
**The impact of the pilot
Activ8 Eatwell initiative in Northern Ireland**

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EXECUTIVE SUMMARY

Introduction

This report has been written by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University in response to a joint request by Sport Northern Ireland (SNI) and the Food Standards Agency Northern Ireland (FSA) to evaluate Activ8 Eatwell (A8E). A8E is an innovative (pilot) social marketing campaign aimed at primary school children aged nine and ten (year P5). This pioneering scheme developed from the original Activ8 intervention and provides a comprehensive resource pack for teachers and coaches to deliver its physical activity, healthy eating and lifestyle messages to primary school children.

Methods and samples

The pilot A8E intervention was delivered to P5 pupils in 47 schools that agreed to take part. These schools were selected on the basis that they had not been exposed to any part of the original Activ8 programme or other healthy eating schemes across NI. This approach was adopted to try and limit the external influences on the behaviour of young people, to the content of the 6-week A8E intervention. In addition a control group of young people who were not exposed to A8E was also drawn from across NI to compare findings with the young people in the experimental group (i.e. those involved in the A8E pilot). Data was collected at three points from pupils and deliverers (teachers and coaches); pre intervention (T_0 baseline); immediately post intervention (T_1); and 4-6 weeks post intervention (T_2) using questionnaire surveys designed specifically for the evaluation. The questionnaires included questions about physical activity and healthy eating recommendations, as well as actual measures of daily food and water consumption. The responses of people who completed surveys at all three data collection points were compared using 'matched pairs' analysis in order to examine changes in behaviour, tastes and preferences possibly as a result of exposure to A8E. The mixed methods approach to the evaluation also involved pupils completing A8E diaries before and during the intervention relative to their breakfast habits, water consumption and physical activity uptake. In addition, semi-structured interviews were undertaken with a sub-sample of the deliverers (teachers and coaches) to derive more detailed feedback about the pilot scheme.

The 'matched pair' samples numbered 651 pupils, 31 teachers and 4 coaches who responded to all three surveys. In addition 487 pupils completed two diaries, whilst the control group numbered 1,210 pupils. Teachers and coaches who were interviewed two months after the conclusion of A8E numbered 19 and 4 respectively.

Results

P5 pupils

Analysis using binary scores where '1' was assigned to a desired response, revealed that the sample average score amongst young people had increased significantly at T_2 and some 82% of pupils had improved their overall score compared with T_0 ; the combination of which, suggests that A8E appears to have had a positive effect. In order to gauge where the major changes occurred over time, key findings from the matched pairs analysis of pupils' survey responses are presented below.

- Pupils became increasingly aware that a minimum of 60 minutes of physical activity was the guideline daily amount recommended for children; awareness exceeded 92% at T_2 from an original base of 53%.
- There was an increased awareness amongst young people that the minimum 60 minutes of activity need not be undertaken all at once; from a 62% baseline, awareness had reached 85% at T_2 .
- Pupils reported an increased awareness of the activities that might constitute appropriate physical activity, with the young people more able to identify the non-sport activities that might contribute to their 60 minutes such as gardening and vacuuming at T_2 .
- Identification of the daily recommended levels for drinking water (6-8 glasses) increased from a base of 27% (T_0) to 75% at T_2 . There was also an increase in the average water consumption reported per day, from a pre A8E base of 4.5 glasses to more than the recommended 6 glasses at T_2 .
- There was an increased awareness of the five food groups from a base of 57% to 89% at T_2 , and the 'Eatwell Plate' from a base of 50% to 98% at T_2 .
- Pupils were already well aware of the importance of eating breakfast prior to A8E and became more aware of porridge as part of a healthy breakfast and the fact that cereal bars and sausages were not healthy choices, nor necessarily were all breakfast cereals.

- Pupils were aware of the body's need for fruit and vegetables prior to A8E and exhibited increased awareness of the '5-a-day' guidelines which increased from 71% to 85% at T₂. Pupils also reported an increase in the average number of portions they consumed per day, which exceeded the recommended 5-a-day at T₂.
- Pupils were increasingly aware of food labels and that they could be used to make healthy because they inform people what is in the food.
- Prior to A8E, pupils were already very aware that they might join a sports club to be active and healthy.

According to the analysis of the diaries, and based on a comparison of the baseline and 4-week averages, there was a 69% increase in the number of days per week that pupils achieved the minimum 60 minutes of physical activity, which reached 3.8 days during A8E from a base of 2.25 days per week. The average number of days per week that pupils drank the recommended minimum of six glasses of water also increased by 55%, but was still less than one day per week. Pupils reported eating healthy breakfasts on more than 5 days per week both pre and during A8E.

Teachers

The analysis of the 31 teachers' responses to the three surveys revealed the key findings listed below.

- Teachers increased their awareness of the recommended minimum daily water intake (6-8 glasses) which was identified by 90% of the sample at T₂; an increase of more than 64 percentage points from the baseline; whilst strong intentions to promote the drinking of water to children in PE sessions were expressed by teachers at T₂.
- Almost all the teachers (97%) recognised that 60 minutes was the recommended level of physical activity per day at T₂.
- Only 3% of teachers reported that 120 minutes of PE per week was currently being delivered to their class; the proportion who reported that they would try and deliver the 120 minutes of PE for the rest of this academic year was 29% (T₁) and for the next school year the figure was 23% (T₂).
- From a base of less than one in five teachers who promoted healthy eating in PE prior to A8E, almost two thirds reported that they would always promote healthy eating in PE during the next academic year; the remainder would try to do so sometimes.
- Less than half of teachers promoted physical activity in healthy eating lessons prior to A8E; however more than 90% of teachers expressed their intentions to always promote physical activity in healthy eating lessons this year and next.
- Almost all teachers (97%) were aware of the five food groups prior to A8E and all the teachers reported that they would teach the 'Eatwell Plate' at least sometimes during sessions on healthy eating, with 84% stating that they would always do so.
- Before A8E almost two thirds of schools did not have PE as part of their School Development Plan; however at T₁ 82% of teachers felt PE should be part of the plan, with 92% stating that they would promote PE as part of the plan at T₂.
- Time pressures remained the main barrier to delivering curricular PE, whilst training and a lack of knowledge were less of an issue for teachers following the A8E intervention, which perhaps indicates why (subsequently) teachers became more confident in their ability to deliver sessions.

Coaches

Given the limited number of matched pairs for coaches (4), the key findings are reported on the basis that they provide an indication of awareness and intentions amongst coaches after A8E, rather than because there were significant differences across the three surveys.

- All of the coaches were aware that 60 minutes of physical activity was the guideline daily amount recommended for children.
- Coaches exhibited mixed levels of awareness in relation to the recommended levels of curricular PE and extracurricular activity per week.
- Consistent with the baseline where three quarters of the coaches reported that they promote healthy eating during sport and physical activity sessions; the same proportion of coaches would continue to do so following their involvement with A8E (T₂).

- All of the coaches were confident in delivering healthy eating during sport and activity sessions at T₂, which was an increase compared with the baseline; whilst they were all also familiar with the 'Eatwell Plate' at T₂.
- All of the coaches at T₂ were aware that there were five main food groups and the majority understood that the recommended daily consumption of water for young people is 6-8 glasses.
- All of the coaches encouraged children to drink water in their sessions and at T₂ coaches in the small sub-sample stated that they would continue to incorporate elements of A8E in their future sessions;
- Three quarters of coaches received some nutrition training during their governing body coach education training, but the entire sub-sample would like more nutrition training according to their responses at T₁.
- Time, resources and facilities were the main barriers to delivery of sport and physical activity at the baseline; whilst at T₂, resources and time were less prominent barriers after health and safety and facilities.
- Cost, resources and knowledge were the three main barriers to promoting healthy eating in children at T₀, which had changed to cost, time and resources at T₂.

Interviews with teachers and coaches

As the deliverers of the A8E pilot, teachers and coaches have a vital role to play in its success or otherwise. Consequently, the one to one interviews with teachers were designed to add a qualitative layer of detail to the evaluation and their observations and subjective judgements have been condensed in to the points detailed below.

- Children were engaged and enthused by A8E according to teachers, which the fun content, colourful images, branded diaries, bags, and water bottles all contributed towards.
- There was evidence of initial changes in eating/drinking behaviour in some instances with lots of discussion in and around class, though this was not always sustained beyond the conclusion of A8E.
- There was evidence of young people undertaking additional activity in after school clubs as a result of A8E; an area which could be developed prior to any national roll-out.
- Positivity was expressed by both teachers and coaches who recognised the value and potential benefits of combining physical activity and healthy eating messages under the A8E banner.
- Teachers were able to identify links to the school curriculum and were happy with the extra resources that A8E provided which could be integrated elsewhere in school.
- All of the deliverers would like to continue with A8E should it be rolled-out across Northern Ireland.
- Parental engagement or influence emerged as a recurring theme. Deliverers felt that more needs to be done to secure the 'buy-in' of parents in order to encourage sustained behaviour change.
- According to the deliverers' feedback, the physical activity sessions with *Wildcats'* coaches were particularly well received, which coupled with concerns about the time available for delivery led to calls for more sessions and additional weeks.
- Deliverers also felt that A8E may benefit different age groups within school, though in the current financial climate, resourcing may be a constraint.
- There was also evidence of some schools that delivered their own healthy eating campaigns prior to the introduction of the A8E pilot, and after its conclusion. Consequently, such research contamination makes it difficult to attribute changes in behaviour or intentions entirely to A8E.

Conclusion

The findings from this evaluation of the A8E project are positive, particularly the desired changes recorded amongst P5 school pupils in the pilot schools. Although the analysis has focused on the outcomes of the survey of young people, the process evaluation using interviews with teachers and coaches has added a layer of detail, which may be more important to any proposed nationwide roll-out; as the potential deliverers will be integral to the success of A8E.

Based on the accompanying systematic review, it is encouraging that A8E appears to concur with academic literature which identifies a variety of critical success factors in trying to deliver successful social marketing campaigns. A8E has offered food tasting sessions in a positive way to modify the food intake of young people and has communicated the campaign message in a fun and effective manner to achieve change

without having to scare or coerce. A8E has also moved towards establishing a strong brand which is required by all sustainable campaigns and has recognised the need for more than self reported measures of campaign success.

Another critical success factor identified in the literature is the need for parental engagement, not least because children copy their parents; hence the messages children receive from them at home need to be consistent with those delivered by A8E. Furthermore, the literature also suggests that desired behaviour change can only be achieved after a sustained long-term campaign, especially in the case of physical activity interventions which require significant levels of reinforcement amongst young people. This sustainable, long-term campaign is something for SNI and the FSA to strive for.

Whilst accepting that this is the first iteration of A8E, the evidence based appraisal of the pilot intervention has delivered some encouraging findings. These findings appear to vindicate the decision to develop an education programme in a primary school setting, in order to influence the physical activity and eating behaviour of young people. The measurable success of A8E in delivering genuine behavioural and attitudinal change over the course of the pilot, justifies the *London 2012 Inspire Mark* status awarded to the scheme.

1. INTRODUCTION

This report has been written by The Sport Industry Research Centre (SIRC) at Sheffield Hallam University in response to a joint request by Sport Northern Ireland (SNI) and the Food Standards Agency Northern Ireland (FSA) to evaluate Activ8 Eatwell (A8E). A8E is an innovative (pilot) social marketing campaign aimed at primary school children aged nine and ten (year P5). The two agencies developed the programme in order to emphasise the importance of physical activity, diet, nutrition, and hydration in children's development.

Since 2007, SNI has promoted sport for its intrinsic value and also for potential extrinsic gains such as health benefits, which is consistent with its aim to provide young people with clear pathways for lifelong sporting and personal development. The A8E pilot developed from the original Activ8 (A8) campaign which positioned sport as a mechanism to reduce obesity levels, by raising awareness amongst young people of the benefits of physical activity. To date more than 200 primary schools have signed up to A8 which has been integrated within the Northern Ireland Primary Curriculum. In addition, the initiative has been responsible for the development of more than 40 *Wildcats Clubs* to encourage after school participation in sport and physical activity. A8E is phase three of the A8 intervention and has developed a comprehensive resource pack for teachers and coaches to deliver its physical activity, healthy eating and lifestyle messages to primary school children and has been awarded the London 2012 *Inspire Mark*. Overall, 47 primary schools signed up to take part in the pilot project and were involved in time series monitoring and evaluation, which tracked the extent to which the delivery of A8E in school made a difference to the lives of P5 pupils at Key Stage 2 of the curriculum.

This final report presents the findings from three tracking points in the project: pre-intervention (referred to as T_0), post-intervention undertaken directly at the end of the programme (T_1) and a follow up 4-6 weeks after the programme conclusion (T_2). The results derived from the young people involved in the intervention are also compared against a control group who were not involved in the intervention and had not been exposed to any A8 activity prior to the A8E phase. Further to the evaluation of P5 children, teachers and coaches were also interviewed over the same three points in order to gauge any changes in perceptions and knowledge from those responsible for providing the pilot A8E sessions.

1.1. Aim and Objectives

The aim of this project was to deliver an independent assessment of the pilot A8E initiative within the participating primary schools in Northern Ireland (NI), by establishing the success or otherwise of the initiative in delivering its physical activity and healthy eating messages. There were four main objectives identified at the outset of the research, as listed below.

