (ice cream)	□ Yes	□ No	
	d9. Grain dessert (cookies)	□ Yes	□ No	
	d10. Other	□ Yes	□ No	
	d11. None of these	□ Yes	□ No	
e.	What healthy option(s) is depicted on the exterior of the machine			
	e1. Baked Chips	□ Yes	□ No	
	e2. Water	□ Yes	□ No	
	e3. Diet Soda	□ Yes	□ No	
	e4. 100% fruit juice	□ Yes	□ No	
	e5. 1% fat/ skim unflavored milk	□ Yes	□ No	
	e6. Low calorie sports drink	□ Yes	□ No	
	e7. Fruits	□ Yes	□ No	
	e8. Vegetables	□ Yes	□ No	
	e9. Other_____	□ Yes	□ No	
	e10. None of these	□ Yes	□ No	

3) Promotion

a. Does the vending machine have signs or other displays that promote general healthy food choices?

Note if healthy eating in general is encouraged or promoted by signs or other displays. For example “Fruits and vegetables will boost your enegery”. Fill in comments about what is displayed or phrases used.

b. Does the vending machine have signs or displays that promote unhealthy food choices?

This item can be related to nutritional value, type of food or price. For example “Try out the new chocolate chip cookie”, or posters on the machine featuring pictures of unhealthy foods.

c. Are specific healthy items in the vending machine identified using signs or displays (e.g. icons)?

Record if healthy items have a symbol or another description describing them as healthier choice.

d. What unhealthy option(s) is depicted on the exterior of the machine

e. What healthy option(s) is depicted on the exterior of the machine

Record what is depicted on the exterior of the vending machine. Mark everything that applies. If you can be no sure if it is a healthy or an unhealthy item pictured, select the unhealthy option. For example if there are chips pictured on the machine, actually you cannot be sure if they are fried or baked, anyway select the less healthier option in this case the fried chips, the same with soda, milk or juice.

4)	Distribution of slots	GREEN items	YELLOW items	RED Items	Other/Non-nutritive	Empty	Total
a.	Number of slots in Food Machine (Use the chart in Appendix A)						

4) Distribution of slots

a. Number of slots in Food Machine (Use the chart in Appendix A)

Use the chart in Appendix A to determine whether an option is considered Green (healthy), Yellow (healthy in limited quantities) or Red (eat only occasionally). Count the number of slots filled by items that are classified as Green, Yellow or Red. The same items in two slots are counted as two slots, even if it is the same product. Items that cannot be classified or are non-nutritive (e.g. chewing gum) should be quantified in the Other/Non-nutritive category. Empty slots should be counted and listed in the Empty category. List total number of slots in machine (should equal sum of other columns).

5)	Snack items:	Select one		Number of Slots	Price per item:	Package size:	Comments
a.	1) Fruit (raw, without sugar)	□ Yes	□ No				
	2) Fruit (raw, with added sugar or syrup)	□ Yes	□ No				
b.	1) Dried fruit	□ Yes	□ No				
	2) Fruit snacks (not 100% fruit)	□ Yes	□ No				
c.	1) Healthy vegetables (without sauce & not fried)	□ Yes	□ No				
	2) Less healthy vegetables (with sauce or fried)	□ Yes	□ No				
d.	1) Baked, or low fat chips	□ Yes	□ No				
	2) Chips	□ Yes	□ No				
e.	1) Nuts, or Seeds	□ Yes	□ No				
	2) Cookie	□ Yes	□ No				
f.	1) Muesli bar	□ Yes	□ No				
	2) Candy bar (E.g., Snickers)	□ Yes	□ No				

5) Snack items

Record in this category for each listed item the number of slots in the vending machine and additionally package size and price for one item (measured in gram in one package). Keep in mind that the same items in two slots are counted as two slots, even if it is the same product. If there are more products in one category pick the less expensive one. If there are nutrition information you can use them, but if you cannot identify them without buying the product, use only the visible information to assign the product to a category. Keep in mind that it is possible that not every product in the vending machine will be recorded in this table.

a. 1) Fruit (raw, without sugar)

Record the number of raw fruits without added sugar (see Supplementary Information for guidance). The fruits can be sliced. If there are no fruits without added sugar, mark “no” and write “0” in the column for number. If there is nutrition information, check to make sure that fruit qualifies as something there may be added sugar not noted visible on the front of the package. Note the number of slots, package size and price for one item. If there is more than one, pick the less expensive one.

Supplementary Information: Fruits Without Added Sugar

Yes	*No*
■ Fresh fruit or canned fruit (in fruit juice) ■ Fresh fruit compote ■ Fresh fruit salad without dressing or on the side ■ Fresh fruit with yogurt ■ Fresh fruit plate with cottage cheese	■ Cinnamon apples ■ Fruit canned in syrup ■ Fruit salad with dressing ■ Applesauce (unless specifically know that no sugar is added)

a. 2) Fruit (raw, with added sugar or syrup)

Record the number of raw fruits with added sugar. Again, check the nutrition information if available. The fruits can be sliced. Fruits in baked goods are not counted as fruits in this category. Note number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

b. 1) Dried fruit

Record the number of dried fruit options available in the vending machine. Note number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

b. 2) Fruit snacks (not 100% fruit)

Record the number of fruit snacks (not 100% fruit) options e.g., fruit bars available in the vending machine. Note number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

c. 1) Healthy vegetables without sauce & not fried

Look for any vegetables which meet the criteria of non fried vegetables without added sugar (see table below). If there is any indication of a sauce (e.g. steamed broccoli with a buttery sauce) it does not count as healthy.

