

CROATIAN YOUTH MEDIA LITERACY, DIETARY HABITS AND HEALTHY DIET INFORMATION: A PILOT

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Abstract

According to the recent statistical data, in the Republic of Croatia, 11% of children and young people are obese, half of which are between the ages of 7 and 14. Although they spend between one and three hours a day on various online activities, it has been noted that the media literacy skills of Croatian girls and boys are poorly developed, while 73% of children never or seldom search for online health information. This pilot study aims to examine the link between available media information on healthy diets and on the reception by primary school children aged 11 to 14 years, regarding the development of their dietary habits. For this purpose, a mixed-methods research design was applied. It combines data from a face-to-face survey on the convenience sample of higher-grade students of the elementary school (N = 48), an ethnographic survey (participatory observation) on a convenience sample of majorette club members (N = 15), and simple content analysis on a sample of cover posts (N = 3.234) of two popular Croatian teen portals during 30 months (2018-2020). The results indicate that children mostly associate their consumer and dietary habits with the media content they access, in a way that the media influences both the purchase and the consumption of unhealthy food items. At the same time, youth-oriented media channels lack informational and educational content aiming at the adoption of various healthy lifestyle habits. The obtained results could be used as indicators for further research on the general population. If the findings are confirmed in further research, urgent social intervention aiming to develop critical thinking skills and healthy lifestyle habits in children and young people is needed. Such a goal is based on the needed support of all responsible persons in the social sphere, as to affect the policies practiced by the digital media.

Keywords: Children and youth, digital health literacy, critical evaluation, children's dietary habits, teen portals.

1 INTRODUCTION

Media literacy in children can be measured in terms of their understanding of the media content, but also via critical thinking and the children's ability to apply their knowledge and skills to specific situations. Besides applying a reasonable level of control over the content that the children interact with, it is therefore also very important to aid them in developing a critical approach and enable them to recognize and to assess the risks that are likely to occur in course of their online activities [1]. The results of the first Croatian national research on children's digital habits and their safety on the Internet have, however, shown relatively poor results when it comes to their skills in critical thinking. They have also shown that approximately 73% of the children never, or seldom, carry out searches related to health issues. This especially applies to school children in the 9-11 age group, which is a special concern. Recent global research on children's dietary habits [3,4] reveals that almost a third of the children between the ages of 6 and 19 are overweight, and the fact that almost 22 million of them are obese by the age of 5 is, to say the least, alarming. In the Republic of Croatia, in the population of children and the youth, approximately 11% of them are obese, while half of these are in the 7-14 age group. Food advertising across the new media, and especially over the Internet, often targets specifically children. Seeing that most of the commercial messages promote items rich in sugar, frozen ready-made meals, and various snacks and treats, most experts believe that the children's poor eating habits and health issues can largely be explained by the impact of advertising which the children are subjected to daily [5-7]. Research in developmental psychology that focuses on the reception of the media sustains that the children under the age of eight lack the capacity to understand that marketing activities are sales-oriented [8]. Children below the age of six cannot distinguish between the programme content and the advertising content if their favourite character is engaged in promoting some product. By the age of 14 children tend to copy what they see on television and usually do not separate their imagination from reality. At the same time, due to social and economic factors, many children with an increased risk of acquiring diabetes type II, or disturbances in the functioning of the thyroid gland or liver, also have poor access to healthy food [9] and tend to consume items such as the popular and widely accessible fast food, along with sweet snacks

and highly sweetened beverages daily. They are, to top it all, rarely physically active: they spend their time watching TV or engaging in video games and have practically no information on healthy nutrition [10-11]. To solve the problem of obesity, it is therefore very important to change children's habits, as well as the habits of entire families. It is crucial not only to educate the children and the youth, but also the parents, on healthy living habits on the nutritional value of food, and point to healthy items, and healthy cooking as well as to a better organization of their daily activities. The role of the media is vital since a whole range of factors come into play when it comes to positive or negative decisions with a possible long-term effect on the development of a child. The media can effectively exert influence on the children's progress from passive observers towards potential active evaluators of the information which they receive [12]. This is the direction in which the parents' media literacy, as well as that of the children and the youth, ought to be developed. If the children are to develop critical skills relevant to assessing the value of information which they are exposed to, the parents are to become their guides, i. e. engage in discussions, interpretations, and the process of shaping their children's opinions [2,10].