- To interrogate the initial dataset collected from (c. 50) primary schools in order to establish the baseline (T_0) from which to assess how much children had changed their behaviour or been conditioned to the A8E messages.
- To collect additional data from the same schools, immediately post A8E (T_1), and 4-6 weeks later (T_2) using a questionnaire consistent with that utilised in the baseline (at T_0), in order to establish the distance travelled relative to the positive messages about physical activity and healthy eating that the A8E initiative is intent on delivering to primary school children in NI.
- To analyse the initial baseline dataset from teachers (c. 50) and coaches (c. 15) and compare with subsequent information provided by the same respondents after A8E, at T_1 and T_2 . A combination of qualitative and quantitative techniques were employed to collect this data, which included questionnaire surveys similar to those completed by the children, plus one to one interviews.
- The final objective which sat alongside the primary data collection and analysis, was to undertake a systematic review of literature around social marketing campaigns in order to inform the main roll out of A8E; this is presented as a separate document.

2. CONTEXT

The motivation for undertaking a project such as this is backed up by an array of literature which highlights the benefits of initiatives designed to increase engagement with physical activity and healthy diet. A wide body of research highlights the importance of physical activity (including sport) in helping to achieve healthy lifestyles (Cale & Harris, 1993; Schultz *et al.*, 1985). Studies have also shown that there is a strong

link between childhood obesity and obesity in adulthood (Dietz, 1998; Reily *et al.*, 2003), and the evidence suggests that greater efforts need to be directed at the prevention and treatment of childhood obesity. Delivering interventions such as A8E, which aim to act as prevention rather than cure, are an important strand in tackling this problem, particularly for young people.

The importance of undertaking a multi-agency approach towards the promotion of healthy lifestyles is also well documented. Research and consultation with young people is an increasingly important part of policy development. Studies have shown that consultation with young people about their opinions can lead to a greater level of engagement with the issue in question (Mulvihill *et al.*, 2000; Stafford *et al.*, 2003; Rees *et al.*, 2006). Moreover, if young people have been consulted about issues which directly affect them (and can see tangible changes which have a positive impact), it increases the chances of engagement with a project. Consultation can also empower young people and open up new directions (Alderson, 2001) which can have a positive impact on their lives.

The partnership approach to A8E is an example of good practice, especially in times when resources (both time and money) are becoming increasingly scarce. In short, SNI had been working with the initial A8 project promoting its physical activity message when the FSA was trying to gain access to primary schools across NI to deliver its healthy eating message. SNI was already working in primary schools and joined forces with the FSA to combine the two initiatives, with the result being A8E. Not only does this represent good practice in terms of pooling resources, it also means that the deliverers only have to train once and deliver one programme.

The A8E cartoon characters in the resource packs have been designed to engage youngsters by being bright, colourful and interesting with a striking resemblance to 'Ben 10'. In addition, the young people who have been through the intervention received tangible rewards in the form of A8E branded gym bags (for their PE kit) and water bottles (to aid in achieving the water consumption recommendations). The purpose of such tangible items was to encourage children to maintain the good habits that A8E was designed to foster, long after the 6-week pilot intervention had concluded.

3. DATA COLLECTION METHODOLOGY

The FSA and SNI (in conjunction with SIRC) designed the baseline (T_0) and subsequent questionnaires (T_1 and T_2) which asked P5 children a variety of questions linked to physical activity, diet and healthy eating. The questionnaires were consistent across the three data collection points in order to facilitate the comparison of results from specific questions. The underlying approach recognised the need to keep the surveys simple, without jargon and using terminology consistent with that used in the delivery of A8E. Brief piloting with P5 pupils ensured that a number of iterations were developed and refined prior to the final version used in the monitoring and evaluation.

The methodological approach to collecting data was designed to capture a large baseline prior to the commencement of A8E for three main reasons. First, aiming for a broad base increased the level of engagement from as many schools as possible. Second, it increased the chances of achieving a large sample still in place for T_2 (for the purpose of tracking individuals and creating matched pairs) and third, in relation to the second point the broad base helped to alleviate the potential problems associated with the absence of pupils at the point of data collection in the classroom. In short, the research would only be worthwhile if statistically robust numbers of P5 pupils had engaged with the research at the three data points.

The three phases of data collection were designed to detect any differences between respondents' diet and activity levels following the A8E intervention. Data was collected using captive groups in school settings. The advantage of this technique was that teachers/researchers could distribute surveys and collect the completed responses on the day of interview and were on hand to answer any questions, thus ensuring fully completed surveys and optimum quality data with which to undertake the analysis. Every person completing a baseline survey was issued with their own unique reference number (URN) in order for the research team to be able to match their responses to each survey. The matched pairs enabled analysis of the same subset of young people who had responded to each survey; thereby providing a measure of the 'distance travelled' in educating young people and (possibly) changing their behaviour with regard to physical activity and the adoption of an active lifestyle and healthy diet. The following sub-sections detail the different methods employed at each stage of the data collection.

3.1. Methodology for T₀

The first stage of the data collection occurred prior to the inception of the intervention and took place in schools that had agreed to take part in the pilot; where teachers administered surveys in a classroom setting with a captive audience. Every young person who completed a baseline survey only did so upon the teacher receiving informed consent from a parent or guardian. In addition, pupils completed an initial 7-day diary in which they recorded daily information about their breakfast, water consumption and physical activity levels. The diaries were repeated during the delivery of A8E (see section 4.4). All completed surveys (and diaries) at each stage of the data collection were returned to SIRC for scanning, cleaning and data analysis.

3.2. Methodology for T₁

The second stage of the data collection occurred immediately after the conclusion of the 6-week intervention and took place in each school with the same P5 pupils who completed a survey at T₀, assuming that they were in class on the day of interview, using the same methodology as T₀. The completed surveys contained the same URN allocated to each pupil at T₀ in order to match pupils' responses during the data cleaning and analysis.

3.3. Methodology for T₂

The final stage of the data collection occurred between four and six weeks post completion of the A8E intervention and again took place in school. Each pupil who completed a survey at T₀ and T₁ was asked to complete the final survey again, assuming that they were in class on the day of the interviews.

3.4. Methodology for the Control Group

In order to assess the impact of the evaluation on P5 pupils, a control group was set up to act as a comparator. SNI and the Statistics and Research Branch from the NI Department for Education were consulted to establish the control group. The result was that pupils/schools in the control group were chosen on the basis that they had not been exposed to A8E or A8 in its initial form, or where possible, any other healthy eating schemes that were being undertaken in Northern Ireland. The control group data was collected in order to test for any discernible differences between those exposed to, and not exposed to, A8E.

Having compiled a list of potential schools for the control group, SNI sent a letter to each School Principal which SIRC staff followed up by telephone, to provide more detail and to arrange a school visit in which to administer the surveys. Two researchers from SIRC visited and administered the survey to respondents in captive groups. The pre-arranged appointment system was designed to create minimal disruption to the school day. Prior to the researchers arriving, consent forms were sent to parents to ask their permission for their children to be a part of the control group sample. Only children who had a completed parental consent form were allowed to complete the questionnaire.

Dependent upon the size of the sample at the participating school, three options were used to collect the control group data. First, surveys were completed in the classroom with students working through the survey on their own with a researcher and a teacher on hand to explain any questions. Second, surveys were completed in the classroom but with the researcher/teacher reading each question and options aloud. Third, for those schools that had a large number of respondents, the surveys were completed in the main hall with the researcher and teacher reading each question and possible answers. Overall, 1,210 pupils were surveyed in the control group sample from 29 schools across Northern Ireland.

3.5. Methodology for Coaches and Teachers

Although the evaluation focussed on the sample of P5 children, an additional focus of the evaluation investigated the role of teachers and coaches. As the deliverers of A8E, they have a valuable role to play in assessing how the A8E pilot is progressing and in providing feedback from their interactions with pupils. Teachers and coaches who were involved in the delivery of A8E were asked to complete baseline surveys prior to their involvement at a training day at Antrim Forum on 29th January 2010 and to complete the two post intervention surveys. This method was designed to create matched pairs, replicating the method used for the sample of P5 children. In addition, semi-structured telephone interviews with teachers and coaches were also undertaken to provide a layer of qualitative detail from the deliverers.

3.6. Samples

Table 1 details the samples for each group, at each stage of A8E for children, teachers and coaches. It indicates that 1,078 baseline surveys were completed by young people pre intervention at T₀, 933 at the first post intervention survey (T₁) and 782 completed the second post intervention survey (T₂). Analysis of URNs from the three 'waves' of surveys revealed 651 matched pairs from T₀ through T₂ (i.e. young people who completed all three surveys), and it is this sample upon which subsequent analysis for P5 pupils is based.

Table 1: Responses by group and data collection point

	Questionnaires				
	Base (T ₀)	T ₁	T ₂	Matched pairs	Control
Children (P5)	1,078 (47 schools)	933 (41 schools)	782 (34 schools)	651 (34 schools)	1,210 (29 schools)
Teachers	49	41	33	31	n/a
Coaches	12	8	4	4	n/a
Diaries - Children (P5)	915	657	n/a	487	n/a

The control group of P5 pupils (who were not exposed to the A8E intervention) comprised of 1,210 responses from 29 schools. Teachers completed 49 surveys at T₀, 41 surveys at T₁ and 33 surveys at T₂. Analysis of ID numbers revealed 31 matched pairs for teachers and four pairs for coaches. The matched pair subsets form the basis for further analysis detailed in the results' section.

4. HEADLINE RESULTS

4.1 Matched pairs analysis – P5 Children Overall

The analysis of responses using the URNs indicated that there were 651 matched pairs which were eligible for inclusion in the final analysis; these were young people who had completed evaluation surveys at T₀, T₁ and T₂. The interim report recorded positive changes between T₀ and T₁ and this section of the report aims to establish whether the positive responses from the interim report have been sustained¹.

The analysis of the overall sample was undertaken using binary scores, which represented each question using zero and one, based upon whether the respondents answer was the desired response. For example, the question 'have you heard of food labels' scored 1 for 'yes' and 0 for 'no'. Questions 23 - 25 included two potentially desirable answers ('yes' and 'sometimes') and in these instances, a score of 0.5 was attributed to 'sometimes'. Allowing for these subtleties, from the 26 questions, the overall maximum score was 37. A full list of the binary scores used for each question can be seen in Appendix 4. The overall scores for each respondent were recorded for each of the three questionnaires and were subsequently compared to identify the direction of travel for the sample of young people. Table 2 details the average scores at each of the three data collection points.

Table 2: Average score by each data collection point

Point of survey	Minimum Score	Maximum Score	Average Score	Δ from T ₀	%Δ
Pre Intervention (T ₀)	6	35	24.5	-	-
Post Intervention (T ₁)	13	36	29.2	4.7	+19%
Follow Up (T ₂)	13	36	29.4	4.9	+20%

Table 2 indicates that the average overall score has increased at each point of the survey from 24.5 at T₀ to 29.2 at T₁ and 29.4 at T₂; the differences from T₀ being statistically significant at both T₁ and T₂. The minimum and maximum score also increased from T₀ to T₁ which indicates that more of the sample provided desirable answers. The change between T₁ and T₂ was not significant, though importantly the young people appear to have retained the A8E information, albeit over a short period of time. The findings suggest that the majority of the positive changes occurred between T₀ and T₁, a finding expanded upon in Table 3 which presents the change in overall score between the different points of the survey. Note that there were no negative changes in aggregate scores between T₀ and T₁ and between T₁ and T₂ for any respondent.

¹ The data presented herein, uses a different sub-sample to the Interim Report on the basis that not every young person who completed surveys at T₀ and T₁, did so at T₂.

The data in Table 3 indicates that the majority of the sample improved their overall score between T₀ and T₁ (85.3% with change scores >0), although this reduced slightly between T₀ and T₂ (81.8%). Overall, 21% of the sample improved their score by at least ten points between T₀ and T₂. Over half of the sample (53.5%) replicated their T₁ score at T₂ which backs up the suggestion that the main positive 'shift' in awareness occurred between T₀ and T₁ as might be expected given the proximity of the data collection to the conclusion of the A8E intervention.

Table 3: Change in score - Overall sample

Δ Score	T₁ - T₀	T₂ - T₀	T₂ - T₁
0	14.7%	18.2%	53.5%
+1 to +3	22.8%	20.1%	22.9%
+4 to +6	29.3%	22.3%	12.7%
+7 to +9	20.0%	18.4%	6.4%
+10 or better	13.2%	21.0%	4.7%

Despite the headline findings from the binary analysis showing a positive change, the overall scores do not indicate which questions/elements of A8E were responsible for such change. The following analysis by individual question provides some insight into where the changes actually occurred.

4.2. Matched pairs analysis – P5 Children

In order to establish the effect of the intervention on respondents in the sample, headline results were tested for any significant statistical differences between T₀, T₁ and T₂ using Z scores. This analysis was also conducted with the control group (see section 4.3). Z scores² test for any statistically significant differences within sub-samples (i.e. the basic standard score that converts raw scores to a mean of 0 with standard deviation of 1, Thomas and Nelson, 1990). The interim report identified some statistically significant positive changes after a successful introduction to A8E; this section of the final report presents the results of the matched pairs analysis between T₀ and T₂, whilst also making references to T₁.

From the 37 potentially positive responses, 26 were statistically significant positive changes between T₀ and T₂ with the remaining 11 responses showing no significant change. These findings are consistent with the increased average score recorded at T₂ (from Table 2). The following sub-sections highlight the areas where the greatest 'shift' has taken place using the results from the 'matched pair' analysis which is presented in detail (including responses to all questions) in Appendix 1. In the interests of brevity the desired responses are presented overleaf in Table 4. The green shading represents statistically significant differences at T₁ and T₂ compared with the baseline at T₀.