Salads that does not meet the criteria for main dish salads count in this category if there is low-fat or fat free dressing. Again, if there are nutrition information available make sure that the vegetable qualifies. For example, it might say “steamed broccoli” but the nutrition information states 80 calories with 6 grams of fat which would mean that this item would not quality as a non-fired vegetable. Without the nutrition information the rater would classify the “steamed broccoli” as a vegetable without sauce and not fried. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

Supplementary Information: Non-fried Vegetables Without Added Sauce	
Note: Do not count vegetables that are a part of a main dish, such as those found in stew or spinach lasagna. Do not count vegetables on the salad bar.	
Yes	**No**
▪ Raw (e.g., sliced tomato) ▪ Steamed ▪ Grilled or chargrilled ▪ Baked ▪ Pickled	▪ Mixed dishes, such as lasagna, pot pie, stew, spinach calzone, or shepherd's pie ▪ Fried, stir-fried ▪ Breaded ▪ Au gratin ▪ Casserole ▪ Creamed ▪ Scalloped ▪ With sauce ▪ Glazed ▪ Sauteed ▪ Potatoes ▪ Pinto beans or other dried beans or peas

c. 2) Less healthy vegetables with sauce or fried

Record the number of vegetables that are fried and/or with sauce. See also the supplementary information for non-fried vegetables without added sauce. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

d. 1) Baked, or low fat chips

Record if there are baked or low fat chips available. Only count the items that are labeled with "low-fat" or "no-fat". Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

d. 2) Chips

Record if there are Chips available. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

e. 1) Nuts and/or Seeds

Record the number of nuts and/or seeds packages available. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

e. 2) Cookie

Record the number of cookies packages available. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one. It doesn't matter how many cookies are in one package.

f. 1) Muesli bar

Record the number of muesli bars available. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

f. 2) Candy bar (E.g., Snickers)

Record the number of candy bars available. Note the number of slots, the package size and price for one item. If there is more than one, pick the less expensive one.

6)	Facilitators/Barriers	Select one		Comments
a.	Is nutritional information posted on or near the vending machines for food items?	□ Yes	□ No	
b.	Is nutrition information posted on or near the vending machine for specific items (e.g., only healthy options)?	□ Yes	□ No	

6) Facilitators/Barriers

a. Is nutrition information posted on or near the vending machines for every item in the machine?

Record if nutrition information is available for all items in the vending machine. If there are nutrition information for only some items select "no".

b. Is nutrition information posted on or near the vending machine for specific items (e.g., only healthy options)?

Record if nutrition information is available for specific items and write in the comments for which items this is applicable. If the answer for question 5a is "yes" select here "no".

7)	Price	Select one		Comments
a.	Healthy items in the vending machine compared to regular items	□ more	□ less	
		□ same	□ N/A	

7) Price

a. Healthy items in the vending machine compared to regular items

Record whether healthy items are more, less or the same expensive than unhealthy ones. If there are no healthy items in the vending machine select “NA”.

Appendix A

SAMPLE VENDING MACHINE ITEMS CATEGORIZED BY GO, SLOW, WHOA

	GO Almost anytime	SLOW Sometimes	WHOA! Once-in-a-while
Snacks— Non-Refrigerated	▪ Popcorn (fat-free or low-fat) ▪ Whole grain cereal (hot or cold) with at least 5g fiber and no greater than 6g sugar per serving ▪ Whole grain cereal bar ▪ Whole grain crackers ▪ Rice cakes ▪ Soy crisps ▪ Fruit cup in fruit juice ▪ Jerky (low sodium)	▪ Whole grain cereals (hot or cold) with at least 3g fiber and no more than 6g sugar per serving ▪ Baked chips ▪ Animal crackers ▪ Graham crackers ▪ Pretzels ▪ Nuts and seeds (plain or with spices) ▪ Nuts (light sugar covering or honey-roasted) ▪ Peanut butter and crackers ▪ Ready-to-eat cereal (low fat, whole grain) ▪ 100 Calorie Snack Packs ▪ Fruit cup in light syrup ▪ Whole-grain, low-fat muffins ▪ Low-fat granola bar ▪ Whole-grain, low-fat fig bars ▪ Trail mix (plain) ▪ Dried fruit ▪ Jerky	▪ Candy ▪ Cookies, cakes, and pies ▪ Doughnuts ▪ Pastries ▪ Muffins ▪ Pop tarts ▪ Buttered popcorn ▪ Chips ▪ Snack mixes ▪ Cheese-flavored crackers ▪ Fruit cup in heavy syrup
Snacks— Refrigerated	▪ Fruits and vegetables without added fat, sugar or salt ▪ Fat-free or low-fat yogurt, plain ▪ Fat-free or low-fat cheese or cottage cheese ▪ Hard-boiled eggs	▪ Fruits or vegetables with added fat, sugar or salt ▪ Fat-free or low-fat flavored yogurt with no more than 30g of total sugar per 8 oz serving ▪ Low-fat or reduced fat pudding ▪ Reduced-fat cheese or cottage cheese	▪ Vegetables fried in oil ▪ Pudding ▪ Yogurt made from whole milk ▪ Frozen desserts
Beverages— Refrigerated	▪ Water without flavoring or additives ▪ Fat-free or 1% (low-fat) milk, plain	▪ Reduced-fat (2%) milk, plain ▪ Fat-free or 1% flavored milk with up to 150 calories per 8 oz serving ▪ 100% fruit juice ▪ 100% vegetable juice ▪ No- or low-calorie beverages with up to 10 calories per 8 oz serving ▪ Smoothies (made with low-fat yogurt or other low-fat dairy alternatives and/or fruit/juice)	▪ Reduced-fat (2%) milk, flavored ▪ Whole milk, plain ▪ Whole milk, flavored ▪ Regular soda ▪ Sweetened teas, lemonade, and fruit drinks with less than 100% fruit juice ▪ Sports drinks, energy drinks, etc. with more than 10 calories per 8 oz serving

