

Proceeding Paper

Schoolchildren Empowerment and Resilience through “Active Breaks”[†]

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Abstract: An active break is an alternative short “lesson” (lasting about 15 min) aimed at improving body awareness, physiological activation, and emotional feelings. Their purpose is to reactivate attentional capability, activate musculoskeletal system, reduce anxiety states, increase self-esteem, and improve individual resilience and classroom climate. The Food Hygiene and Nutrition Service (SIAN) (Prevention Department of Provincial Healthcare Company—ASP Catania) has experimented the “Active Breaks and healthy snack” project in the province’s schools to show how it is possible and pleasant to make small lasting changes to daily habits in order to counteract sedentary lifestyle and unhealthy nutrition; “class well-being” can be increased through classroom active games using “Active Breaks”. In order to monitor and evaluate the progress of the project, specific pre- and post-questionnaires was submitted to the teachers to verify the new knowledge acquired among teaching staff. At the end of the school day, the sixteen-item “Physical Activity Enjoyment Scale” (PACES) questionnaire was given to students and a satisfaction questionnaire was given to the teachers. The preliminary results confirm that it is easier to achieve lifestyle changes in the age groups 3–10, rather than in adolescents (11–14); therefore, it is believed that active breaks in association with the promotion of healthy snacks should preferably be started from kindergarten and primary school. Considering that the project involves children and parents, once the methodology is acquired, it is important to be implemented at home in order to promote the empowerment of the whole family and healthy lifestyles over long periods of time.

Keywords: empowerment; children; active breaks



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1. Introduction

The WHO European Region Strategy for Physical Activity 2016–2025 [1] considers physical activity to be a driving factor for a populations’ well-being, with particular attention to the correlation between chronic non-communicable diseases associated with sedentary behaviors.

One of the worldwide nine goals in WHO “Global Action Plan for the Prevention and Control of Chronic Non-Communicable Diseases 2013–2020” aims to reduce the prevalence of insufficient physical activity by 2025 [2].

The “Global Action Plan on Physical Activity for the years 2018–2030” [3], recently approved by WHO, defines four strategic objectives (active society, active environments, active people, and active systems), for a “systemic” approach that aims to promote physical activity (social, cultural, economic, environmental, educational, etc.) in order to achieve various Sustainable Development Goals.

An active break [4] is an alternative short “lesson” (lasting about 15 min) that aims to improve body awareness, physiological activation, and emotional feelings. Their purpose

is to reactivate attentional capability, activate musculoskeletal system, reduce anxiety states, increase self-esteem, and improve individual resilience and classroom climate.

2. Methodology

LSS Methodology

The Food Hygiene and Nutrition Service (SIAN) (Prevention Department of Provincial Healthcare Company ASP Catania) has implemented the “Active Breaks and healthy snack” project in four comprehensive institutes (containing classes from kindergarten and primary school, with an age range of 3 to 14 years) and one lower secondary school (11–14 years). Overall, 46 classes, 64 teachers, and 891 students were involved (Table 1).

Table 1. Active pause project: the number of schools, classes, teachers, and children involved.

Title 1	Kindergarten	Primary School	Lower Secondary School	Total
Comprehensive institutes				4
Lower secondary School				1
Class numbers	4	26	14	44
Teacher numbers	4	32	17	53
Pupil numbers	69	517	305	891

The “Active Breaks” project has allowed teachers and students to practically experience how it is possible and pleasant to make small lasting changes to daily habits in order to counteract sedentary lifestyle [5] and unhealthy nutrition; the level of “class well-being” can be increased through classroom active plays using “Active Breaks” to reactivate the students’ energy and attention levels during the morning lesson at school.

The project was carried out by a SIAN team, consisting of a hygienist physician, two dietitians, and a kinesiologist. In line with the indications of the international scientific literature, the SIAN physician, the dietitian, and the kinesiologist trained the teachers [6], who in turn, with the initial supervision of the SIAN specialists, showing their students to active breaks in the classroom and provided healthy snacks.

Specifically, the training was divided into 2 levels:

- (1) The theoretical–practical training of teachers: 3 theoretical meetings were held to describe the active breaks methodology and the basic principles of healthy snacks, followed by 2 theoretical–practical meetings were held to allow teachers to experiment with the active breaks methodology and acquire knowledge on the creation of healthy snacks in the classroom.
- (2) Training in the classroom in co-management between teachers and SIAN staff: teachers, in collaboration with SIAN staff, experimented the active breaks and healthy snacks in individual classes, in three successive moments, on a weekly basis. Subsequently, the teachers autonomously carried out active breaks and provided healthy snacks in the classroom on three further occasions, again on a weekly basis, under the supervision of the SIAN staff (the SIAN staff in the classroom did not any co-conducting role to influence the activity).