4.2.1. Physical Activity

The first three questions examined attitudes towards physical activity and the key findings are listed below.

- The proportion of young people who recognised the recommended amount of physical activity as 60 minutes per day, increased from 53.4% at T₀, (through 91.9%, T₁) to 92.1% at T₂. Furthermore, the proportion of the sample who understood that the 60 minutes of activity need not be undertaken all at once increased by more than 22 percentage points between T₀ and T₂ from 62.4% to 84.9%, which represents an increase of 5 percentage points on T₁.
- Respondents were asked to state which activities (from a list of nine), they perceived to be an example of moderate intensity physical activity (i.e. that increased heart rate). Six activities (walking, gardening, cycling, dancing, playground games and vacuuming) saw significant increases at T₂. Of these, the non-sport related physical activities of gardening (+15.5 percentage points to 66.7%), vacuuming (+11.8 to 40.7%) and dancing (+9.7 to 93.1%) showed the greatest increases.

² The confidence level for the test is set at 95% so a Z value of 1.96 or more is considered to be significantly higher in statistical terms whereas a score less than or equal to -1.96 is treated as significantly lower in statistical terms. Any value between these two thresholds is seen as having no statistical difference.

Table 4: Desired responses - Comparisons at T_0 , T_1 and T_2

Question	Desired Response	T_0 (Base)	T_1	$T_1 - T_0$ Sig?	T_2	$T_2 - T_0$ Sig?	
1	Minutes of physical activity you should do every day?	60 minutes	53.4%	91.9%	38.5	92.1%	38.7
2	Does physical activity have to be done all in one go?	No	62.4%	79.9%	17.5	84.9%	22.5
3	Examples of physical activity?	Walking	90.9%	95.5%	4.6	98.5%	7.6
		Gardening	51.2%	68.4%	17.2	66.7%	15.5
		Cycling	93.4%	94.8%	1.4	96.5%	3.1
		Dancing	83.4%	89.2%	5.8	93.1%	9.7
		Playground games	86.2%	90.0%	3.8	92.0%	5.8
		Vacuuuming	28.9%	37.9%	9.0	40.7%	11.8
4	How many glasses of water <i>do you drink</i> every day?	Half pint glasses per day	4.5	6.0	1.5	6.4	1.8
5	How many glasses of water <i>should you drink</i> every day?	6 to 8 glasses	27.1%	80.4%	53.3	75.2%	48.1
6	Why do you think you need to eat breakfast?	To provide energy in a morning	97.3%	98.3%	1.0	98.3%	1.0
7	Which of these is an example of a healthy breakfast?	Porridge	84.9%	93.2%	8.3	95.3%	10.4
8	Would you like to eat a healthy breakfast every day?	Yes	76.1%	75.5%	-0.6	71.9%	-4.2
9	Have you heard of the 'eatwell plate'?	Yes	49.7%	94.5%	44.8	97.7%	48.0
10	How many food groups are there?	Five	59.9%	88.7%	28.8	89.2%	29.3
11	Which are the food groups?	Milk, dairy	82.2%	94.9%	12.7	97.4%	15.2
		Bread, rice, potatoes, pasta	61.6%	89.4%	27.8	92.6%	31.0
		Meat, fish, egg, beans	56.7%	84.6%	27.9	90.3%	33.6
		Fruit & vegetables	90.8%	94.2%	3.4	97.2%	6.4
		Food/drinks high in fat/sugar	36.1%	73.7%	37.6	76.7%	40.6
12	Why do you think you need a healthy diet?	To be healthy	96.9%	97.8%	0.9	96.7%	-0.2
13	Would you like a healthy diet?	Yes	84.5%	86.2%	1.7	82.7%	-1.8
14	Do you like tasting different fruits?	Yes	79.8%	87.0%	7.2	87.0%	7.2
15	Do you like tasting different vegetables?	Yes	61.2%	71.0%	9.8	68.2%	7.0
16	How many portions of fruit & vegetables do you eat/day?	Portions per day	4.5	5.3	0.8	5.1	0.6
17	How many portions of fruit & veg. should you eat/day?	Five	71.1%	84.8%	13.7	84.8%	13.7
18	Why is it important to eat different fruit & vegetables?	Because your body needs them	93.6%	95.4%	1.8	96.1%	2.5
19	Have you heard of food labels?	Yes	70.4%	89.0%	18.6	93.6%	23.2
20	How can food labels be used to make healthy choices?	Tell you what the food is made from	66.1%	83.0%	16.9	83.3%	17.2
21	Do you think all breakfast cereals are healthy?	No	77.9%	90.6%	12.7	89.0%	11.1
22	Do you ever think about how much physical activity you do?	Sometimes	65.4%	63.2%	-2.2	66.8%	1.4
		Always	26.5%	31.1%	4.6	26.6%	0.1
		At least sometimes	91.9%	94.3%	2.4	93.4%	1.5
23	Do you ever wonder whether your breakfast is healthy?	Sometimes	55.2%	57.1%	1.9	57.6%	2.4
		Always	28.7%	33.0%	4.3	29.0%	0.3
		At least sometimes	83.9%	90.1%	6.2	86.6%	2.7
24	Do you ever think about how much water you drink?	Sometimes	48.3%	51.5%	3.2	51.8%	3.5
		Always	34.3%	38.7%	4.4	34.3%	0.0
		At least sometimes	82.6%	90.2%	7.6	86.1%	3.5
25	Is it good to join a physical activity or sports club?	Sometimes	5.8%	3.8%	-2.0	6.4%	0.6
		Yes	89.6%	93.1%	3.5	90.0%	0.4
		At least sometimes	95.4%	96.9%	1.5	96.4%	1.0
26	Why do you think you should join a club?	Be active and healthy	94.4%	96.9%	2.5	96.6%	2.2
		Have fun	77.0%	81.3%	4.3	79.6%	2.6
		Make new friends	53.2%	61.4%	8.2	66.4%	13.2

- Walking, cycling and playground games were identified by children as examples of appropriate activity at T₂ by 98.5%, 96.5% and 92% respectively; from bases exceeding 86% in the case of playground games and 90% for walking and cycling.
- Watching television showed a statistically significant decrease of 3 percentage points (from 4% to less than 1%) in the proportion of young people who felt it was an example of (appropriate) physical activity.

4.2.2. Eating and Drinking

A major part of the intervention focussed on healthy eating and increasing young people's understanding of the types of food perceived to be healthy. The key findings are listed below.

- Over three quarters (75.2%) of the sample recognised that they should drink 6-8 glasses of water per day which was a 48 percentage point increase on the baseline score (27.1%). According to the survey data, the average number of glasses consumed also increased from 4.5 glasses a day to 6.4 glasses between T₀ and T₂; an increase of 0.4 glasses on T₁.
- Encouragingly for the FSA the proportion of respondents who had heard of the 'Eatwell Plate' doubled from around half, to almost the entire sample at T₂ (98%). Over 94% of respondents had heard of the 'Eatwell Plate' at T₁ which suggests that the information about the plate had been assimilated during the initial delivery of A8E.
- Recognition that there are five main food groups increased by 29 percentage points from 60% to 89%. Likewise, identifying the five food groups also increased; food/drinks high in fat and/or sugar (+41 percentage points to 77%); meat, fish, eggs and beans (+34 to 90%); bread, rice, potatoes & pasta (+31 to 93%); and milk & dairy products (+15 to 97%). Recognition of fruit and vegetables as a food group increased by 6 percentage points but started from a high base (91%). In all five instances, the recognition of the food groups at T₂ exceeded the proportions recorded at T₁.
- The impact of A8E was also evident in the reduction in responses attributed to potential food groups; sandwiches (-19 to 8%); smoothies (-17 to 5%); cereal bars (-11 to 5%); tea and coffee (-6 to 3%); and burgers and chips (-2 to 5%), see Appendix 1.
- Between T₀ and T₂ there was a 23 percentage point increase in the proportion of children who had heard about food labels (to almost 94%), alongside a 17 point increase in understanding that labels state what the food is made from (83%). In addition, there were significant reductions in the proportion of young people who thought that food labels tell you the name (-9 to 8%) and how much food costs (-7 to 5%), see Appendix 1.
- Young people at T₀ knew that: breakfast provides energy first thing in the morning (97%); a balanced diet is needed to be healthy (97%); fruit and vegetables are needed by your body (94%) and that porridge represents a healthy breakfast (85%). From such high baselines, improvements were likely to be hard to achieve, however, these proportions were maintained at T₂, and in particular the body's need for fruit and vegetables, and porridge as an example of a healthy breakfast, showed significant increases of 2.5 and 10.4 percentage points respectively between T₀ and T₂.
- Encouragingly for the FSA the proportion of young people who thought a cereal bar was an example of a healthy breakfast fell by more than 6 percentage points to 3.9% at T₂, and similarly sausages were cited by only 0.5% of young people, a reduction of 3 percentage points from T₀.
- Between T₀ and T₂, there was an increase of almost 14 percentage points (to 85%) in the proportion of young people recognising the '5-a-day' guidelines on fruit and vegetable portions. Furthermore, the average recorded daily consumption of fruit and vegetables at T₀ was 4.5 portions; the corresponding figures exceeded five portions at both T₁ and T₂.

4.2.3. Your Thoughts about Physical Activity and Healthy Eating

Attitudinal questions were posed which examined respondents' thoughts in terms of their breakfast, their activity level and their engagement with sports clubs. The headline findings in this section indicate that there has been little change (in terms of statistical significance) between T₀ and T₂ for the attitudinal questions; however there are certain points of note.

- A greater proportion of the sample understood that not all breakfast cereals are healthy, up 11 percentage points to 89% at T₂. The baseline score (78% at T₀) indicated that young people were already quite aware that not all breakfast cereals are healthy.
- The proportion of young people who understood that joining a sports club helped them to make new friends increased by 13 percentage points (to 66% at T₂), whilst those who recognised that joining a sports club could help them to be active and healthy or have fun, increased slightly to 97% and 80% respectively at T₂.
- Interestingly, results at T₁ showed a statistically significant increase in the proportion of young people who thought it would be good to join a physical activity/sports club, though this increase was not sustained into T₂, albeit that 90% still felt it would be worthwhile.

4.3. Intervention results compared to the control group

In addition to the direction of travel by those young people involved in the intervention reported above, comparisons against the P5 control group who were not exposed to A8E are also noteworthy, as illustrated in Tables 5 and 6 below. These are based on the 651 young people who responded at T₀ and T₂ and the 1,210 respondents in the control group.

Table 5: Average score for the A8E intervention group versus the control group

Point of survey	Minimum Score	Maximum Score	Average Score
Pre Intervention (T ₀)	6	35	24.5
Follow Up (T ₂)	13	36	29.4
Control Group	8.5	35.5	26.2

When comparing the A8E sample and the control group, there were areas of considerable difference pre intervention and post intervention, as shown in Table 6.

Table 6: Differences between the intervention group and the control group

Point of survey	Positive Differences	No Difference	Negative Differences
Pre Intervention (T ₀) v Control Group	4	18	15
Follow Up (T ₂) v Control Group	26	9	2

Two key points emerged from the analysis of the desired responses between the control group and the group involved in the intervention.

1. The control group appeared to start from a more informed base than the T₀ sample according to the binary scores (26.2 *cf.* 24.5). Overall, the T₀ sample showed only four areas where they were more aware than the control group (more likely to: cite dancing as a physical activity; have heard of food labels; question whether their breakfast is healthy; and join a physical activity/sports club), whilst the control group reported the desired response to 15 questions. This highlights that the sample at T₀ had a lower level of overall awareness than those people who were not exposed to A8E in the control group.
2. At T₂ the same comparisons against the control group illustrate the extent to which there has been positive 'direction of travel'. The T₂ group recorded scores which exceeded those of the control group in 26/37 variables and only 2/37 variables were significantly below the control group (desire to: eat a healthy breakfast; and, have a healthy diet). Furthermore, the average score using the desired responses indicates that the T₂ sample recorded a higher score than the control group (29.4 *cf.* 26.2), a difference of more than three points. This finding suggests that young people exposed to A8E and interviewed at T₂ had greater overall awareness than those not exposed to A8E in the control group. For completeness and to re-emphasise this point we include in Appendix 6 the percentage comparisons between the control group and samples at T₀ and T₂.

Although this evaluation of A8E is social science research, the data collection attempted to control for various factors that might impact upon young people's responses; however, the fact remains that the evaluation and intervention occurred in the real world and not in laboratory conditions. In accepting this

point the findings from the control group comparisons, coupled with those from the time series analysis, suggest that there has been a marked improvement in the understanding around recommended guidelines for physical activity and healthy eating from children exposed to the A8E pilot intervention between T₀ and T₂.

4.4. P5 Diaries

In addition to the surveys undertaken with P5 pupils, diaries were also completed by a sample of the young people involved in the programme to assist in the identification of any changes in behaviour. The weekly diaries were designed for P5 pupils to record three key elements linked to A8E across two different periods; first, a one-week baseline and second, during four weeks of the six-week A8E intervention. The three elements under consideration in the diaries were:

- The number of days in a week the respondent ate a healthy breakfast;
- The number of days in a week the respondent completed 60 minutes of physical activity; and
- The number of days in a week the respondent consumed eight or more glasses of water.

Table 7 outlines the headline results from the 487 'matched pair' diaries.