This is the framework within which this pilot study aims to examine the link between available media information on healthy dietary habits and the reception in primary school children aged 11 to 14 years, concerning the development of their dietary preferences. The problem needs to be addressed multilaterally, which is why this research applies a combined methodological approach that utilizes several field tools and archival tools, including and juxtaposing a survey, sampled ethnographical research (detection with participation), and simple content analysis.

The goal of the research is outlined via the following research sub-questions:

- RQ 1. Do the children, in the 11-14 age group, link their dietary habits with to the media content which they access?
- RQ 2. Does the media content directly affect children's dietary habits?
- RQ 3. What is the level of representation of the media content on healthy dietary habits on youth portals?

2 METHODOLOGY

2.1 Sample

This paper has been developed from a pilot study undertaken at Drnje, Croatia from March 2018 to May 2020, as a part of a student's graduation thesis. A mixed-methods research design was applied. It combines data from a face-to-face survey on the convenience sample of higher-grade students of the elementary school, aged 11 to 14 years (N = 48, F=24), of which N=17 (35%) fifth-graders, N=15 (31%) sixth graders, N=12 (30%) seventh-graders and N=4 (4%) eighth-graders. The ethnographic survey (participatory observation) was conducted on a convenience sample of female majorette club members (N = 15) aged 7 to 12 years. A simple content analysis was conducted on a sample of cover posts (N = 3.234) of two popular Croatian teen portals in course of 30 months (2018-2020).

The limitations of this small pilot qualitative research that we carried out concern the size of the sample within the targeted population, which is why these results are to be viewed only concerning that sample and cannot be generalized. However, they can be taken as an indication of the need to follow up on the topic, beyond the pilot stage.

2.2 Materials and Methods

2.2.1 Survey

As opposed to observation, the survey was used to attain an indirect measure of behaviour, since it enabled judgment via answers provided by the participants, rather than via direct insight [13]. The survey was carried out in a classical face-to-face and paper-and-pencil fashion. All the participants were assembled in a school hall where the questionnaires were distributed to them. The average time to fill the questionnaire was eight minutes. The participants were asked to provide answers to ten questions, nine of which were given in a closed form and one in the open form. Qualitative methodology – that of descriptive statistics – was used to analyse the results.

2.2.2 Participatory Observation

Participatory observation, on the other hand, is the most applied method in ethnographic research, and it was developed by Bronislaw Malinowski. It applies to the field-gathered information, and it presumes the involvement of the researcher in the activities of the group on different levels across some lengthy period, while the group is being observed and extensive and valuable information is being gathered. We carried out this method on a group of fifteen girls between the ages of seven and 12, all of them majorettes attending Fran Koncelak, which is an elementary school from Drnje. The girls were asked to view a short video on healthy nutrition, and no previous explanation was given. This video, entitled “We Don’t Need Sugar” was created by their peers, and it combines light tunes with the preparation of fruit and vegetables to underline the importance of healthy nutrition and the need to acquire good eating habits. Upon viewing the video, the girls took part in a contest. During the break, they were offered refreshments and snacks: oranges and water as well as Cola drinks and salty chips. Their behaviour was observed, and ethnographic notes were taken.

2.2.3 Simple Content Analysis

The third method we used was that of simple content analysis, which is an archival (or ‘desk’) method used to gather secondary data. To enable content analysis, “the content is quantified in terms of pre-set categories systematically and repetitively [14]. Such an analysis was carried out on two teen portals: Idesh.net and Teen385.com. Articles selected as units for the analysis came from categories entitled Fun and Showbiz, Curiosities, Fashion and Style, Technology and Web, Health and Beauty. The front pages of these portals were followed across a period of 30 months, between January 1, 2018, and June 18, 2020. The sample used in the analysis is that of 3.234 articles and 294 front pages. A simple analytical matrix was formed corresponding to the five categories, seeing that this research did not include quantitative analysis of texts such as character count, word count, or paragraph count; a code sheet was therefore not developed.

2.2.4 Ethics Statement

Seeing that the population we investigated in this research is that of the elementary school children we paid special attention to honouring all ethical standards relating to this category. The research draft as well as the content of the survey was submitted to the Ethical Board of the elementary school Fran Koncelak to obtain approval for the research. That approval was duly obtained in written form and delivered to us via electronic mail. Seeing also that the research involved work with minors, we also obtained written approval of all parents and collected all their signed forms stating that their informed and voluntary permission to allow their child to take part in the process, both concerning the survey and concerning participatory observation. Pupils who failed to submit the signed form in time were not included in the research. At all stages, we observed and respected the anonymity of all participants.