85 Appendix 2

Beverages-Vending Machines Survey Protocol

These measures are developed to assess the food environment of cafeterias at Maastricht University. Beverage-vending machines are machines were beverages can be purchased by students and staff of the University.

This protocol includes the survey items and specific instructions to every item.

Rater ID:

Vending ID:

Date: ___/___/___

Start time:

End time:

1)	Location			Comments
a.	GPS coordinates			
b.	Brief description of machine location			
c.	Mark if machine is located near (ca. 30m) any of the following:			
	c1. Bathrooms	□ Yes	□ No	
	c2. Cafeteria	□ Yes	□ No	
	c3. Free learning-space	□ Yes	□ No	
	c4. Staff offices	□ Yes	□ No	
	c5. Lecture hall	□ Yes	□ No	
	c6. Other?	□ Yes	□ No	
d.	Is the machine visible, next to another FOOD vending machine?	□ Yes	□ No	
e.	Is the machine visible, next to another BEVERAGE vending machine?	□ Yes	□ No	

1) Location

a. GPS coordinates

Fill in the coordinates of the location of the vending machine. You can use a GPS device or your smartphone.

b. Brief description of machine location

Give a brief description of the location of the machine, like “Next to the reception of the building X”.

c. Mark if machine is located near (ca. 30m) any of the following:

Mark all listed facilities that are located near the vending machine. Use 30 meters as an orientation but you don’t have to really measure it. The facilities don’t have to be visible. When there is a staff office around the corner select “yes” at question c4. If there are any other remarkable facilities nearby select “yes” at c6 and write a description in the comments.

d. Is the machine visible, next to another FOOD vending machine?

Mark “yes” if you can see a food-vending machine next to the beverage-vending machine you are standing in front of.

e. Is the machine visible, next to another BEVERAGE vending machine?

Mark “yes” if you can see a beverage-vending machine next to the beverage-vending machine you are standing in front of.

2)	Machine Characteristics	Select one		Comments
a.	Is the machine operational?	□ Yes	□ No	
b.	Does machine feature any of the following? (Mark all that apply)			
	b1. Credit card or reader	□ Yes	□ No	
	b3. Refrigeration	□ Yes	□ No	
	b4. Cash pay	□ Yes	□ No	
	b5. Student ID reader	□ Yes	□ No	

2) Machine Characteristics

a. Is the machine operational?

Select “yes” if the vending machine is operational at the time of your observation.

b. Does machine feature any of the following? (Mark all that apply)?

Mark if the vending machine features any of the options listed in b1-b5.

3)	Promotion	Select one		Comments
a.	Does the vending machine have signs or other displays that promote general healthy drink choices?	□ Yes	□ No	
b.	Does the vending machine have signs or displays that promote unhealthy drink choices	□ Yes	□ No	
c.	Are specific healthy items in the vending machine identified using signs or displays (e.g. icons)?	□ Yes	□ No	
d.	What unhealthy option(s) is depicted on the exterior of the machine			
	d1. Regular (non-baked) chips	□ Yes	□ No	
	d2. Non-diet soda	□ Yes	□ No	
	d3. Fruit-flavored drink (not 100% fruit)	□ Yes	□ No	
	d4. Milk (>1%fat)	□ Yes	□ No	
	d5. Energy drink	□ Yes	□ No	
	d6. Flavored milk	□ Yes	□ No	
	d7. Non-diet sports drink	□ Yes	□ No	
	d8. Dairy dessert (ice cream)	□ Yes	□ No	
	d9. Grain dessert (cookies)	□ Yes	□ No	
	d10. Other	□ Yes	□ No	
	d11. None of these	□ Yes	□ No	
e.	What healthy option(s) is depicted on the exterior of the machine			
	e1. Baked Chips	□ Yes	□ No	
	e2. Water	□ Yes	□ No	
	e3. Diet Soda	□ Yes	□ No	
	e4. 100% fruit juice	□ Yes	□ No	
	e5. 1% fat/ skim unflavored milk	□ Yes	□ No	
	e6. Low calorie sports drink	□ Yes	□ No	
	e7. Fruits	□ Yes	□ No	
	e8. Vegetables	□ Yes	□ No	
	e9. Other	□ Yes	□ No	
	e10. None of these	□ Yes	□ No	

3) Promotion

a. Does the vending machine have signs or other displays that promote general healthy drink choices?