Table 7: Average scores from the diary study

Average	Baseline Average (Days/wk)	4-Week Average (Days/wk)	Difference	%Δ
Days eaten a healthy breakfast	5.42	5.62	+0.20	4%
Days completed 60 minutes activity	2.25	3.80	+1.55	69%
Days consumed 8 glasses of water	0.47	0.83	+0.26	55%

Comparisons between the average baseline scores (at T₀) and the average scores from the 4-week diaries reveal increases in all three elements since the baseline. The largest increase occurred in the average number of days that young people recorded at least 60 minutes of activity (+1.55 days), whilst they averaged 5.62 days (a week) when they ate a healthy breakfast; an increase of 0.2 days (or 4%) on the baseline. The average number of days where respondents consumed 6-8 glasses of water is less than one day a week, even if the increase on the baseline score is 55% (0.26 days). Although the questions were asked differently, the diary responses linked to glasses of water consumed are in contrast to the average water consumption reported by young people in the surveys at T₀, T₁ and T₂. This is perhaps symptomatic of research of this nature where young people are asked to recall their behaviour over a specific period. In so doing they may exaggerate; possibly as in this instance, because the pupils knew what was expected of them from the education programme connected with A8E and because the original evaluation questionnaire was replicated twice. Table 8 highlights the weekly averages from the four-week diaries for the three elements in question.

Table 8: Average weekly scores from the diary study

Average	Base (Average)	Week 1 (Average)	Week 2 (Average)	Week 3 (Average)	Week 4 (Average)
Days eaten a healthy breakfast	5.42	5.79	5.67	5.69	5.34
Days completed 60 minutes activity	2.25	3.88	3.87	3.63	3.82
Days consumed 6-8 glasses of water	0.47	0.76	0.79	0.89	0.88

The analysis of weekly average scores suggests that two elements show a steady increase in engagement: completing 60 minutes activity; and consumption of at least six glasses of water. However the number of days where respondents ate a healthy breakfast was higher than the baseline in week one, two and three but week four saw a lower average than the baseline. Notwithstanding this and the discrepancy between water consumption in the diaries and the surveys (which might be partly explained by different samples), the overall results from the diaries complement the results from the three questionnaire surveys, in that there is a positive direction of travel towards the desired behaviours amongst the P5 pupils. However, we would urge caution before making any definitive claims on the basis that additional time series analysis over a longer period will help to ascertain the extent to which any initial changes in behaviour are sustained over time.

4.5. Matched pairs analysis - Teachers

Analysis of the three waves of surveying of teachers involved in the delivery of A8E indicated that there were 31 teachers who had responded to all three surveys and who could be tracked over the course of the intervention. Analysis of teacher responses from the T₀ and T₂ surveys were compared in relation to matched pairs for each duplicate question posed at T₀ and T₂. Some questions were modified between T₀, T₁ and T₂ with subtle changes which moved from current behaviour (T₀); to intentions for the remainder of the 2009/'10 academic year (T₁) and for the 2010/'11 academic year (T₂). Although not directly comparable, selected findings are presented to highlight developments in teachers' thinking post the delivery of A8E.

The headline results in the interim report between T₀ and T₁ outlined some improvements in teachers' knowledge and understanding relative to some of the key areas. Analysis of the matched pairs between the baseline and T₂ revealed the key findings listed below.

- A 64.5 percentage point improvement (to 90%) in understanding that a child's recommended minimum level of water intake should be 6-8 glasses per day from the 26% of teachers who answered correctly at the baseline phase. This was a slight improvement on the T₁ percentage where the majority of the change from the baseline took place.
- A relatively small proportion of teachers reported that they encouraged children to drink water during PE at T₀. Post intervention some 86% stated that they would always promote the drinking of water in PE this year at T₁, and for next year the corresponding figure was 77% at T₂.
- There was increased awareness of the recommended 120 minutes of curricular PE at all three Key Stages at T₂ compared with T₀ (29 percentage points at Foundation, 27 points at KS1 and 48 at KS2).
- Only 3.2% of teachers reported that 120 minutes of PE per week was currently being delivered to their class; the proportion who reported that they would try and deliver the 120 minutes of PE for the rest of this academic year was 29% (T₁) and for the next school year was 23% (T₂). There was also a 16 percentage point increase (to 97% at T₂) in the proportion of teachers who recognised that 60 minutes was the recommended level of physical activity per day.
- From a base of less than one in five teachers who promoted healthy eating in PE at T₀, almost two thirds (64%) reported that they would always promote healthy eating in the next academic year (T₂) which was a slight increase on the proportion who would promote healthy eating in PE this academic year. In addition, at T₂ the remaining 36% of teachers would try and promote healthy eating sometimes.
- Teachers reported increased confidence levels in delivering the healthy eating message during PE from a base of 29% who were confident at T₀ to 78% at T₂. In addition, at T₂ slightly more than half of teachers (55%) were confident in delivering curricular PE compared with only a quarter who had the confidence to deliver PE to children with special needs (26%).
- Less than half of teachers who responded at T₀ reported that they always promoted physical activity in healthy eating lessons. Despite this A8E contributed to the 95% who said they would always promote physical activity in healthy eating lessons this year (T₁) and into next academic year (T₂, 90%).
- All teachers stated that they will always (84%) or sometimes (16%) teach the 'Eatwell Plate' next academic year (T₂) when delivering sessions on healthy eating. This is a significant increase from 38% (always) and 25% (sometimes) who taught the plate in healthy eating lessons at the baseline (T₀). All the teachers who responded knew that there were five food groups by T₂ from an original base of 97%.
- At T₀ around 64% reported that PE was not an element of the School Development Plan. By T₁ 82% of teachers felt that PE should form part of any School Development Plan and when questioned at T₂, 92% stated that they would promote PE as part of any School Development Plan.
- According to ranking scores, time pressures remained the major barrier to delivering curricular PE at T₂. A lack of knowledge was the only significant change being much less of an issue at T₂ alongside training which had also become less of a barrier.

- Time and resources remain the two most commonly cited barriers to delivering lessons on healthy eating according to the mean ranking scores at T₂. Training showed the only significant change from the baseline as it was considered to be less of a barrier, which is positive given that A8E provided training on healthy eating; (lack of) knowledge was also less of an issue at T₂.
- Literacy and numeracy were the two most important 'areas of learning' identified by teachers at T₀, T₁ and T₂ and there were no statistically significant differences identified with PE remaining the 4th most important area of learning across all three surveys.

The findings above are drawn from the full analysis of the teachers' survey, the results of which are presented in Appendix 7. Presented below are the findings from the matched pairs relating to coaches.

4.6. Matched pairs analysis - Coaches

From an original base of twelve coaches, eight responded to the T₁ survey and four to the T₂ survey. Due to the small number of matched pairs, the results are not necessarily statistically significant; nonetheless they are reported to provide some indication of how the coaches felt about A8E. Major points of note from the results of the survey of coaches are summarised below and the full analysis is presented in Appendix 8.

- Encouragingly, all the coaches understood that 60 minutes of physical activity was the recommended daily amount for children and that it need not occur all at once.
- There was a mixed level of understanding about the recommended amounts of both curricular PE per week and extracurricular activity for young people at Foundation, Key Stage 1 and Key Stage 2; which is understandable on the basis that this is unlikely to be a high priority for coaches. Moreover, there was no clear pattern emerging relative to their knowledge of the recommended amount of extracurricular activity per week.
- At the baseline, three quarters of coaches reported that they promote healthy eating during sport and physical activity sessions; the same proportion of coaches reported that they would continue to do so at T₂. Around two thirds of coaches (63%) were confident in delivering healthy eating in sport and activity sessions at the baseline, which had increased to all coaches by T₂. Furthermore, all of the coaches who reported at T₂ were aware of the 'Eatwell Plate'.
- All of the coaches at T₂ were aware that there were five main food groups and the majority understood that the recommended daily consumption of water for young people is 6-8 glasses.
- All of the coaches encouraged children to drink water in their sessions and at T₂ coaches in the small sub-sample stated that they would continue to incorporate elements of A8E in their future sessions.
- Time, resources and facilities were the main barriers to delivery of sport and physical activity at the baseline; whilst at T₂, resources and time were less prominent barriers behind health and safety and facilities, amongst the small sub-sample of coaches.
- Three quarters of coaches received some nutrition training during their governing body coach education training, but the entire sub-sample would like more nutrition training according to their responses at T₁.
- Cost, (lack of) resources and (lack of) knowledge were the three main barriers to promoting healthy eating in children at T₀, which had changed to cost, time and resources at T₂.

The analysis presented above in relation to coaches, and previously in relation to teachers delivering A8E is built upon in the next section which summarises the findings from telephone interviews with a small sample of those charged with the delivery of A8E.

4.7. In depth interviews with teachers and coaches

In this section we report the more detailed analyses from the semi-structured telephone interviews which took place with (19) teachers and (9) coaches after the A8E intervention. The thinking underpinning this extra layer of analysis was that more detailed feedback would help to bring some of the quantitative analysis to life, in order to assess what the deliverers actually felt about some of the aspects of the A8E intervention. This focussed on delivery as well as outcomes, whilst the questionnaire surveys were more about outcomes.

Perhaps most importantly, the semi-structured interviews which took place in June and early July (around two months after T₂), afforded the opportunity for teachers to comment on how any desired changes in behaviour had been maintained, or otherwise, post A8E, based on their own observations of the P5 pupils. In short, did the reported knowledge (from the surveys), and intentions, of young people translate in to sustained action? The content analysis has been divided by themes commencing with motivations for getting involved in the pilot scheme.

4.7.1. Motivations

Without exception schools that were involved in the A8E pilot felt it was an opportunity to reinforce the healthy eating and physical activity messages that society at large (and some of them) were keen to promote. Some teachers cited problems with childhood obesity, whilst others simply wanted to do the best they could for the young people in school. Apart from making the link between physical activity and healthy eating, the fact that A8E appeared to be well-resourced, coupled with well thought out training for the deliverers, all contributed to the engagement of schools and the aspiration to deliver sustainable results. Examples of comments made by teachers are presented below.

The school has always been committed to healthy eating and encouraging physical participation. The school has achieved success in the past with a number of healthy eating projects. The school felt that Activ8 Eatwell would help to maintain this.

The head teacher was keen to be involved with this because children are not getting enough activity outside of school especially at P5 level.

Thought it would be very beneficial for the children. Childhood obesity is in the news a lot at the moment and this backs up the school's healthy eating policy.

Seemed a very organised programme. A contemporary area, healthy eating and physical exercise is coming more into the curriculum.

School has always taken an interest in healthy eating and this was a part of the school's development plan two years ago. Not in the development plan at the moment but felt that programme would be useful to back up what they had already done.

Consistent amongst the comments presented above are the references to healthy eating projects and policies within schools. These imply that there may have been research contamination, whereby some schools were already better informed than others, despite the selection process attempting to guard against this.

Apart from being approached to get involved, the motivations of coaches were perhaps less altruistic than those of teachers. Personal development was one theme that emerged, as coaches identified an opportunity to develop their skills by learning more about nutrition, which could then be delivered with more confidence in future sessions beyond A8E. In addition, some coaches saw the scheme as an opportunity to get more young people involved in *Wildcats Clubs*.

4.7.2. Physical activity

According to eight of the 19 teachers who were interviewed, they were aware of pupils in their class who had become more active since their exposure to A8E, in particular by joining after school sports clubs. Some of the clubs cited by teachers included swimming, GAA, football, hockey, judo and karate. Apart from this positive outcome, there was some concern expressed by teachers (based on their observations) about the lack of physical activity being undertaken by their pupils during the winter months; this may be a function of the time of year chosen for the pilot A8E intervention, but ought to be considered prior to any national roll-out. However, the main point to note is that such information (linked to a lack of activity) could be used to lobby for the amendment of school development plans, particularly as the responses of teachers to the surveys suggest that there is the desire and a belief to include PE within such plans.

Consistent with the literature in the systematic review, teachers also suggested that parents need to be engaged in order for real change to happen. In some cases they believed that there was apathy amongst parents to encourage an increase in the amount of physical activity their children undertake, mainly because they were unwilling to travel to different areas in seeking out clubs. At the planning stage of A8E, the diaries in which children recorded the amount of activity they undertake were considered to be a way of encouraging their parents to get more involved. Whilst according to teachers the children appear to be willing, parental involvement and engagement may be more problematic; as exemplified in the two quotes below.

The difficulty is converting the parents - they drive the children to school and provide food for breaks.

Very difficult to get through to parents as they are stuck in their ways.

It may be that in the future, more engagement by parents is required, perhaps inviting them in to school in order to explain more about the intervention, rather than merely seeking consent for their children to respond to the surveys or sending update letters seeking support for homework tasks. By way of an example of what can be achieved, one teacher offered the following observation:

The pupils made more of an effort to do exercise and they did drink more water during and after the programme. The parents and young people talked more about the activity they had done and parents made more of an effort to take them to the park...Because they were recording this in the diaries pupils made more effort to please their parents.

Teachers who had the opportunity to discuss A8E reported that parents had commented how worthwhile they felt the intervention was and how much their children had enjoyed being part of it; for example:

Children are much more aware of healthy eating...Parents have mentioned that it had been a success in encouraging their children to try different foods - lots of feedback from parents - also mentioned that the children really enjoyed the physical activity programme.