3 RESULTS

Based on the analysis of the results acquired from the survey, it has become clear that 55% (M=26) of the pupils spend an hour a day watching television, that 30% of them (N=14) dedicated between two and three hours to that activity, and that 2% (N=1) if they claim not to watch TV at all (Fig. 1). Within this time, 63% (N=30) also eat something while watching the programme (Fig. 2), 63% (N=30) at the same time believe that media affect what they eat (Fig. 3).

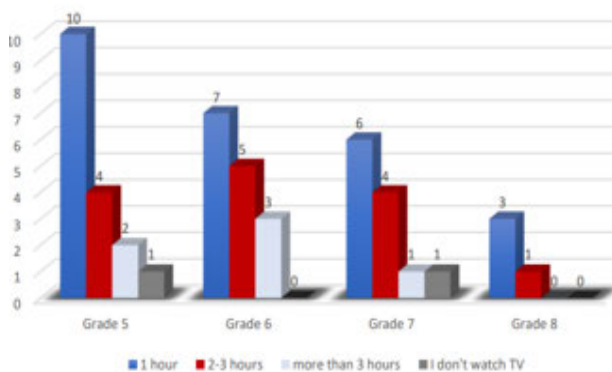


Figure 1. Hours spend watching TV daily

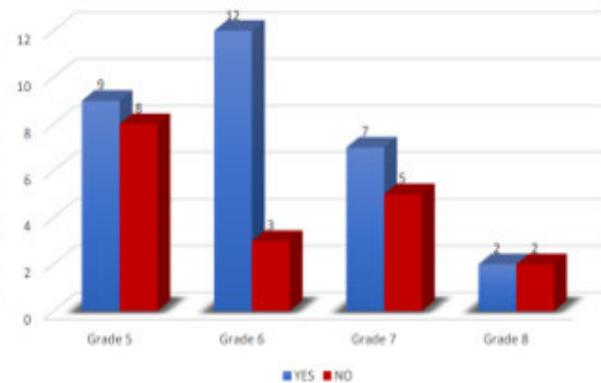


Figure 2. Eat while watching TV

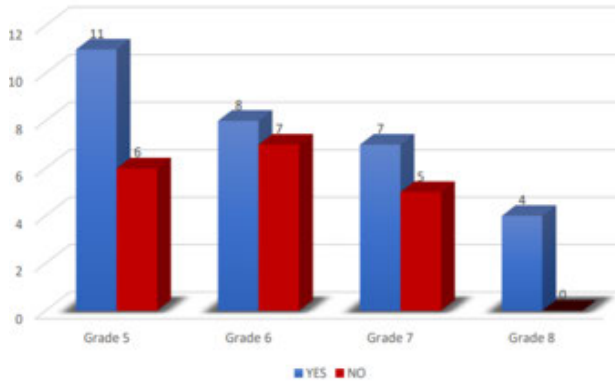


Figure 3. Think that media has influence on their diet

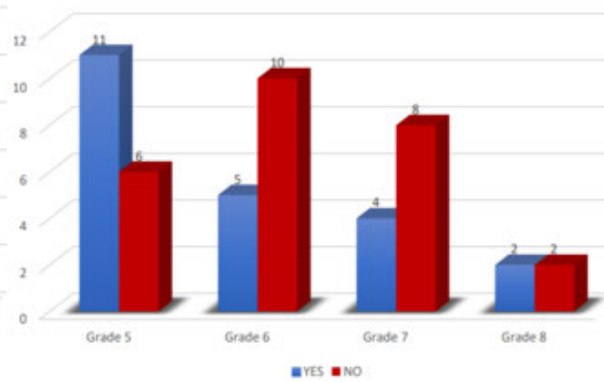


Figure 4. Advertising influenced food purchase

Among the fifth-graders, 50% of them (N=11) believe that the advertised content has led them to actual buying of specific foods, while 23% (N=10) among the sixth graders and 18% of the seventh graders affirm not to have been led to buying food items, based on advertisements. In the eighth grade, 9% (N=2) state that the advertised content could equally have led them to buy certain food, or not to buy it (Fig. 4). Those who are led by advertisements into buying food items usually point to Milka chocolate, jelly candies, ice-cream, juice, snacks, sweets, fast-food, savoury sausages, Nutella spread, Nesquik, cereals and biscuits, i. e. mostly to nutrients related to unhealthy eating habits. There is 9% of them (N=2) who buy yogurt and fruits because these are advertised. It is interesting to note that 54% (N=26) of the pupils did not buy products advertised by their favourite actor, musician, or cartoon character, while 46% (N=22) did (Fig. 5). Among the fifth graders, 31% (N=20) took notice of healthy food advertisements, which also applies to 34% (N=11) of the seventh graders and 13% (N=4) of the eighth graders, while in the sixth grade 12% (N=8) of them did not take notice and 10% (N=7) did (Fig. 6). Only 12% of them (N=6) eat fresh salads and drink milk daily, while 29% (N=14) changed nothing in their approach to eating (Fig. 7).