Note if healthy drinking in general is encouraged or promoted by signs or other displays. For example “Water, always a good choice!”. Fill in comments about what is displayed or phrases used.

b. Does the vending machine have signs or displays that promote unhealthy drink choices?

This item can be related to nutritional value, type of drink or price. For example “Try out the new coke zero”, or posters on the machine featuring pictures of unhealthy drinks.

c. Are specific healthy items in the vending machine identified using signs or displays (e.g. icons)?

Record if healthy drinks have a symbol or another description describing them as healthier choice.

d. What unhealthy option(s) is depicted on the exterior of the machine

e. What healthy option(s) is depicted on the exterior of the machine

Record what is depicted on the exterior of the vending machine. Mark everything that applies. If you can be not sure if it is a healthy or an unhealthy item pictured, select the unhealthy option. For example if there are chips pictured on the machine, actually you cannot be sure if they are fried or baked, anyway select the less healthier option in this case the fried chips, the same with soda, milk or juice.

4)	Distribution of slots	GREEN items	YELLOW items	RED Items	Other/Non-nutritive	Empty	Total
a.	Number of slots in Beverage Machine (Use the chart in Appendix A)						

4) Distribution of slots

a. Number of slots in Beverage Machine (Use the chart in Appendix A)

Use the chart in Appendix A to determine whether an option is considered Green (healthy), Yellow (healthy in limited quantities) or Red (drink only occasionally). Count the number of slots filled by items that are classified as Green, Yellow or Red. The same items in two slots are counted as two slots, even if it is the same product .Items that cannot be classified or are non-nutritive (e.g. chewing gum) should be quantified in the Other/Non-nutritive category. Empty slots should be counted and listed in the Empty category. List total number of slots in machine (should equal sum of other columns).

5)	Healthy or low calorie beverage vs. unhealthy or sugar sweetened beverages	Select one		Number of slots	Brand:	Price:	Bottle size:
a.	1) Bottled water	□ Yes	□ No				
	2) Sweetened flavored water (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
b.	1) Diet soda	□ Yes	□ No				
	2) Soda	□ Yes	□ No				
c.	1) Low-calorie energy drink (<10cal/237ml, or <4cal/100ml)	□ Yes	□ No				
	2) Energy drink (>10cal/237ml, or >4cal/100ml)	□ Yes	□ No				
d.	1) 100% fruit juice	□ Yes	□ No				
	2) Juiced flavored drink (not 100% fruit juice)	□ Yes	□ No				
e.	1) Coffee (without sugar)	□ Yes	□ No				
	2) Coffee drink (syrup/added sugar)	□ Yes	□ No				

5) Healthy vs. unhealthy beverages

In this section healthy and unhealthy beverages will be recorded. This section consists out of two main steps. First you record the number of slots in each category. If one brand is placed into two slots count them as two, it doesn't matter if the bottles are different for example in bottle size.

After the counting of every item you select the cheapest item in each category, for example the cheapest diet coke available in the machine. Don't look at the price per liter! For example if there is a diet coke from brand X with 250ml and it costs 1,99€ (=7,96€ per liter) and another diet coke from brand Y with 200ml and it costs 1,70€ (=8,50€ per liter), record here the brand, price and bottle size from the diet coke from brand Y, because this is the cheaper option available in the restaurant, regardless of the price per liter.

a. 1) Bottled water

First count the number of slots for bottled water in the machine. After that pick the cheapest bottle of water and note down the brand, the price and the size.

a. 2) Sweetened flavored water

First count the number of slots for sweetened flavored water in the machine. Pick the cheapest bottle of sweetened and flavored water and note down its brand, price and bottle size. The water should not be colored. The water should have more than 4 calories per 100 ml. If there are only waters under this amount of calories, select "no". Keep in mind that the water should have more than 4 calories per 100 ml and <u>not</u> per bottle. You may need to calculate this.

b. 1) Diet soda

First count the number of slots for diet soda in the machine. Record the brand, price and bottle size of the cheapest diet soda available in the machine. Count only diet soda which is labeled as “zero”, “sugar-free”, “zero-sugar” or with similar terms.

b. 2) Soda

First count the number of slots for soda (e.g., coca cola, fanta, pepsi) in the machine. Record the brand, price, bottle size of the cheapest soda in the machine.

c. 1) Low-calorie energy drink

First count the number of slots for low-calorie energy drinks in the machine. After that record the brand, price, and bottle size of the cheapest low-calorie energy drink available in the machine. An energy drink should have less than 4 calories per 100ml. Keep in mind that the energy drink should have less than 4 calories per 100ml and not per can or bottle. If there is no energy drink with less than 4 calories per 100ml select “no”.

c. 2) Energy drink

First count the number of slots for energy drinks (e.g., redbull, monster) in the machine. After that record the brand, price, and bottle size of the cheapest energy drink. The energy drink should have more than 4 calories per 100ml. Keep in mind that the energy drink should have more than 4 calories per 100 ml and not per can. If there is no energy drink with more than 4 calories per 100ml select “no”.