Building on the enjoyment aspect of A8E, half of the teachers commented specifically about the positive feedback they received from children about the physical activity sessions delivered by the *Wildcats'* coaches. In particular the teachers felt that it was good to have specialists in school to deliver the physical activity sessions in order to keep a freshness about the intervention. This emphasises how important the quality of delivery is in order to enthuse young people in the hope that they want to remain active. Some examples of the comments received are listed below.

They loved the physical activity session with the Wildcats' coaches and responded well to the games.

[I] would say the entire programme was successful but they [the children] specifically liked Wildcats...because of the quality of sessions run by the coach.

The children loved the Wildcats sessions.

The Wildcats' coach was brilliant with the children.

The multi skills coach was very successful showing them different ways of being healthy. The children didn't actually know that certain activities they do every day were helping them improve their fitness.

The positivity was reflected in reports from four teachers who were aware of pupils who had joined a *Wildcats Club* as a direct result of their experiences during the A8E intervention. Furthermore, around one in three teachers felt that *Wildcats'* coaches should be more involved in the delivery of practical sessions. Despite such positivity, there were one or two less complimentary comments linked to coaches being late or not attending sessions and although these were made by a minority of teachers, should A8E be offered more widely, such instances should be guarded against; though encouragingly some teachers felt able to deliver *Wildcats* physical activity sessions themselves.

Coaches also felt that the physical activity sessions had been well received by the children, not least because they were all fun based which was key to maintaining their interest. Coaches also reported instances of young people attending the after school activity sessions for the first time as a result of their involvement in A8E. Coaches also recognised the significance of developing a child's basic knowledge around nutrition and eating healthily and in some instances were able to recognise improved understanding between weeks one and six; as indicated in the quotes below.

The physical side of the programme was the most popular with young people. The children were much more knowledgeable in terms of healthy eating during the second session. A lot of the pupils were drinking more water.

Physical activity part was most successful. The ability to deliver quality physical activity sessions was appreciated by the pupils. The children had good knowledge and the coach noticed an improvement from week one to week six..

The children really enjoyed the activities and how they related to nutrition which gave them foundation knowledge on hydration and healthy food. They enjoyed the practical aspect and a number of children attended the multi sports sessions (after school) from attending the Activ8 Eatwell session including those who were not previously involved in sport.

4.7.3. Eating and drinking

A third of the teachers, who were interviewed, reported that children appeared to be eating more healthily and drinking the requisite amount of water in school since A8E. The underlying reason for this behaviour may not all be linked to A8E, because some schools already had a focus on eating healthily. However, teachers from these schools commented that the resources available under the A8E banner were a useful addition (e.g. the 'Eatwell Plate' content). One teacher of a class of 24 reported that three-quarters of pupils had changed their behaviour and were now more likely to have a healthy school break; whilst in another school 50% of the P5 children were eating more healthy school lunches (the remainder already ate healthy lunches) and in another school a quarter of pupils had improved their eating habits. Teachers were particularly pleased with the reinforcement of messages around healthy eating which was done in a largely practical way; as illustrated in these quotes.

The food tasting was successful in introducing the children to different food...I was shocked that many children had never heard of certain fruits. A few days later a child said that he loved kiwi so much that he asked his mummy to buy him a kiwi for school break. If these changes occur in 3 or 4 children then progress has been made.

The children enjoyed trying different types of bread and fruit. Children started to bring in wheaten bread during and after the programme which they hadn't tried prior to the programme. The pupils made more of an effort to do exercise and they did drink more water during and after the programme.

...children enjoyed the food tasting session and learnt from the food labelling sessions, especially in relation to the sugar content of cereals.

Teachers were also pleased that the young people were discussing the content of A8E amongst themselves, which served to reinforce the healthy eating message.

The programme is so intense that it really couldn't have failed. More peer pressure now in terms of healthy eating, children telling others that they shouldn't be eating certain foods. It has definitely made the children think more and raised their awareness of eating healthier.

When the school held its sports days, children were asking whether they could bring their water bottles so that they could keep hydrated during activities. Some may have had that opinion before Activ8. Now the majority of pupils have that opinion. Children were also considering what they ate the day before in order to prepare themselves for sports day. Overall an extremely successful programme.

As suggested in the above example, teachers felt that the water bottles were a good idea, though there had been varying levels of usage. Some teachers felt that the provision of a branded bottle had encouraged the pupils to drink more water in class; whilst there was disappointment expressed at their lack of usage in other schools. In addition, whilst there was positivity amongst teachers in relation to their pupils gaining more knowledge about desired behaviours and recommendations linked to healthy eating, they expressed concern that such information did not necessarily result in the desired change in behaviour. Again, the influence of parents was cited as being problematic given that they often pack treats for lunch or snacks which are unhealthy, regardless of what their children may think, as illustrated in the next three quotes.

Still difficult getting the parents to provide the right food for children to eat.

The children's knowledge has improved tremendously in terms of healthy eating and this is all to do with Activ8. The parents may have sent in the odd healthy item, but this was not continued throughout the whole programme.

If children go home they will eat what they are given [by their parents].

As if to reemphasise the point about parental engagement, one teacher made the following comment which also illustrates the optimism amongst those delivering the programme, which is the type of attitude required in order to make A8E successful should it be rolled out more widely.

...it was a problem for them [the children] putting what they knew into practice mainly because of parental influence. In the long term...if the children are better informed now, then they will be better informed as parents.

A third of teachers felt that A8E had little impact on children's eating and drinking habits; however, apart from the parental example referred to above; some schools were already implementing programmes linked to healthy eating which meant that pupils already had high levels of awareness at the baseline which were more difficult to improve upon. Despite this, other observations suggested that weekly reinforcement was required in order to ensure that pupils continued to be conscious of the healthy eating agenda; the innovative

resources provided by A8E may help with such reinforcement. The following comments illustrate the above points.

Healthy eating is linked in with the school's overall plan and they therefore had a good head start before Activ8 began. Therefore [I've] not seen any difference in pupils' behaviour since the programme finished. [Healthy eating] has to be reinforced every week to keep pupils thinking about what they need to do.

The children loved it but the programme made no impact with parents... [I] do not think that they read the information sheets...you have to keep plugging away with this.

Not seen a major change in terms of healthy eating but they already have healthy breaks and some do therefore bring in healthy food anyway.

Building on the previous comments about reinforcement, teachers again cited how important the role of parents can be in imparting the healthy eating message as children tend to copy their parents. Around 20% of teachers expressed concerns about how best to engage the parents in delivering the healthy eating message, not least when too many persisted in providing their children with treats and unhealthy snacks. However, more encouragingly if some time was invested with parents at the outset, then there was evidence to suggest that they would make more of an effort to reinforce the A8E message in the home; which is another point raised in the systematic review of literature. The following comment by one teacher helps to illustrate what might be achieved.

[I] had a parents meeting close to when the programme was held, with most parents saying they would try and reinforce the programme's message at home...

In addition, around a third of teachers reported that parents had informed them of behaviours which were moving in the right direction in relation to healthy eating as a direct result of A8E and in particular the food tasting sessions, as illustrated by the quotes below.

[Children] were being more adventurous in their food choices since the programme. Some children had never tasted wholemeal bread, but since the taste testing they were now willing to eat it.

Parents have mentioned that their children have asked them to buy different foods because of the taste test.

Many had never tasted particular fruits or bread. The children then wanted to go shopping with their parents to buy these foods.

Parents have mentioned the fact that their children now want to hydrate themselves.

We now examine in more detail the comments by teachers linked to a key aspect of the intervention; the A8E Diaries.

4.7.4. Diaries

Although the A8E diaries were an integral part of the intervention there were concerns from a third of teachers about the quality of their completion, not least because children often completed them at home (as part of homework) and were reliant on (varying levels of) parental support, or did not bring them in to school on a regular basis and consequently they were difficult to police.

Diaries were problematic. Children could not remember things and struggled relating back to particular times. Some children may not have understood that 60 minutes of exercise was additional to what they did in school....The children did not think about their diary entries deeply enough.

[I] knew some young people just made up their diaries and therefore they may not be that reliable.

The concerns expressed about the diaries are similar to those raised in the P5 survey analysis (see 4.4) when responses to questions were compared with the data from similar measures in the diaries. Asking young children to engage in research of this kind can be problematic in terms of their recall or understanding of what is expected of them. To avoid any ambiguity, adequate time should be set aside to explain when and how any information should be recorded. Specifically, the way diaries are integrated within the intervention, in particular the link to homework, may need some thought prior to any national roll-out of A8E, to ensure the recording of reliable information. Notwithstanding this comment, there was also positivity expressed (by teachers and pupils) about the diary design, content and its ability to promote healthy breakfasts, motivate young people and reinforce the learning intentions each week as indicated in the quotes below.

Diaries were excellent...I had tried to use food diaries in the past but didn't work as well as the Activ8 Eatwell diaries. This was because they were fun and colourful.

The diaries were also popular and most children now understand the importance of a healthy breakfast.

Diary helped overall to remind the children of the learning intentions and became part of the daily routine and easy for the teacher to manage.

Diaries helped the teacher to check on a daily basis and if children slipped behind then the teacher could try and motivate them.

Coaches and teachers felt more detailed knowledge of nutritional aspects of A8E may be required in order to feel more confident in answering the questions about the need for a healthy breakfast posed by children linked to their diaries. Indeed one teacher felt that a nutritionist should be brought in to deliver some aspects of the intervention in the future.

4.7.5. Overall thoughts on A8E

When asked specifically for their thoughts about the overall A8E intervention, 14 of 19 teachers felt that their pupils had benefited from being involved and that the intervention had been successful to some extent. The benefits were expressed predominantly in terms of A8E as an awareness raising exercise to promote healthy eating and increased physical activity amongst P5 young people. Significantly, there were also teachers who reported actual changes in the behaviour of (some) pupils within their classes as reported above. Whilst the changes in behaviour were not necessarily universal, it is encouraging that the pilot A8E appears to have achieved the desired outcomes in some instances. The challenge now is to fine-tune the A8E delivery to ensure that such instances become more prevalent and more sustained. The following comments by teachers based on their own subjective judgements were typical of many of those received.

It achieved success. The children were very happy with the programme. The children are [now] more switched on to the idea of healthy breaks and drinking more water; before they were not that keen. It may have improved their diets slightly...Some of the parents felt that the programme was very good.

More children have joined after school clubs and external clubs... [my] class were the best for attendance in the whole school [during the intervention]. Parents are providing healthier lunches for their children... A lot of the learning topics are covered in other areas of the curriculum but [we] now have more resources to work with the pupils. [We] would like to implement the programme from P1.

Most children say they have been eating a healthy breakfast - some children have even been more settled which may be because of a change in eating habits. Children have also taken more of an interest in after school clubs with some showing an interest in joining the Wildcats sessions. Children take water in to class more than they did before the programme. The children would have liked there parents to be more involved - maybe to watch the Wildcats session to see them being physically active.

Super programme, lots of ideas in it and very well thought out and teacher friendly...Like the link up with sport and healthy eating. Fits in well with the current curriculum. Children have been using the bags for their swim stuff and the water bottles have been well used.

The programme was very child friendly. The language used really made the programme come alive. Providing content to send home helped to get the parents on board. Notes and guidance was very clear for both children and parents. The learning intentions were understood and there was a purpose to each activity.

Thought all the programme was very successful. The balance of the activities was good with the physical activities and classroom activities. The children adapted to the diaries very quickly and took them very seriously. They probably could not keep doing this for a longer period of time.

The programme really grabbed the children's attention. Lots for them to do and very interactive. Everything was reinforced each week. It was absolutely brilliant.

The programme is fun for both pupils and teachers, it focuses pupils minds, good spread of activity which can be incorporated into other areas of the curriculum. The funding was also generous allowing the school to buy more exotic fruits for taster sessions.

The information presented above and in the preceding sections has identified the important role that parents have to play in the success of social marketing interventions aimed at their children; consequently it is interesting to consider the behaviour of the young people after A8E. Where a school had previously made reference to healthy eating, continued engagement was less of an issue as the teachers had opportunities to reinforce its importance with ongoing dialogue as evidenced in the comments below.

...much easier to communicate with young people about healthy eating since the programme has ended. Children's knowledge of healthy eating has greatly improved, constantly talking about the importance of water and the healthy breakfast they have eaten.

No problems with engaging young people as I [the teacher] continue to ask questions relating to the programme and current aspects of the curriculum - exercise and healthy eating. Children always drink water in class.

Elsewhere teachers reported that the 'Eatwell Plate' is still remembered (two months after A8E) and that children take pleasure informing the teacher about the healthy lunches they are eating. However, old habits have crept back in whereby only half of the class still bring in healthy food for breaks, the other half are back on unhealthy snacks which was a disappointment to one teacher. Once again reinforcement of key messages is central to long term changes in behaviour and teachers suggested that there should be a year round commitment to A8E. The notion of a year round commitment to A8E is worthy of consideration prior to any wider roll-out, as the pilot was undertaken during the winter months, which may have limited young people's engagement with outdoor activities.

4.7.6. Developing A8E

Teachers were asked to comment on how they felt the intervention could be improved or developed. Despite the predominantly positive feedback reported in the previous sections, the teachers offered a number of suggestions which are now discussed.

While the majority of teachers did not comment on the duration of the programme, more than a third felt that more time should be available to deliver the various sessions, with suggestions of 8-10 weeks, a term or the entire school year being proposed. Linked to this, there was also a call for a more flexible approach to delivery with more *Wildcats* physical activity sessions requested as part of an 8-week programme. Feedback from children to one teacher also requested more time for delivery as they came up with their own idea to develop their own healthy lunches as part of A8E.