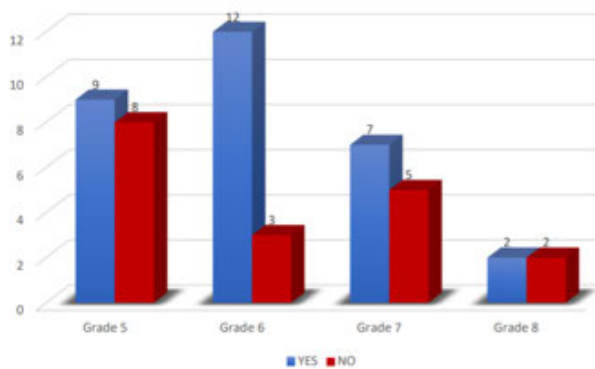


Figure 5. Buying food advertised by favourite actor

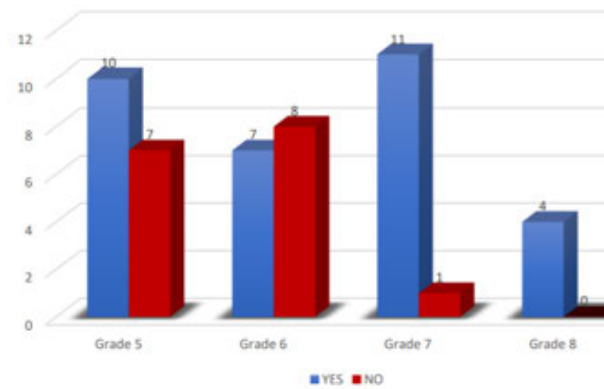


Figure 6. Advertisements of healthy food

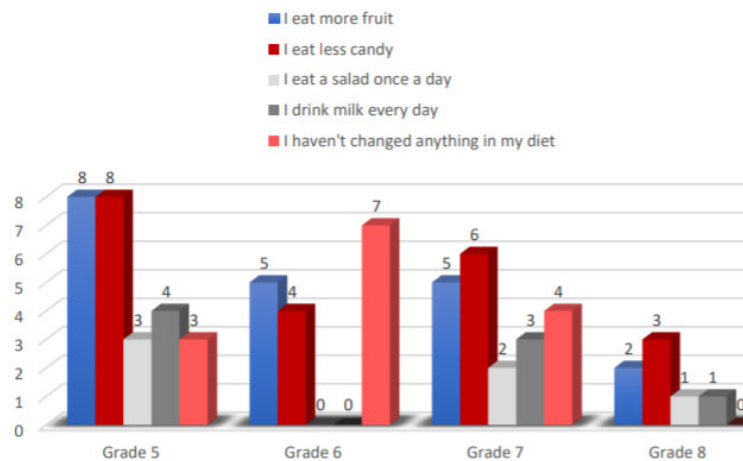


Figure 7. Assess improvement of their diet based on what they saw in media

In carrying out a participatory observation, ethnographic notes were made, related to two points of measurement:

- a) Ethnographic notes related to Point 1: reactions to the viewing of the educational video
 - The girls were initially interested, drawn in by the tunes, and followed intently;
 - Only seconds later their concentration appeared to decrease;
 - A part of the girls continued viewing;
 - Four youngest girls started dancing to the tune played in the background of the video;
 - Some of the girls started exchanging whispers and fidgeting;
 - The eldest girl occupied herself with the hair of a younger girl next to her, and they were exchanging whispers while also glancing at the video;
 - Only a few of the girls watched the video to the very end:
 - When the video was over, all the girls continued with their prior activities as if nothing had happened at all;
 - They made no comments on the video;
 - They were mostly preoccupied with collecting their things and with the performance that was to take place subsequently.
- b) Ethnographic notes related to Point 2: choosing between healthy and unhealthy food items
 - When chips were offered, the girls immediately accepted (Image 1);
 - One of the girls said: "I really do like eating chips";
 - All the girls were in an excellent spirit and laughing;
 - A few of the girls were making joyful jumps;
 - When all the chips were consumed, one of the girls reached out for an orange (Image 2);
 - A few of the girls followed the example of the girl who reached out for an orange;
 - The girl who was the first to approach her parents took the orange with her and gave it to them;
 - Other girls who took oranges followed the example and did the same;
 - None of the girls ate their orange;
 - They soon picked up their prior activities in the hall