At the end of the 2 training steps, the teachers carried out active breaks and provided healthy snacks as part of regular class activities. The process was carried out independently and the support of the SIAN staff was only requested in case of any difficulty or doubt.

In addition, in one of the five schools, a healthy educational cooking course was activated in parallel for the parents of the pupils. In order to monitor and evaluate the progress of the project, specific pre- and post-activity questionnaires were given to teachers in order to verify the new knowledge acquired by the teaching staff. Moreover, at the end of the school day, the sixteen-item “Physical Activity Enjoyment Scale” (PACES) questionnaire was given to the students and a satisfaction questionnaire was given to the teachers.

It was decided to add 3 questions to the PACES questionnaire in order to verify improvements in the attention and learning ability of schoolchildren following active breaks in the classroom.

3. Results

At present, about 15% of the overall questionnaires have been processed, corresponding to 124 out of 891; these preliminary results show that the PACES questionnaire had an excellent total score, and normally the total PACES score varies between 16 and 80 points; the result of the questionnaires given to schoolchildren after this project had a score ranging from 34 to 80.

The following charts illustrate the main results from the PACES questionnaire (Figure 1).



Figure 1. Questionnaire PACES scoring.

With regard to the three PACES additional questions, it was found that 78.22% of schoolchildren had a higher level of attention (schoolchildren agree—35.48% and totally agree—42.70%, as shown in Figure 2), 65.33% learned better (schoolchildren agree—30.65% and totally agree—34.68%, as shown in Figure 3), and 79.84% felt more relaxed (schoolchildren agree—32.26% and totally agree—47.58%, as shown in Figure 4).

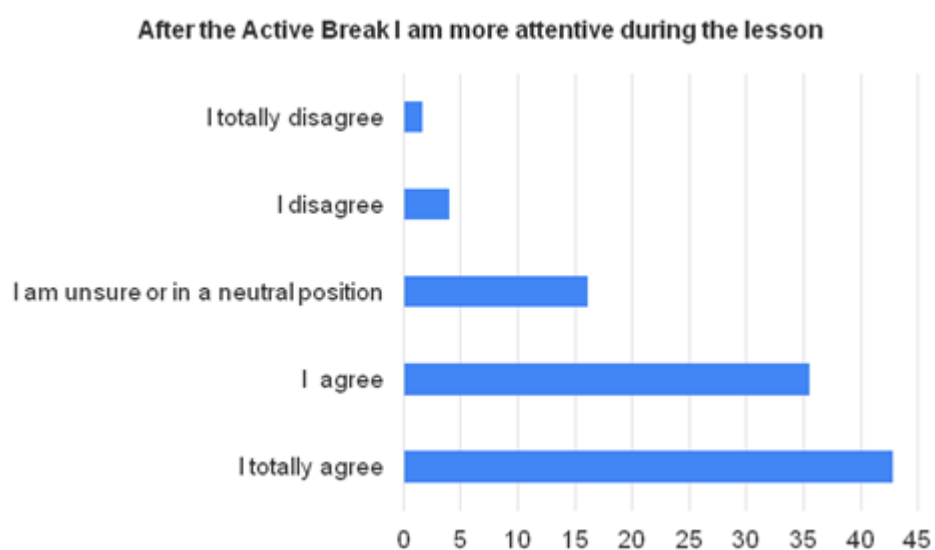


Figure 2. Attention levels at school after an active break.

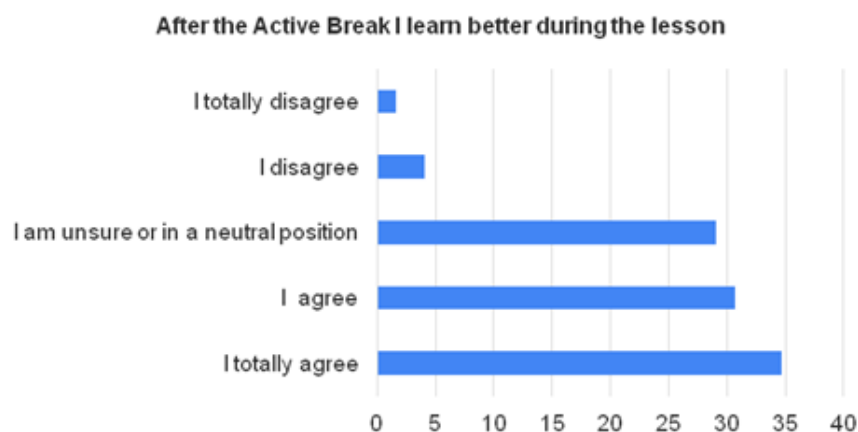


Figure 3. Learning levels at school after an active break.