Would like to see it as a longer programme ...dividing the programme over the whole year. The children felt it was too short and that they would like to learn more about food. The children also came up with the idea that they would like to make their own healthy lunches...as a part of the programme...and would like more interactive games.

More time to deliver programme to fit in with existing curriculum. More games to use in classroom. School are planning to use Activ8 Eatwell during healthy eating month.

Wildcats were only there for two sessions which could be increased and also a longer duration with more fun activities at the start. [I] kept the pupils for another half an hour delivering a physical activity session because [I] didn't feel it was long enough.

Consistent with the thoughts of the teachers outlined in the previous quotes, coaches also suggested that there should be an additional physical activity session in the middle of the intervention to bridge the gap between weeks 1 and 6, whilst another coach reported that children were asking for additional activity sessions. Despite the above suggestions, there was universal agreement amongst teachers that they would like to continue using A8E should it be introduced across Northern Ireland, whilst the coaches who were interviewed were unanimous in wanting to maintain their involvement. Furthermore, some schools wanted A8E to be made available from the P1 school year in order to impart physical activity and healthy eating messages early enough to allow for more reinforcement throughout the children's formative school years. To emphasise the importance of such reinforcement, a teacher and two coaches made the comments below.

Most P5s are aware of the importance of healthy eating but the programme would maybe have more of an impact with P7 children who tend to eat more unhealthily. If you tell P5 to bring in a healthy lunch, they do; if you tell P7 to bring a healthy lunch, they bring crisps. Overall, programme should run right through the school with different levels of progression pitched at each age group.

[The] programme could be rolled out for all children. Even [with]...P1 to get them excited about physical activity and healthy eating with games adapted to suit all the children involved.

Fantastic programme. [I] would like to deliver the programme in future. Maybe start at P4 (happy to coach this age group) although the earlier the better.

Other comments related to the timing of the pilot relative to London 2012, and what a great time it is to be involved as pupils aspire to become future athletes. Moreover, a third of teachers identified the A8E curriculum links relative to healthy eating. Four of nine coaches also suggested that there should be more

done to engage parents and proffered the introduction of one-off joint parent and children sessions, along with regular (weekly) updates to reinforce the A8E objectives.

4.7.7. Key points from interviews with deliverers

Finally in relation to the interviews with those delivering A8E, we summarise the key points that emerged.

- Children were engaged and enthused by A8E according to teachers, which the fun content, colourful images, branded diaries, bags, and water bottles all contributed towards.
- There was evidence of initial changes in eating/drinking behaviour in some instances with lots of discussion in and around class, though this was not always sustained beyond the conclusion of A8E.
- There was evidence of young people undertaking additional activity in after school clubs as a result of A8E; an area which could be developed prior to any national roll-out.
- Positivity was expressed by both teachers and coaches who recognised the value and potential benefits of combining physical activity and healthy eating messages under the A8E banner.
- Teachers were able to identify links to the school curriculum and were happy with the extra resources that A8E provided which could be integrated elsewhere in school.
- All of the deliverers would like to continue with A8E should it be rolled-out across Northern Ireland.
- Parental engagement or influence emerged as a recurring theme. Deliverers felt that more needs to be done to secure the 'buy-in' of parents in order to encourage sustained behaviour change.
- According to the deliverers' feedback, the physical activity sessions with *Wildcats'* coaches were particularly well received, which coupled with concerns about the time available for delivery led to calls for more sessions and additional weeks.
- Deliverers also felt that A8E may benefit different age groups within school, though clearly resourcing may be a constraint.
- There was evidence of some schools that delivered their own healthy eating campaigns prior to the introduction of the A8E pilot, and after its conclusion. Consequently, such research contamination makes it more difficult to attribute changes in behaviour or intentions entirely to A8E.

5. CONCLUSION

The overall findings from the evaluation of the Activ8 Eatwell project are positive, particularly the desired changes recorded amongst P5 school pupils in the pilot schools. While the analysis has focused on the outcomes of the survey of young people, the process evaluation using the interviews with teachers and coaches has added another layer of detail which may be more important to any proposed roll-out of the intervention across Northern Ireland. As the potential deliverers they are integral to the continued success of A8E. Notwithstanding this comment, it is important that the thoughts of the young people are not overlooked and this may be worthy of consideration before any plans to deliver A8E more widely are finalised.

The accompanying systematic review of literature linked to social marketing campaigns around healthy eating and physical activity is worthy of note, not least because it exemplifies what has been successful in delivering campaigns elsewhere. Given that the team at SIRC were asked to evaluate the success or otherwise of A8E just prior to the piloting, we were unaware of the planning that went into the intervention and in particular the thought processes underpinning the monitoring and evaluation. Based on the review it is encouraging that A8E appears to concur with academic literature which identifies various critical success factors as discussed below.

- Positively influencing food preferences in childhood can lead to healthy food habits (see Johnson *et al.*, 2007) and children can learn to like new foods subject to being given opportunities to explore and try them in a positive way. A8E provided such opportunities in the food tasting sessions in order to modify the food intake of young people.
- The positive nature of a campaign message communicated in a fun and effective manner should achieve change without having to scare or coerce an individual into change (Stead *et al.*, 2007). Although A8E was designed to create good habits in young people which would become engrained

in their adult lives to prevent health problems associated with obesity, as a result of sedentary behaviour and poor diet; the intervention was not delivered as 'anti-obesity' or built around potential negative outcomes. Rather, from the outset A8E has accentuated the positives, in a fun environment for, not only the pupils going through the intervention, but also those delivering its educational content.

- Sustainable interventions need a strong social marketing brand (see Wong *et al.*, 2008). The resources committed to the original development of Activ8 and its characters have developed a strong brand over the last 18 months which has been adopted by 200+ schools and which has led to 40+ *Wildcats* after school activity clubs. The A8E sub-brand has the potential to achieve similar successes based on the results from the pilot intervention. Furthermore, Wong *et al.* highlighted the importance of involving the community in striving for sustained changes in behaviour; and the strength of the A8E brand could take the key messages beyond school.
- Self reported measures of success (i.e. increased activity levels) may be problematic (see Klesges *et al.*, 1990), which A8E has attempted to overcome using additional evaluation methods beyond the diaries and questionnaire surveys of young people (e.g. observations and judgements by the deliverers in relation to the behaviour of P5 pupils).
- The use of consultations with the target group in a formative rather than summative way in order that changes can be considered as and when required. A8E was a combination of the two approaches for young people; formative using the diaries and summative using the questionnaire surveys. The teachers and coaches who delivered the programme also used formative assessment in their regular discussions with pupils around the A8E diaries, and about their behaviours as a result of their exposure to the intervention. Note also that diaries were successful vehicles to reinforce the physical activity and healthy eating messages.

Based on some of the suggestions to develop and improve A8E it is also worth noting the points below.

- The academic literature reveals the need to target parents in social marketing campaigns aimed at their children (see Read, 2009), with parental-involvement programmes identified as key to success (Sensiper, 1999).
- This is because despite children often being averse to healthy foods, parents with a high perceived behavioural control are more likely to keep providing healthy choices, in order to try and positively influence food preferences (see Hart *et al.*, 2003; Hewitt & Stephens, 2007).
- Children copy their parents, including over-eating (Lindsay *et al.*, 2006). There is little point in pupils being educated about healthy eating in school, only to be offered fast food at home, or to be told something totally different by their parents in relation to physical activity. Consequently, should the resources be available, one of the next steps for A8E might be to try and engage the community by involving parents in developing, refining and delivering the programme.
- Desired behaviour change can only be achieved after a sustained long-term campaign, especially in the case of physical activity interventions (Wong *et al.*, 2004). Consequently, drawing definitive conclusions about any sustained behaviour change linked to A8E may be premature without further analysis; especially given that A8E (to date) has been delivered for six weeks during the winter months, which may limit the amount of physical activity that young people are able or willing to undertake. Perhaps the long term resourcing of the programme may need to reflect the time of year in which it is delivered.

Whilst accepting that this is the first iteration of A8E, the evidence based appraisal of the pilot intervention presented in this report has delivered some encouraging findings. The reported findings appear to vindicate the decision to offer support and resources by way of an education programme in a primary school setting, in order to influence the physical activity and eating behaviour of young people. The measurable success of A8E in delivering genuine behavioural and attitudinal change over the course of the pilot, justifies the *London 2012 Inspire Mark* status awarded to the scheme.

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November 2010

REFERENCES

- Alderson, P. (2001). Research by children. *International Journal of Social Research Methodology*, Vol. 4(2), 139-153.
- Cale, J. & Harris, J. (1993). Exercise recommendations for children and young people. *Physical Education Review*, 16(2), 89-98.
- Dietz, W. (1998). Childhood Weight Affects Adult Morbidity and Mortality. *The Journal of Nutrition*, Vol. 128(2), 4115-4145.
- Hart, K.H., Herriot, A., Bishop, J.A., & Truby, H. (2003). Promoting healthy diet and exercise patterns amongst primary school children: A qualitative investigation of parental perspectives. *Journal of Human Nutrition & Dietetics*, 16(2), 89-96.
- Hewitt, A.M. & Stephens, C. (2007). Healthy eating among 10-13 year-old New Zealand children: Understanding choice using the theory of planned behaviour and the role of parental influence. *Psychology, Health & Medicine*, 12(5), 526-535.
- Johnson, S.L., Bellows, L., Beckstrom, L. & Anderson, J. (2007). Evaluation of a social marketing campaign targeting preschool children. *American Journal of Health Behavior*, 31(1), 44-55.
- Klesges, R.C., Eck, L.H., Mellon, M.W., Fulliton, W., Somes, G.W., & Hanson, C.L. (1990). The accuracy of self-reports of physical activity. *Medicine and Science in Sports and Exercise*, 22(5), 690-697.
- Lindsay, A.C., Sussner, K.M., Kim, J., & Gortmaker, S. (2006). The role of parents in preventing childhood obesity. *The Future of Children*, 16(1), 160-186.
- Mulvihill, C., Rivers, K. & Aggleton, P. (2000). Views of young people towards physical activity: determinants and barriers to involvement. *Health Education*, Vol. 100, No.5, 190-199.
- Read, L. (2009). *Marketing physical activity and healthy eating: A literature review of recent social marketing campaigns and development of a social marketing plan for the CATCH program*. Texas: Texas Medical Center Dissertations.
- Rees, R., Kavanagh, J., Harden, A., Shepherd, J., Brunton, G., Oliver, S. & Oakley, A. (2006). Young people and physical activity: a systematic review matching their views to effective interventions. *Health Education Research*, 21(6), 806-825.
- Reilly, J., Methven, E., McDowell, Z., Hacking, B., Alexander, D., Stewart, L. & Kelnar, C. (2003). Health Consequences of Obesity. *Archives of Disease in Childhood*, 88, 748-752.
- Schultz, R., Smoll, F., Carre, F. & Mosher, R. (1985). Inventories and norms for children's attitudes towards physical activity. *Research Quarterly for Exercise and Sport*, 56(3), 256-265.
- Sensiper, S. (1999). Generating family-school partnerships through social marketing. *Social Marketing Quarterly*, 5(1), 16-21.
- Stafford, A., Laybourn, A., Hill, M. & Walker, M. (2003). *Children & Society*, Vol.17(5), 361-373.
- Stead, M., Gordon, R., & Angus, K. (2007). A systematic review of social marketing effectiveness. *Health Education*, 107(2), 126-191.
- Thomas, J.R. & Nelson, J.K. (1990). *Research methods in physical activity (2nd edition)*. Human Kinetics: Champaign, ILL.
- Wong, F., Huhman, M., Heitzler, C., Asbury, L., Bretthauer-Mueller, R., McCarthy, S., & Londe, P. (2004). "VERB – a social marketing campaign to increase physical activity among youth". *Prev Chronic Dis*, July 2004. Available from: http://www.cdc.gov/pcd/issues/2004/jul/04_0043.htm
- Wong, F.L., Greenwell, M., Gates, S., & Berkowitz, J.M. (2008). It's what you do! Reflections on the VERB campaign. *American Journal of Preventative Medicine*, 2008 Jun;34(6 Supplement), 175-82.

APPENDIX 1: YOUNG PEOPLE QUESTIONNAIRE (BASE)



School Reference No: /

Boy Girl

This survey asks you about physical activity and healthy eating. Please boxes to answer the questions. Some will need only one cross, in other questions you will be able to cross more than one box. Sometimes you will write your answer in the space provided. This is not a test, we just want to find out what you think. Please do not write your name on the survey, but make sure you complete the sections above with your School Reference and whether you are a boy or a girl. If you are unsure about anything now or during the survey please ask your teacher or one of the research team.