d. 1) 100% fruit juice

First count the number of slots for 100% fruit juice in the machine. After that, record the brand, price, and bottle size of the cheapest 100% fruit juice. If there is no 100% fruit juice available select “no”. The information about 100% fruit juice should be directly on the bottle. If you are not sure, don’t note it.

d. 2) Juiced flavored drink

First count the number of slots for juiced flavored drinks in the machine. After that record the brand, price, and bottle size of the cheapest juiced flavored drink, so which includes not 100% fruit juice.

e. 1) Coffee (without sugar)

First count the number of slots for coffee in the machine. After that record the brand, price, and bottle size of the cheapest coffee.

e. 1) Coffee drink (syrup/added sugar)

First count the number of slots for coffee drinks in the machine. After that record the brand, price, and bottle size of the cheapest coffee drink, which is sweetened with syrup or sugar.

6)	Facilitators/Barriers	Select one		Comments
a.	Is nutrition information posted on or near the vending machines for every item in the machine?	□ Yes	□ No	
b.	Is nutrition information posted on or near the vending machine for specific items (e.g., only healthy options)?	□ Yes	□ No	

6) Facilitators/Barriers

a. Is nutrition information posted on or near the vending machines for every item in the machine?

Record if nutrition information is available for all items in the vending machine. If there are nutrition information for only some items select “no”.

b. Is nutrition information posted on or near the vending machine for specific items (e.g., only healthy options)?

Record if nutrition information is available for specific items and write in the comments for which items this is applicable. If the answer for question 5a is “yes” select here “no”.

7)	Price	Select one		Comments
a.	Healthy items in the vending machine compared to regular items	□ more	□ less	
		□ same	□ NA	

7) Price

a. Healthy items in the vending machine compared to regular items

Record whether healthy beverages are more, less or the same expensive than unhealthy ones. If there are no healthy drinks in the vending machine select “NA”.

Appendix A

SAMPLE VENDING MACHINE ITEMS CATEGORIZED BY GO, SLOW, WHOA

	GO Almost anytime	SLOW Sometimes	WHOA! Once-in-a-while
Snacks—Non-Refrigerated	▪ Popcorn (fat-free or low-fat) ▪ Whole grain cereal (hot or cold) with at least 5g fiber and no greater than 6g sugar per serving ▪ Whole grain cereal bar ▪ Whole grain crackers ▪ Rice cakes ▪ Soy crisps ▪ Fruit cup in fruit juice ▪ Jerky (low sodium)	▪ Whole grain cereals (hot or cold) with at least 3g fiber and no more than 6g sugar per serving ▪ Baked chips ▪ Animal crackers ▪ Graham crackers ▪ Pretzels ▪ Nuts and seeds (plain or with spices) ▪ Nuts (light sugar covering or honey-roasted) ▪ Peanut butter and crackers ▪ Ready-to-eat cereal (low fat, whole grain) ▪ 100 Calorie Snack Packs ▪ Fruit cup in light syrup ▪ Whole-grain, low-fat muffins ▪ Low-fat granola bar ▪ Whole-grain, low-fat fig bars ▪ Trail mix (plain) ▪ Dried fruit ▪ Jerky	▪ Candy ▪ Cookies, cakes, and pies ▪ Doughnuts ▪ Pastries ▪ Muffins ▪ Pop tarts ▪ Buttered popcorn ▪ Chips ▪ Snack mixes ▪ Cheese-flavored crackers ▪ Fruit cup in heavy syrup
Snacks—Refrigerated	▪ Fruits and vegetables without added fat, sugar or salt ▪ Fat-free or low-fat yogurt, plain ▪ Fat-free or low-fat cheese or cottage cheese ▪ Hard-boiled eggs	▪ Fruits or vegetables with added fat, sugar or salt ▪ Fat-free or low-fat flavored yogurt with no more than 30g of total sugar per 8 oz serving ▪ Low-fat or reduced fat pudding ▪ Reduced-fat cheese or cottage cheese	▪ Vegetables fried in oil ▪ Pudding ▪ Yogurt made from whole milk ▪ Frozen desserts
Beverages—Refrigerated	▪ Water without flavoring or additives ▪ Fat-free or 1% (low-fat) milk, plain	▪ Reduced-fat (2%) milk, plain ▪ Fat-free or 1% flavored milk with up to 150 calories per 8 oz serving ▪ 100% fruit juice ▪ 100% vegetable juice ▪ No- or low-calorie beverages with up to 10 calories per 8 oz serving ▪ Smoothies (made with low-fat yogurt or other low-fat dairy alternatives and/or fruit/juice)	▪ Reduced-fat (2%) milk, flavored ▪ Whole milk, plain ▪ Whole milk, flavored ▪ Regular soda ▪ Sweetened teas, lemonade, and fruit drinks with less than 100% fruit juice ▪ Sports drinks, energy drinks, etc. with more than 10 calories per 8 oz serving