Image 1. Girls chose chips over oranges (Source by author, visible face)



Image 2. First girl who reached for an orange (Source by author, visible face)

The simple content analysis of the portals resulted in analytical matrixes developed for each year throughout the analysed period (Tables 1-3).

Table 1. A simple analytical matrix: Published articles on portals; the year 2018

Topic	Portal		Total (N)	Total (%)
	ldesh.net	Teen385.com		
Fun and Showbiz	365	92	457	38,02
Curiosities	123	407	530	44,09
Fashion and Style	59	82	141	11,74
Technology and Web	53	/	53	4,4
Health	13	131	144	11,98
Total (N)	613	712	1 325	100

Table 2. A simple analytical matrix: Published articles on portals; the year 2019

Topic	Portal		Total (N)	Total (%)
	ldesh.net	Teen385.com		
Fun and Showbiz	523	62	585	40,86
Curiosities	161	407	568	39,67
Fashion and Style	28	110	138	9,64
Technology and Web	66	/	66	4,60
Health	9	66	75	5,24
Total (N)	787	645	1432	100

Table 3. A simple analytical matrix: Published articles on portals; the year 2020

Topic	Portal		Total (N)	Total (%)
	ldesh.net	Teen385.com		
Fun and Showbiz	167	32	199	39,65
Curiosities	83	99	182	36,26
Fashion and Style	11	44	55	10,96
Technology and Web	30	/	30	5,98
Health	3	33	36	7,17
Total (N)	294	208	502	100

4 DISCUSSION

The result of the survey on the time the observed children spend watching television (Fig. 1) are in alignment with the results of the latest national study carried out on a sample of 7000 children, all 8-year-olds, and as such, they do confirm the widespread habit of children spending their time watching TV programmes and playing video games. Notably, 79,8% of them spend 1-2 hours in such activities on a regular working day, while, on average, 53,6 of both boys and girls are engaged in such for 3 or more hours during weekends [16]. The data on the consumption of recommended food items (Fig. 7) correspond with the answers obtained from families on the consumption of food and drink concerning the consumption of fresh fruit which is recommended for a healthy approach to dietary habits; 65,2% eat fresh fruits every day or most days of the week; 29,4% consume fruit only on some days of the week, while 5,4% state to consume this item once weekly, or never. Furthermore, the results from the national study have shown that the frequency of eating cakes is rather high and that it is usually accompanied by the consumption of other items rich in fats and carbohydrates: 27% of the children consume such items every day or for most of the week, while 52,1 of them practice the habit three times a week. This is the context within which our results (Fig. 3) can be evaluated, and these point to 63% (N=30) of pupils buying and consuming food items related to unhealthy eating habits, such as Milka chocolate, jelly candies, ice-cream, juice, snacks, sweets, fast-food, savoury sausages, Nutella spread, Nesquik, cereals, and biscuits. Our findings also show that these children believe to be led into such choices by the media and the advertisements (Fig. 4) and that these do affect their dietary habits, while 35% (N=17) mention having detected health food advertising in the media as well (Fig. 6).