Physical Activity

- How many minutes of physical activity do you think you should complete every day? *(Cross one box only)*
 15 minutes 30 minutes 60 minutes 90 minutes 120 minutes
- Do you think this physical activity has to be completed all in one go?
 No Yes Don't know
- Which of these activities do you think are examples of physical activity? *(You may cross more than one box)*
 Watching TV Walking Gardening
 Cycling Dancing Playground games
 Watching at a football match Computer games Vacuuming

Eating & Drinking

- How many glasses of water do you drink every day? *(One glass is half a pint)*
- How many glasses of water should you drink every day? *(Cross one box only)*
 1-2 2-4 4-6 6-8
- Why do you think you need to eat breakfast?
 Because it tastes good
 Because it provides you with energy first thing in the morning
 Because your parents tell you to
- Which one of these is an example of a healthy breakfast? *(Cross one box only)*
 Fried sausages Porridge Cereal bar Crisps
- Would you like to eat a healthy breakfast every day? *(Cross one box only)*
 No Yes Don't know
- Have you heard of the 'eatwell' plate?
 No Yes
- How many different food groups are there? *(Cross one box only)*
 1 3 5 7 9
- From this list, which are the food groups? *(You may cross more than one box)*
 Sandwiches Milk & dairy products Bread, rice, potatoes & pasta Cereal bars
 Burgers & chips Meat, fish, egg & beans Smoothies
 Fruit & vegetables Tea & coffee Food/drinks that are high in fat and/or sugar

- 12. Why do you think you need a healthy diet? (Cross one box only)**
 Your parents tell you to To make new friends To be healthy To not get bored eating the same thing
- 13. Would you like to have a healthy diet?**
 No Yes Don't know
- 14. Do you like tasting different types of fruit?**
 No Yes Don't know
- 15. Do you like tasting different types of vegetables?**
 No Yes Don't know
- 16. How many portions of fruit and vegetables do you eat every day?**
- 17. How many portions of fruit and vegetables do you think you should eat every day?**
 1 3 5 7 9
- 18. Why is it important to eat different types of fruit & veg? (Cross one box only)**
 Because it's fun Because your body needs them
 Because there are lots to try Because they are cheaper than sweets
- 19. Have you heard of food labels?**
 No Yes
- 20. How can you use food labels to make healthy choices? (Cross one box only)**
 They show what the food looks like They show the name of the food
 They tell you how much the food costs They tell you what the food is made of

Your Thoughts

- 21. Do you think that all breakfast cereals are healthy?**
 No Yes Don't know
- 22. Do you ever think about how much physical activity you do?**
 Never Sometimes Always
- 23. Do you ever wonder whether your breakfast is healthy?**
 Never Sometimes Always
- 24. Do you ever think about how much water you drink?**
 Never Sometimes Always
- 25. Do you think it is good to join a physical activity or sports club?**
 No Yes Sometimes Don't know
- 26. Why do you think you should join a physical activity or sports club? (Cross no more than three boxes)**
 To win prizes To be active and healthy To get new kit
 To have fun To make new friends To be cool
- 27. And finally, please write down your five favourite foods in the space below.**

Thank you for your help.

APPENDIX 2: TEACHER QUESTIONNAIRE (BASE)

Activ8 Eatwell

A8E Staff Reference No: / /

Male Female

Pre-evaluation Questionnaire (Teacher)

This survey asks you about physical activity and healthy eating in young people. Please boxes to answer questions. Some will need only one cross, in other questions you will be able to cross more than one box, or write your answer in the space provided.

Please do not write your name on the survey, but make sure you complete the sections above with your A8E Staff Reference number and whether you are male or female.

If you are unsure about anything now or during the survey please ask the administrator.

Physical Activity

1. What do you think is the recommended amount of physical activity for children per day? *(Cross one box only)*

15 minutes 30 minutes 45 minutes 60 minutes 90 minutes

2. Do you think this has to be completed all in one go?

No Yes Don't Know

3. What is the minimum intensity of this physical activity? *(Cross one box only)*

Light Moderate Vigorous

4. Which of these activities do you think are examples of physical activity? *(You may cross more than one box)*

PlayStation Skateboarding Gardening Dancing Playground games
 Spectating at a sporting event Shopping Wii Fit Vacuuming

5. What is the recommended amount of curricular PE per week for:

	30 mins	60 mins	90 mins	120 mins	150 mins	180 mins
Foundation Stage (P1-2)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 1 (P3-4)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 2 (P5-7)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. What do you think is the recommended amount of extra-curricular sport & physical activity per week for:

	30 mins	60 mins	90 mins	120 mins	150 mins	180 mins
Foundation Stage (P1-2)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 1 (P3-4)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 2 (P5-7)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. On average how much curricular PE is delivered to your class per week?

30 mins 60 mins 90 mins 120 mins 150 mins 180 mins

8. How many days of training have you received to deliver curricular PE at the various stages of your:

Initial Teacher Education (ITE)?

Early Professional Development (EPD)?

Continuing Professional Development (CPD)?

9. Do you promote healthy eating when delivering PE lessons? *(Cross one box only)*

- Never Sometimes Always

10. Please rate your confidence levels to promote healthy eating during your delivery of PE lessons?

- Very Low Low Average High Very High

11. Please rate your confidence levels in delivering curricular PE.

- Very Low Low Average High Very High

12. Please rate your confidence in delivering curricular PE to children with special educational needs (SEN).

- Very Low Low Average High Very High

13. Which of the following do you think are barriers to your delivery of curricular PE?

Please rank 1-8 where 1 is the main barrier. PLEASE DO NOT USE THE SAME NUMBER TWICE

- | | | | | | |
|------------|--------------------------|---------------------------|--------------------------|---|--------------------------|
| Time | <input type="checkbox"/> | Lack of subject knowledge | <input type="checkbox"/> | Training | <input type="checkbox"/> |
| Resources | <input type="checkbox"/> | Health and safety | <input type="checkbox"/> | Lack of support from senior management team | <input type="checkbox"/> |
| Confidence | <input type="checkbox"/> | Facilities | <input type="checkbox"/> | | |

14. What do you think are the most important 'Areas of Learning'? Please rank 1-6 where 1 denotes the highest priority and 6 the lowest priority. PLEASE DO NOT USE THE SAME NUMBER TWICE

- | | | | | | |
|----------|--------------------------|----------|--------------------------|---------------------|--------------------------|
| Arts | <input type="checkbox"/> | PDMU | <input type="checkbox"/> | PE | <input type="checkbox"/> |
| Numeracy | <input type="checkbox"/> | Literacy | <input type="checkbox"/> | The world around us | <input type="checkbox"/> |

15. Is PE an area of development within your current School Development Plan?

- No Yes

Healthy Eating

16. Have you heard of the 'eatwell' plate?

- No Yes

17. Do you teach the 'eatwell' plate to the pupils when they are learning about healthy eating?

- Never Sometimes Always

18. How many different food groups are there? *(Cross one box only)*

- 1 3 5 7 9

19. Do you promote physical activity when delivering lessons about healthy eating? *(Cross one box only)*

Never Sometimes Always

20. How many glasses of water should children drink every day? *(One glass is half a pint)*

1-2 2-4 4-6 6-8

21. Do you encourage children to drink water during PE lessons? *(Cross one box only)*

Never Sometimes Always

22. Do you encourage children to drink water during classroom-based lessons? *(Cross one box only)*

Never Sometimes Always

23. Do you encourage pupils to have a healthy break/lunch in school? *(Cross one box only)*

Never Sometimes Always

24. How many hours of training have you received to deliver healthy eating at the following stages of your professional development?

Initial Teacher Education (ITE)	<input type="text"/>	<input type="text"/>
Early Professional Development (EPD)	<input type="text"/>	<input type="text"/>
Continuing Professional Development (CPD)	<input type="text"/>	<input type="text"/>

25. Which of the following do you think are barriers to the delivery of lessons on healthy eating?

Please rank 1-7 where 1 is the main barrier. PLEASE DO NOT USE THE SAME NUMBER TWICE

Time	<input type="text"/>	Lack of subject knowledge	<input type="text"/>	Training	<input type="text"/>
Resources	<input type="text"/>	Health and safety	<input type="text"/>		
Confidence	<input type="text"/>	Facilities	<input type="text"/>		

26. Is healthy eating an area of development within your current School Development Plan?

No Yes

Thank you for your help.

APPENDIX 3: COACH QUESTIONNAIRE (BASE)

Activ8 Eatwell

A8E Coach Reference No: / /

Male Female

Pre-evaluation Questionnaire (Coach)

This survey asks you about physical activity and healthy eating in young people. Please boxes to answer questions. Some will need only one cross, in other questions you will be able to cross more than one box, or write your answer in the space provided. Please do not write your name on the survey, but make sure you complete the sections above with your A8E Coach Reference and whether you are male or female. If you are unsure about anything now or during the survey please ask the administrator.

Physical Activity

1. How many minutes of physical activity do you think children should complete every day? *(Cross one box only)*

- 15 minutes 30 minutes 60 minutes 90 minutes 120 minutes

2. Do you think this physical activity has to be completed all in one go?

- No Yes Don't know

3. What is the minimum intensity of the physical activity?

- Light Moderate Vigorous

4. Which of these activities do you think are examples of physical activity? *(You may cross more than one box)*

- PlayStation Skateboarding Gardening
 Dancing Playground games Spectating at a sports event
 Shopping Wii Fit Vacuuming

5. What is the recommended amount of curricular PE per week for:

	30 mins	60 mins	90 mins	120 mins	150 mins	180 mins
Foundation Stage (P1-2)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 1 (P3-4)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 2 (P5-7)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. What do you think is the recommended amount of extra-curricular sport & physical activity per week for:

	30 mins	60 mins	90 mins	120 mins	150 mins	180 mins
Foundation Stage (P1-2)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 1 (P3-4)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Stage 2 (P5-7)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Do you promote healthy eating when delivering sport or physical activity sessions? *(Cross one box only)*

- Never Sometimes Always

8. Please rate your confidence levels when delivering sport or physical activity sessions to children:

- Very high High Average Low Very low

9. Please rate your confidence when delivering sport or physical activity sessions to children with special educational needs (SEN):

- Very high
 High
 Average
 Low
 Very low

10. Which of the following do you think are barriers to your delivery of sport & physical activity sessions to children? Please rank 1-8 where 1 is the main barrier. **PLEASE DO NOT USE THE SAME NUMBER TWICE**

- | | | | | | |
|------------|--------------------------|---------------------------|--------------------------|---|--------------------------|
| Time | <input type="checkbox"/> | Lack of subject knowledge | <input type="checkbox"/> | Training | <input type="checkbox"/> |
| Resources | <input type="checkbox"/> | Health and safety | <input type="checkbox"/> | Lack of support from senior management team | <input type="checkbox"/> |
| Confidence | <input type="checkbox"/> | Facilities | <input type="checkbox"/> | | |

Healthy Eating

11. Have you heard of the 'eatwell' plate?

- No
 Yes

12. How many different food groups are there? (Cross one box only)

- 1
 3
 5
 7
 9

13. How many glasses of water should children drink every day? (One glass is half a pint)

- 1-2
 2-4
 4-6
 6-8

14. Do you encourage children to drink water during your sport or physical activity sessions?

- Never
 Sometimes
 Always

15. Have you have received any training in basic nutrition as part of your National Governing Body qualification?

- No
 Yes

16. Please rate your confidence levels to promote healthy eating during your sport or physical activity session:

- Very high
 High
 Average
 Low
 Very low

17. Which of the following do you think are barriers to you promoting healthy eating to children? Please rank 1-9 where 1 is the main barrier. **PLEASE DO NOT USE THE SAME NUMBER TWICE**

- | | | | | | |
|------------|--------------------------|---------------------------|--------------------------|---|--------------------------|
| Time | <input type="checkbox"/> | Lack of subject knowledge | <input type="checkbox"/> | Training | <input type="checkbox"/> |
| Resources | <input type="checkbox"/> | Health and safety | <input type="checkbox"/> | Cost | <input type="checkbox"/> |
| Confidence | <input type="checkbox"/> | Facilities | <input type="checkbox"/> | Lack of support from senior management team | <input type="checkbox"/> |

APPENDIX 4: POSITIVE RESPONSES USED TO CALCULATE BINARY SCORES

The binary scores used on the Young People survey analysis are as follows:

- Q1: 60 minutes = 1
- Q2: No = 1
- Q3: Walking = 1, Gardening = 1, Cycling = 1, Dancing = 1, Playground = 1, Vacuuming = 1
- Q4: At least six glasses of water per day = 1
- Q5: 6-8 glasses of water = 1
- Q6: It provides you with energy first thing in the morning = 1
- Q7: Porridge = 1
- Q8: Yes = 1
- Q9: Yes = 1
- Q10: Five different food groups = 1
- Q11: Milk/dairy = 1, Bread, rice etc. = 1, Meat, fish etc. = 1, Fruit & veg = 1, Fat and sugary foods = 1
- Q12: To be healthy = 1
- Q13: Yes = 1
- Q14: Yes = 1
- Q15: Yes = 1
- Q16: At least 5 portions = 1
- Q17: Five portions = 1
- Q18: Your body needs them = 1
- Q19: Yes = 1
- Q20: They tell you what the food is made of = 1
- Q21: No = 1
- Q22: Sometimes = 0.5, Always = 1
- Q23: Sometimes = 0.5, Always = 1
- Q24: Sometimes = 0.5, Always = 1
- Q25: Sometimes = 0.5, Always = 1
- Q26: Active/healthy = 1, Have fun = 1, Make new friends = 1

The overall maximum score was 37

APPENDIX 5: MATCHED PAIRS - P5 CHILDREN (T₀ v T₁ and T₀ v T₂)