Note: 10 calories per 8 oz = ca. 4 calories per 100ml

Appendix 3

UNEMS Scoring Sheet for Cafeteria

No = 0 points		
1) Promotion	**Points Allotted**	**Total Points**
a. Encourage healthy eating	Yes = 3 points; No = 0 points	
b. Encourage unhealthy eating	Yes = -3 points; No = 0 points	
c. Encourage overeating	Yes = -3 points; No = 0 points	
d. Promote water consumption	Yes = 3 points; No = 0 points	
e.1) Free refills on sugar drinks	Yes = -3 points; No = 0 points	
e.2) Free refills on diet drinks	Yes = -2 points; No = 0 points	
2) Main Dishes	**Subtotal =**	
b. Healthy options	0 choices= 0 points 1 choice = 1 point 2-4 choices = 2 points 5+ choices = 3 points	
3) Main dish salads	**Subtotal =**	
b. Healthy options	0 choices= 0 points 1 choice = 1 point 2-4 choices = 2 points 5+ choices = 3 points	
c. Low-fat or fat free salad dressings	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
4) Salad bar	**Subtotal =**	
b. low-fat protein sources	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
c. nuts and or seeds	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
d. unprocessed vegetables	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
f. Low-fat or fat free salad dressings	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
5) Side items	**Subtotal =**	
a. Fruit (without sugar)	0 choices = 0 points 1 choice = 1 point	

	2 choices = 2 points 3+ choices = 3 points	
b. Fruit (with added sugar or syrup)	0 choices = 0 points 1 choice = -1 point 2 choices = -2 points 3+ choices = -3 points	
c. Healthy vegetables	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
d. Less healthy vegetables	0 choices = 0 points 1 choice = -1 point 2 choices = -2 points 3+ choices = -3 points	
e. Cooked potato	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
f. French fries	0 choices = 0 points 1 choice = -1 point 2 choices = -2 points 3+ choices = -3 points	
6) Bread	**Subtotal =**	
b. Whole wheat bread	Yes = 3 points; No = 0 points	
7) Desserts	**Subtotal =**	
a. Ice Cream	0 choices = 0 points 1 choice = -1 point 2 choices = -2 points 3+ choices = -3 points	
b. Baked Goods/Cakes	0 choices = 0 points 1 choice = -1 point 2 choices = -2 points 3+ choices = -3 points	
c. Frozen Yogurt	0 choices = 0 points 1 choice = -1 point 2 choices = -2 points 3+ choices = -3 points	
8) Beverages, Availability (Next page)	**Subtotal =**	
8) Beverages, Price (Next page)	**Subtotal =**	
9) Facilitators	**Subtotal =**	
a. Nutrition information available	Yes = 3 points; No = 0 points	
b. Nutrition information upon request	Yes = 2 points; No = 0 points	
c. Healthy item identifies on menu	Yes = 3 points; No = 0 points	
d. Notations encourage healthy	Yes = 3 points; No = 0 points	

request		
e. Reduced-size portions	Yes = 3 points; No = 0 points	
f. Reduced-size portions upon request	Yes = 2 points; No = 0 points	
10) Barriers	**Subtotal =**	
a. Large portion size encouraged	Yes = -3 points; No = 0 points	
b. Notations discourage special request	Yes = -3 points; No = 0 points	
c. All-you-can-eat	Yes = -3 points; No = 0 points	
d. Unhealthy items at point-of-purchase	Yes = -3 points; No = 0 points	
11) Pricing	**Subtotal =**	
Combo meal cheaper than individual items (sum="more")	Yes = -3 points; No = 0 points	
Healthy entrees cost more than regular ones	Yes = -3 points; No = 0 points	
Healthy salads cost more than regular ones	Yes = -3 points; No = 0 points	
Reduced-size portion at reduced price	Yes = -3 points; No = 0 points	
	Subtotal =	
	Total UNEMS Score =	

8) Beverages		**Availability Points**	**Price**	**Price Points**
a. 1) Bottled water	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of a.1) < Price of a.2) = 2 Price of a.1) = Price of a.2) = 1 Price of a.1) > Price of a.2) = -1	
a. 2) Sweetened flavored water				
b. 1) Diet soda	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of b.1) < Price of b.2) = 2 Price of b.1) = Price of b.2) = 1 Price of b.1) > Price of b.2) = -1	
b.2) Soda				
c. 1) Low-calorie energy drink	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of c.1) < Price of c.2) = 2 Price of c.1) = Price of c.2) = 1 Price of c.1) > Price of c.2) = -1	
c. 2) Energy drink				
d. 1) 100% fruit juice	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of d.1) < Price of d.2) = 2 Price of d.1) = Price of d.2) = 1 Price of d.1) > Price of d.2) = -1	
d. 2) Juice flavored drink				
e. 1) Coffee	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of e.1) < Price of e.2) = 2 Price of e.1) = Price of e.2) = 1 Price of e.1) > Price of e.2) = -1	
e. 2) Coffee drink				
	Subtotal=		**Subtotal=**	