In the ethnographical part of our research, the girls (N=15) who took part were also active majorette dancers, which is why one might have expected them to be more highly sensitized to healthy food choices. However, the results draw a rather different picture. We used an educational video, created by their peers, as an instrument to check their interests in healthy eating, upon which we offered them both healthy and unhealthy snacks. The girls, not thinking twice, opted for potato chips and Coca Cola rather than for the healthy alternatives. There is a possibility that the results might differ in such a campaign was to be carried out over a longer period and if we were to include their peers as well as family members (Images 1-2). It is a well-known fact that pre-school and elementary-school education, as well as the habits acquired at home, play a role in the development of dietary habits. The official data state that obesity in children, in the early school-age group, was 20% in 2003, rising to 35% in 2016 [21]. Relying on this fact, as well as on the Framework for the National Curriculum (which is still not officially implemented seeing that some of its segments are still under development, which is likely to be prolonged due to the current COVID-19 circumstances), the subject of nutrition ought to be represented throughout elementary and intermediate education[19], partly within the framework of subjects on natural sciences, and partly implemented into the programme of physical and body culture, as well as into the topics that are discussed with their supervising teacher. However, the current situation in Croatian schools is nowhere near such a goal. The actual meals that the children receive at their schools hardly meet the standards of healthy nutrition. The schools' management is often pressured by the lack of adequate funding, not to exclude pressures from parents and children themselves, which leads them to diverge from best choices and provide meals that may be filling, yet not in the healthiest of ways. Children can also buy snacks from vending machines, which are often available at schools or near them, which does not contribute to healthy eating. So, what is the message of all this, what are the children taught? The schools should certainly not practice double criteria [16]. The same quality of food should be available for children at home and at school, which is most often not the case. Though the school menus may have improved if we compare them to earlier times, this is hardly enough especially if children are led to eat a whole sack of potato chips, or perhaps a chocolate bar or ice cream, and consumes caloric value equivalent to that of a proper meal. Therefore, educational policies must seek to include both the parents and the entire environment in which a child functions, as well as the children themselves [3-5]. The children, if left to themselves to develop judgment and make their choices, are always likely to reach out for anything that is popular, interesting, nicely packaged, attractive to the eyes, and the sense of taste. The process of change cannot happen overnight but needs to be initiated if it is to happen at all.

In course of the entire process, the role, the impact of the media channels of communication is not to be underestimated. Media literacy needs to be based on critical and creative skills, on the ability of users to link ideas, form questions and shape answers, as well as on their readiness to deal with and discard, if needed, potentially mistaken attitudes, all of which is, of course, also applicable to the area of health and development. The research on the topic has resulted in recommendations on how to aid both the parents and their children in distinguishing between messages which surround them, and how to deal with a child when a desire for a specific food item is expressed [6,12,16,18]. The analysis of front pages

and articles of the observed teen portals has shown that only 5% of their postings relate to a healthy lifestyle. Furthermore, the most prominent Croatian youth portal has not had a single posting, or an article dedicated to the topic of healthy eating throughout 30 months! All articles were categorized (Tables 1-3), and all points to how lowly the topic of healthy nutrition is ranked, and how little attention the editors dedicate to this issue in coining their editorial policies. This is most likely connected to the fact the food advertising in Croatia is mostly emitted via TV channels, hence the lack of financial interest can be said to be reflected in the content of teen portals. The topics which appear on the surface of the portals can tell us a lot about the background, which is yet another aspect of media literacy to be explored and deconstructed.

5 CONCLUSIONS

In this paper, we investigated links between information on healthy dietary habits and media, with the focus on elementary school children and their media interests. The methods were combined to shed light on the issue from different angles: we used several field and archival instruments, namely, a survey, ethnographic research, and simple content analysis. The survey pointed to the fact that more than half of the children tend to eat while watching television, and that the average daily time that they spend this way amounts to 2 hours. The children between 11 and 14 years of age tend to be aware of the interconnectedness between their exposure to the media and their tendency to consume unhealthy food items (such as sweets, and likewise), and of the fact that they were inspired by the commercials to obtain such specific items. The answers tend to vary to a higher extent within the population of fifth graders, while elder generations tend to provide more unified answers, these being negative. This research cannot provide unambiguous answers as to the reasons for such a distribution, but one might speculate on the possibility of elder children being more aware of the need to lead a healthy life, which does not necessarily turn into practice. The ethnographic research carried out amongst the cadets of the majorette dancing clearly showed that exposure to the topic of healthy nutrition, even if coming from their peers, did not affect the girls in their tendency to choose unhealthy food over healthy food, when that choice was given. Behavioural change is certainly a lengthy and complex social process that calls for the active involvement of all parties: individuals, institutions, and the media that have a role in the children's perception of a desirable and healthy lifestyle. The latter, i.e. the media, have a long way to go if one is to judge them for the lack of interest in the topic, based on the portals that we analysed. The results of the pilot study point to the lack of overall consciousness about healthy dietary habits, and, as such, they are presented as to peak the interests of researchers and instigate the launching of a more complex project that we believe ought to be carried out on the national level. The topic of dietary habits needs to acquire its legitimate position within the educational and media campaigns in the Republic of Croatia, thus contributing to a positive change and affecting not only the well-being of children and youth but also the well-being of the society.

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