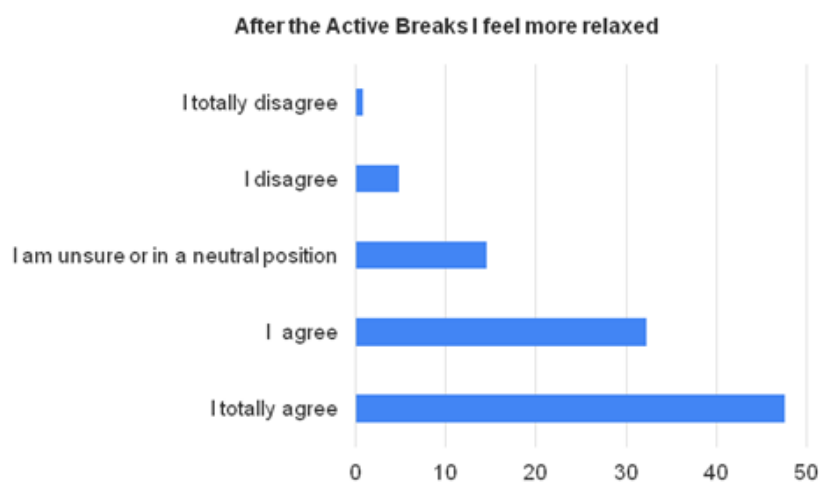


Figure 4. State of relaxation after an active pause.

Teachers were given an additional questionnaire to check if they continued to carry out active breaks and provide healthy snacks in the classroom. The following charts (Figures 5–7) show the answers of 18 out of 45 teachers (40%). Figure 5 shows that active breaks are mostly adopted in kindergarten and primary school several times a day.

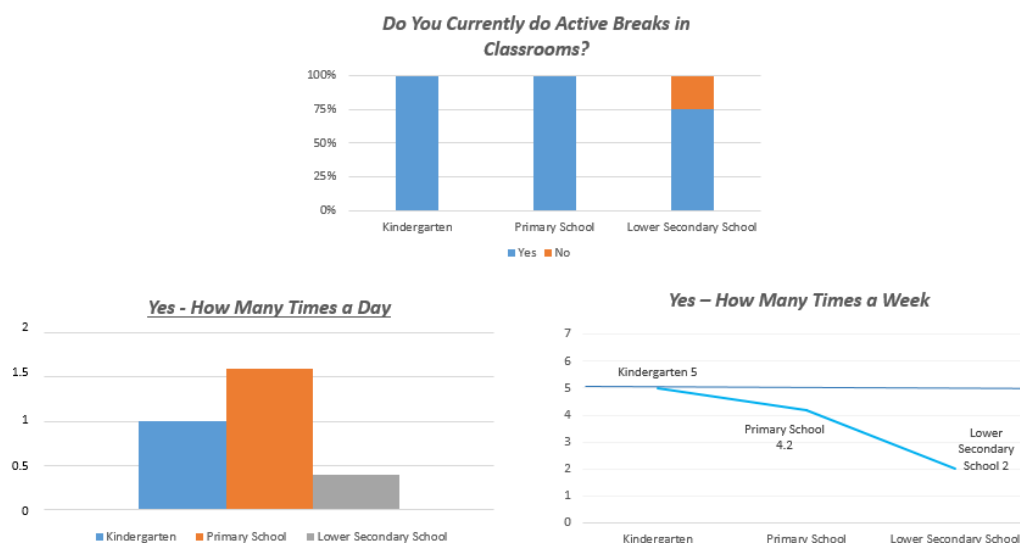


Figure 5. Adherence to active breaks.

When pupils do an Active Breaks?