UNEMS Scoring Sheet for Snack Shops

No = 0 points		
1) Promotion	**Points Allotted**	**Total Points**
a. healthy items identified	Yes = 3 points	
b. highlight healthy eating	Yes = 3 points	
c. encourage healthy eating	Yes = -3 points	
d. encourage unhealthy eating	Yes = -3 points	
e. encourage overeating	Yes = 3 points	
f. promote water consumption	Yes = -3 points	
g.1) free refills on sugar drinks	Yes = -2 points	
g. 2) free refills on diet drinks	Yes = 2 points	
2) Main dishes	**Subtotal =**	
b. Healthy options	1 choice = 1 point 2-4 choices = 2 points 5+ choices = 3 points	
3) Main dish salads	**Subtotal =**	
b. Healthy options	1 choice = 1 point 2-4 choices = 2 points 5+ choices = 3 points	
c. Low-fat or fat free salad dressings	1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points	
4) Bread	**Subtotal =**	
b. Whole wheat bread	Yes = 3 points	
5) Snack items, Availability (See next page)	**Subtotal =**	
5) Snack items, Price (See next page)	**Subtotal =**	
6) Beverages, Availability (See next page)	**Subtotal =**	
6) Beverages, Price (See next page)	**Subtotal =**	
7) Pricing	**Subtotal =**	
Combo meal cheaper than individual items (sum=”more”)	Yes = -3 points	
Healthy main items cost more than regular ones	Yes = -3 points	
Healthy snacks cost more than regular ones	Yes = -3 points	
	Total UNEMS Score=	

5) Snack items		Availability Points	Price	Price Points
a. 1) Fruit (raw, without sugar)	0 choices = 0 points < 5 choices = 1 point 5-9 choices = 2 points 10+ choices = 3 points		Price a.1) < Price a.2) = 2 [1] Price a.1) = Price a.2) = 1 Price a.1) > Price a.2) = -1	
a. 2) Fruit (raw, with added sugar or syrup)				
b. 1) Healthy vegetables	0 choices = 0 points < 5 choices = 1 point 5-9 choices = 2 points 10+ choices = 3 points		Price b.1) < Price b.2) = 2 Price b.1) = Price b.2) = 1 Price b.1) > Price b.2) = -1	
b. 2) Unhealthy vegetables				
c. 1) Baked, or low fat chips	0 choices = 0 points < 5 choices = 1 point 5-9 choices = 2 points 10+ choices = 3 points		Price c.1) < Price c.2) = 2 Price c.1) = Price c.2) = 1 Price c.1) > Price c.2) = -1	
c. 2) Chips				
d. 1) Nuts, or Seeds	0 choices = 0 points < 5 choices = 1 point 5-9 choices = 2 points 10+ choices = 3 points		Price d.1) < Price d.2) = 2 Price d.1) = Price d.2) = 1 Price d.1) > Price d.2) = -1	
d. 2) Cookie				
e. 1) Muesli bar	0 choices = 0 points < 5 choices = 1 point 5-9 choices = 2 points 10+ choices = 3 points		Price e.1) < Price e.2) = 2 Price e.1) = Price e.2) = 1 Price e.1) > Price e.2) = -1	
e. 2) Candy bar				
	Subtotal =		**Subtotal =**	

6) Beverages		Availability Points	Price	Price Points

[1] If there is no unhealthy option, so no price to compare select 2 points. If there is only unhealthy options select -1 points.

a. 1) Bottled water	0 choices = 0 points 1 choices = 1 point 2-4 choices = 2 points 4+ choices = 3 points		Price of a.1) < Price of a.2) = 2[2] Price of a.1) = Price of a.2) = 1 Price of a.1) > Price of a.2) = -1	
a. 2) Sweetened flavored water				
b. 1) Diet soda	0 choices = 0 points 1 choices = 1 point 2-4 choices = 2 points 4+ choices = 3 points		Price of b.1) < Price of b.2) = 2 Price of b.1) = Price of b.2) = 1 Price of b.1) > Price of b.2) = -1	
b.2) Soda				
c. 1) Low-calorie energy drink	0 choices = 0 points 1 choices = 1 point 2-4 choices = 2 points 4+ choices = 3 points		Price of c.1) < Price of c.2) = 2 Price of c.1) = Price of c.2) = 1 Price of c.1) > Price of c.2) = -1	
c. 2) Energy drink				
d. 1) 100% fruit juice	0 choices = 0 points 1 choices = 1 point 2-4 choices = 2 points 4+ choices = 3 points		Price of d.1) < Price of d.2) = 2 Price of d.1) = Price of d.2) = 1 Price of d.1) > Price of d.2) = -1	
d. 2) Juice flavored drink				
e. 1) Coffee	0 choices = 0 points 1 choices = 1 point 2-4 choices = 2 points 4+ choices = 3 points		Price of e.1) < Price of e.2) = 2 Price of e.1) = Price of e.2) = 1 Price of e.1) > Price of e.2) = -1	
e. 2) Coffee drink				
	Subtotal =		**Subtotal =**	

[2] If there is no unhealthy option, so no price to compare select 2 points. If there is only unhealthy options select -1 points.

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UNEMS Scoring Sheet for Food-Vending Machines

No = 0 points		
1) Promotion	**Points Allotted**	**Total Points**
a. promote general healthy food choices	Yes = 3 points	
b. Promote unhealthy food choices	Yes = -3 points	
c. Healthier items identified	Yes = 3 points	
d. unhealthy options on the exterior	0 options = 0 points 1 option = -1 point 2 options = -2 points 3 options = -3 points 4 options = -4 points 5 options = -5 points 6 options = -6 points 7 options = -7 points 8 options = -8 points 9 options = -9 points 10 options = -10points	
e. Healthy options on the exterior	0 options = 0 points 1 option = 1 point 2 options = 2 points 3 options = 3 points 4 options = 4 points 5 options = 5 points 6 options = 6 points 7 options = 7 points 8 options = 8 points 9 options = 9 points 10 options = 10points	
2) Distribution of slots	**Subtotal=**	
a. Number of slots	Green > (Yellow + Red) = 3 points (Green + Yellow) > Red = 1 (Green + Yellow) < Red = -3	
3) Snacks, Availability	**Subtotal=**	
3) Snacks, Price	**Subtotal=**	
4) Facilitators/Barriers	**Subtotal=**	
a. nutrition information posted for all items	Yes = 3 points	
b. Nutrition information poster for specific items	Yes = 2 points	
5) Price	**Subtotal=**	
a. Healthy items cost more than unhealthy items	Yes = -3 points	
	Total UNEMS Score=	

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5) Snack items		Availability Points	Price	Price Points
a. 1) Fruit (raw, without sugar)	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of a.1) < Price of a.2) = 2[3] Price of a.1) = Price of a.2) = 1 Price of a.1) > Price of a.2) = -1	
a. 2) Fruit (raw, with added sugar or syrup)				
b. 1) Healthy vegetables	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of b.1) < Price of b.2) = 2 Price of b.1) = Price of b.2) = 1 Price of b.1) > Price of b.2) = -1	
b. 2) Unhealthy vegetables				
c. 1) Baked, or low fat chips	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of c.1) < Price of c.2) = 2 Price of c.1) = Price of c.2) = 1 Price of c.1) > Price of c.2) = -1	
c. 2) Chips				
d. 1) Nuts, or Seeds	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of d.1) < Price of d.2) = 2 Price of d.1) = Price of d.2) = 1 Price of d.1) > Price of d.2) = -1	
d. 2) Cookie				
e. 1) Muesli bar	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of e.1) < Price of e.2) = 2 Price of e.1) = Price of e.2) = 1 Price of e.1) > Price of e.2) = -1	
e. 2) Candy bar				
	Subtotal=		**Subtotal=**	

[3] If there is no unhealthy option, so no price to compare select 2 points. If there is only an unhealthy option select -1 points.

UNEMS Scoring Sheet for Beverage-Vending Machines

No = 0 points		
1) Promotion	**Points Allotted**	**Total Points**
a. promote general healthy food choices	Yes = 3 points	
b. Promote unhealthy food choices	Yes = -3 points	
c. Healthier items identified	Yes = 3 points	
d. unhealthy options on the exterior	0 options = 0 points 1 option = -1 point 2 options = -2 points 3 options = -3 points 4 options = -4 points 5 options = -5 points 6 options = -6 points 7 options = -7 points 8 options = -8 points 9 options = -9 points 10 options = -10points	
e. Healthy options on the exterior	0 options = 0 points 1 option = 1 point 2 options = 2 points 3 options = 3 points 4 options = 4 points 5 options = 5 points 6 options = 6 points 7 options = 7 points 8 options = 8 points 9 options = 9 points 10 options = 10points	
2) Distribution of slots	**Subtotal=**	
a. Number of slots	Green > (Yellow + Red) = 3 points (Green + Yellow) > Red = 1 (Green + Yellow) < Red = -3	
3) Beverages, Availability	**Subtotal=**	
3) Beverages, Price	**Subtotal=**	
4) Facilitators/Barriers	**Subtotal=**	
a. nutrition information posted for all items	Yes = 3 points	
b. Nutrition information poster for specific items	Yes = 2 points	
5) Price	**Subtotal=**	
a. Healthy items cost more than unhealthy items	Yes = -3 points	
	Total NEMS Restaurant Score=	

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3) Beverages		Availability Points	Price	Price Points
a. 1) Bottled water	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of a.1) < Price of a.2) = 2 Price of a.1) = Price of a.2) = 1 Price of a.1) > Price of a.2) = -1	
a. 2) Sweetened flavored water				
b. 1) Diet soda	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of b.1) < Price of b.2) = 2 Price of b.1) = Price of b.2) = 1 Price of b.1) > Price of b.2) = -1	
b.2) Soda				
c. 1) Low-calorie energy drink	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of c.1) < Price of c.2) = 2 Price of c.1) = Price of c.2) = 1 Price of c.1) > Price of c.2) = -1	
c. 2) Energy drink				
d. 1) 100% fruit juice	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of d.1) < Price of d.2) = 2 Price of d.1) = Price of d.2) = 1 Price of d.1) > Price of d.2) = -1	
d. 2) Juice flavored drink				
e. 1) Coffee	0 choices = 0 points 1 choice = 1 point 2 choices = 2 points 3+ choices = 3 points		Price of e.1) < Price of e.2) = 2 Price of e.1) = Price of e.2) = 1 Price of e.1) > Price of e.2) = -1	
e. 2) Coffee drink				
	Subtotal=		**Subtotal=**	