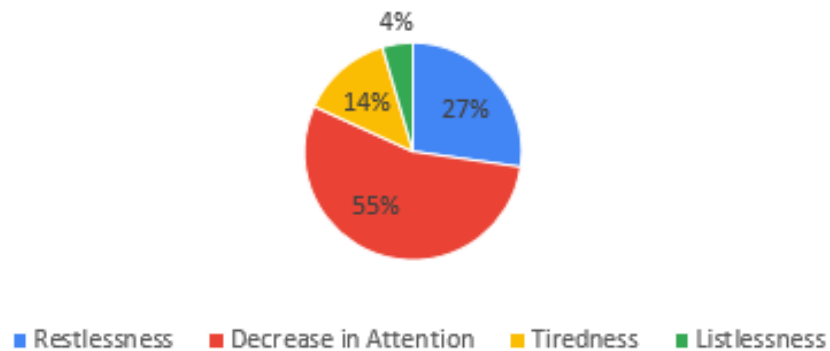
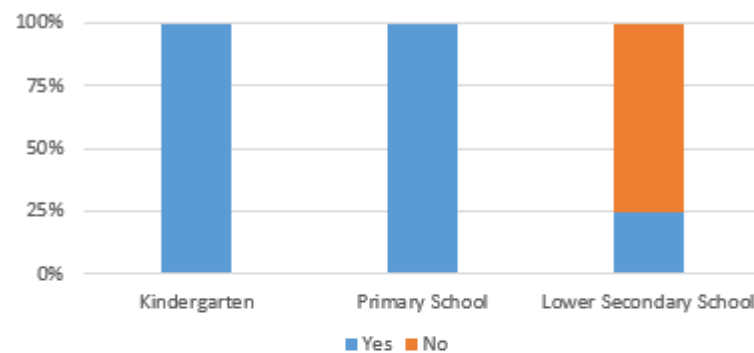


Figure 6. Moments in which the teachers proposed active breaks.

Do Children Currently Have a Healthy Snack?



If Yes – How Many Times a Week?

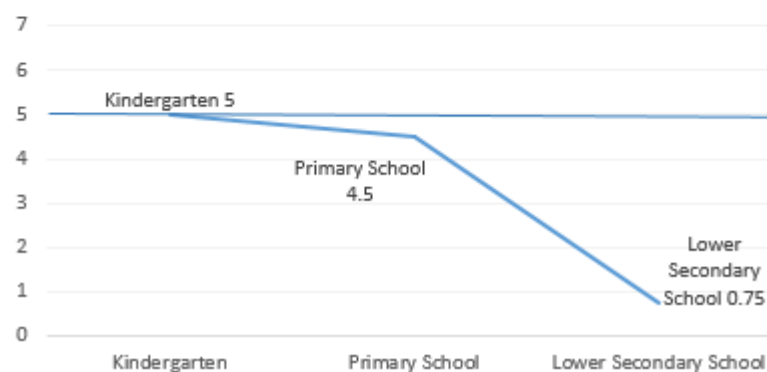


Figure 7. Healthy snack proposal adherence.

Figure 6 demonstrates the occasions in which the teacher found it useful to offer the class an active break.

Figure 7 shows the adherence of classes to the healthy snack proposal.

4. Discussion

The preliminary results show that the project had a positive impact on improving the classroom climate, which benefited both the teachers and the pupils.

The pupils benefited both in terms of acquiring healthy habits (eating and movement) and in increasing their attention capacity. Preliminary results confirm that it is easier to

achieve lifestyle changes in the age groups 3–10, rather than in adolescents (11–14); therefore, it is believed that the active breaks methodology in association with the promotion of healthy snacks should be started from kindergarten and primary school.

5. Conclusions

Considering that the project involves children and parents, once the methodology is acquired, we encourage its implementation at home in order to promote the empowerment of the whole family and healthy lifestyles over long periods of time.

During the 2022–2023 school year, monitoring will continue in order to verify if the changes in habits (active breaks and healthy snacks) are maintained over time.

Author Contributions: The study was conceptualized and designed by E.A. and M.F.; methodology were done by E.A., C.D. and M.F.; data extraction and management were done by E.A., M.F. and C.D.; data evaluation and results were done by E.A., M.F. and C.D.; manuscript drafting was done by E.A., C.D. and M.F.; critical review of the manuscript was done by E.A., M.F. and C.D., investigation was done by C.D., R.L.C., F.M. and S.S.T.; supervision was done by C.D., R.L.C., F.M. and S.S.T. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement: Data available on request U.O.C. SIAN, elena.alonzo@aspct.it, +39-0952540114.

Conflicts of Interest: The authors declare no conflict of interest.

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