		T0		T1		T0		T2		T1-T0	Sig.	T2-T0	Sig.	
		P/m	N	P/m	N	P/m	N	P/m	N	P1-P0	(α=0.05)	P2-P0	(α=0.05)	
Q1. Physical activity young people should do every day?	15 minutes	15	7.1%	633	0.3%	633	7.1%	633	1.1%	633	-6.80%		-6.00%	
	30 minutes	30	20.4%	633	3.2%	633	20.4%	633	3.8%	633	-17.20%		-16.60%	
	60 minutes	60	53.4%	633	91.9%	633	53.4%	633	92.1%	633	38.50%		38.70%	
	90 minutes	90	9.3%	633	1.7%	633	9.3%	633	1.7%	633	-7.60%		-7.60%	
	120 minutes	120	9.8%	633	2.8%	633	9.8%	633	1.3%	633	-7.00%		-8.50%	
Q2. Does physical activity have to be done all in one go?	No		62.4%	623	79.9%	623	62.4%	623	84.9%	623	17.50%		22.50%	
	Yes		17.2%	623	10.1%	623	17.2%	623	7.9%	623	-7.10%		-9.30%	
	Don't Know		20.4%	623	10.0%	623	20.4%	623	7.2%	623	-10.40%		-13.20%	
Q3. Which of these are physical activity examples?	Watching TV		4.0%	651	1.2%	651	4.0%	651	1.1%	651	-2.80%		-2.90%	
	Walking		90.9%	651	95.5%	651	90.9%	651	98.5%	651	4.60%		7.60%	
	Gardening		51.2%	651	68.4%	651	51.2%	651	66.7%	651	17.20%		15.50%	
	Cycling		93.4%	651	94.8%	651	93.4%	651	96.5%	651	1.40%		3.10%	
	Dancing		83.4%	651	89.2%	651	83.4%	651	93.1%	651	5.80%		9.70%	
	Playground games		86.2%	651	90.0%	651	86.2%	651	92.0%	651	3.80%		5.80%	
	Watching at a football match		5.1%	651	3.2%	651	5.1%	651	3.5%	651	-1.90%		-1.60%	
	Computer games		5.2%	651	4.3%	651	5.2%	651	3.2%	651	-0.90%		-2.00%	
Vacuuming		28.9%	651	37.9%	651	28.9%	651	40.7%	651	9.00%		11.80%		
Q4. Water drank every day?	Number of glasses		4.5	546	6.0	546	4.5	546	6.4	546	1.5		1.8	
Q5. How much water should you drink every day?	1-2 Glasses		7.4%	634	1.6%	634	7.4%	634	0.9%	634	-5.80%		-6.50%	
	2-4 Glasses		30.6%	634	4.4%	634	30.6%	634	5.2%	634	-26.20%		-25.40%	
	4-6 Glasses		34.9%	634	13.6%	634	34.9%	634	18.6%	634	-21.30%		-16.30%	
	6-8 Glasses		27.1%	634	80.4%	634	27.1%	634	75.2%	634	53.30%		48.10%	
Q6. Why do you think you need to eat breakfast?	Because it tastes good		1.9%	633	1.1%	633	1.9%	633	1.4%	633	-0.80%		-0.50%	
	Because it provides you with energy first thing in the morning		97.3%	633	98.3%	633	97.3%	633	98.3%	633	1.00%		1.00%	
	Because your parents tell you to		0.8%	633	0.6%	633	0.8%	633	0.3%	633	-0.20%		-0.50%	
Q7. Which of these is an example of a healthy breakfast?	Fried sausages		3.9%	637	1.7%	637	3.9%	637	0.5%	637	-2.20%		-3.40%	
	Porridge		84.9%	637	93.2%	637	84.9%	637	95.3%	637	8.30%		10.40%	
	Cereal bar		10.5%	637	4.7%	637	10.5%	637	3.9%	637	-5.80%		-6.60%	
	Crisps		0.6%	637	0.3%	637	0.6%	637	0.3%	637	-0.30%		-0.30%	
Q8. Would you like to eat a healthy breakfast every day?	No		12.6%	633	13.3%	633	12.6%	633	16.1%	633	0.70%		3.50%	
	Yes		76.1%	633	75.5%	633	76.1%	633	71.9%	633	-0.60%		-4.20%	
	Don't Know		11.2%	633	11.2%	633	11.2%	633	12.0%	633	0.00%		0.80%	
Q9. Have you heard of the 'eatwell plate'?	No		50.3%	642	5.5%	642	50.3%	642	2.3%	642	-44.80%		-48.00%	
	Yes		49.7%	642	94.5%	642	49.7%	642	97.7%	642	44.80%		48.00%	

		T0		T1		T0		T2		T1-T0	Sig.	T2-T0	Sig.
		P/m	N	P/m	N	P/m	N	P/m	N	P1-P0	($\alpha=0.05$)	P2-P0	($\alpha=0.05$)
Q10. How many food groups are there?	1 different food groups	1.4%	631	0.0%	631	1.4%	631	0.0%	631	-1.40%		-1.40%	
	3 different food groups	20.6%	631	1.7%	631	20.6%	631	2.1%	631	-18.90%		-18.50%	
	5 different food groups	59.9%	631	88.7%	631	59.9%	631	89.2%	631	28.80%		29.30%	
	7 different food groups	10.8%	631	6.0%	631	10.8%	631	7.1%	631	-4.80%		-3.70%	
	9 different food groups	7.3%	631	3.5%	631	7.3%	631	1.6%	631	-3.80%		-5.70%	
Q11. Which are the food groups?	Sandwiches	26.9%	651	9.5%	651	26.9%	651	8.4%	651	-17.40%		-18.50%	
	Milk & dairy products	82.2%	651	94.9%	651	82.2%	651	97.4%	651	12.70%		15.20%	
	Bread, rice, potatoes & pasta	61.6%	651	89.4%	651	61.6%	651	92.6%	651	27.80%		31.00%	
	Cereal bars	15.7%	651	7.7%	651	15.7%	651	5.4%	651	-8.00%		-10.30%	
	Burgers & chips	7.1%	651	5.5%	651	7.1%	651	5.1%	651	-1.60%		-2.00%	
	Meat, fish, egg & beans	56.7%	651	84.6%	651	56.7%	651	90.3%	651	27.90%		33.60%	
	Smoothies	22.1%	651	8.8%	651	22.1%	651	4.9%	651	-13.30%		-17.20%	
	Fruit & vegetables	90.8%	651	94.2%	651	90.8%	651	97.2%	651	3.40%		6.40%	
	Tea & coffee	9.5%	651	4.6%	651	9.5%	651	3.4%	651	-4.90%		-6.10%	
Food/drinks that are high in fat and/or sugar	36.1%	651	73.7%	651	36.1%	651	76.7%	651	37.60%		40.60%		
Q12. Why do you think you need a healthy diet?	Your parents tell you to	0.8%	638	0.6%	638	0.8%	638	0.9%	638	-0.20%		0.10%	
	To make new friends	0.8%	638	0.8%	638	0.8%	638	0.8%	638	0.00%		0.00%	
	To be healthy	96.9%	638	97.8%	638	96.9%	638	96.7%	638	0.90%		-0.20%	
	To not get bored eating the same thing	1.6%	638	0.8%	638	1.6%	638	1.6%	638	-0.80%		0.00%	
Q13. Would you like a healthy diet?	No	3.7%	624	4.3%	624	3.7%	624	5.4%	624	0.60%		1.70%	
	Yes	84.5%	624	86.2%	624	84.5%	624	82.7%	624	1.70%		-1.80%	
	Don't Know	11.9%	624	9.5%	624	11.9%	624	11.9%	624	-2.40%		0.00%	
Q14. Do you like tasting different fruits?	No	11.2%	615	7.6%	615	11.2%	615	7.0%	615	-3.60%		-4.20%	
	Yes	79.8%	615	87.0%	615	79.8%	615	87.0%	615	7.20%		7.20%	
	Don't Know	8.9%	615	5.4%	615	8.9%	615	6.0%	615	-3.50%		-2.90%	
Q15. Do you like tasting different vegetables?	No	26.7%	632	21.4%	632	26.7%	632	21.4%	632	-5.30%		-5.30%	
	Yes	61.2%	632	71.0%	632	61.2%	632	68.2%	632	9.80%		7.00%	
	Don't Know	12.0%	632	7.6%	632	12.0%	632	10.4%	632	-4.40%		-1.60%	
Q16. Fruit & veg eaten daily?	Portions of fruit and vegetables	4.5	551	5.3	551	4.5	551	5.1	551	0.8		0.6	
Q17. How many portions of fruit & veg. should you eat/day?	1 Portions of fruit and vegetables	0.9%	633	0.2%	633	0.9%	633	0.8%	633	-0.70%		-0.10%	
	3 Portions of fruit and vegetables	10.1%	633	5.8%	633	10.1%	633	5.5%	633	-4.30%		-4.60%	
	5 Portions of fruit and vegetables	71.1%	633	84.8%	633	71.1%	633	84.8%	633	13.70%		13.70%	
	7 Portions of fruit and vegetables	8.8%	633	5.4%	633	8.8%	633	5.7%	633	-3.40%		-3.10%	
	9 Portions of fruit and vegetables	9.0%	633	3.8%	633	9.0%	633	3.2%	633	-5.20%		-5.80%	
Q18. Why is it important to eat different fruit & vegetables?	Because it's fun	2.2%	636	1.7%	636	2.2%	636	0.6%	636	-0.50%		-1.60%	
	Because your body needs them	93.6%	636	95.4%	636	93.6%	636	96.1%	636	1.80%		2.50%	
	Because there are lots to try	2.7%	636	2.0%	636	2.7%	636	2.2%	636	-0.70%		-0.50%	
	Because they are cheaper than sweets	1.6%	636	0.8%	636	1.6%	636	1.1%	636	-0.80%		-0.50%	

		T0		T1		T0		T2		T1-T0	Sig.	T2-T0	Sig.
		P/m	N	P/m	N	P/m	N	P/m	N	P1-P0	($\alpha=0.05$)	P2-P0	($\alpha=0.05$)
Q19. Have you heard of food labels?	No	29.6%	621	11.0%	621	29.6%	621	6.4%	621	-18.60%		-23.20%	
	Yes	70.4%	621	89.0%	621	70.4%	621	93.6%	621	18.60%		23.20%	
Q20. How can food labels be used to make healthy choices?	They show what the food looks like	5.4%	628	2.7%	628	5.4%	628	4.1%	628	-2.70%		-1.30%	
	They show the name of the food	17.2%	628	10.0%	628	17.2%	628	8.1%	628	-7.20%		-9.10%	
	They tell you how much the food costs	11.3%	628	4.3%	628	11.3%	628	4.5%	628	-7.00%		-6.80%	
	They tell you what the food is made of	66.1%	628	83.0%	628	66.1%	628	83.3%	628	16.90%		17.20%	
Q21. Do you think all breakfast cereals are healthy?	No	77.9%	637	90.6%	637	77.9%	637	89.0%	637	12.70%		11.10%	
	Yes	10.0%	637	5.3%	637	10.0%	637	6.0%	637	-4.70%		-4.00%	
	Don't Know	12.1%	637	4.1%	637	12.1%	637	5.0%	637	-8.00%		-7.10%	
Q22. Do you ever think about how much physical activity you do?	Never	8.1%	627	5.7%	627	8.1%	627	6.5%	627	-2.40%		-1.60%	
	Sometimes	65.4%	627	63.2%	627	65.4%	627	66.8%	627	-2.20%		1.40%	
	Always	26.5%	627	31.1%	627	26.5%	627	26.6%	627	4.60%		0.10%	
Q23. Do you ever wonder whether your breakfast is healthy?	Never	16.1%	634	9.9%	634	16.1%	634	13.4%	634	-6.20%		-2.70%	
	Sometimes	55.2%	634	57.1%	634	55.2%	634	57.6%	634	1.90%		2.40%	
	Always	28.7%	634	33.0%	634	28.7%	634	29.0%	634	4.30%		0.30%	
Q24. Do you ever think about how much water you drink?	Never	17.4%	633	9.8%	633	17.4%	633	13.9%	633	-7.60%		-3.50%	
	Sometimes	48.3%	633	51.5%	633	48.3%	633	51.8%	633	3.20%		3.50%	
	Always	34.3%	633	38.7%	633	34.3%	633	34.3%	633	4.40%		0.00%	
Q25. Is it good to join a physical activity or sports club?	No	1.3%	637	0.6%	637	1.3%	637	1.3%	637	-0.70%		0.00%	
	Yes	89.6%	637	93.1%	637	89.6%	637	90.0%	637	3.50%		0.40%	
	Sometimes	5.8%	637	3.8%	637	5.8%	637	6.4%	637	-2.00%		0.60%	
	Don't Know	3.3%	637	2.5%	637	3.3%	637	2.4%	637	-0.80%		-0.90%	
Q26. Why do you think you should join a club?	To win prizes	11.7%	648	9.3%	648	11.7%	648	9.7%	648	-2.40%		-2.00%	
	To be active and healthy	94.4%	648	96.9%	648	94.4%	648	96.6%	648	2.50%		2.20%	
	To get new kit	8.3%	648	9.9%	648	8.3%	648	9.9%	648	1.60%		1.60%	
	To have fun	77.0%	648	81.3%	648	77.0%	648	79.6%	648	4.30%		2.60%	
	To make new friends	53.2%	648	61.4%	648	53.2%	648	66.4%	648	8.20%		13.20%	
To be cool	10.3%	648	9.0%	648	10.3%	648	11.7%	648	-1.30%		1.40%		

APPENDIX 6: CONTROL GROUP COMPARISONS

Question	Responses	T0		T2		CONTROL		T0-Control	Sig.	T2-Control	Sig.
		P/m	N	P/m	N	P/m	N	P1-P0	($\alpha=0.05$)	P2-P0	($\alpha=0.05$)
Q1. Physical activity young people should do every day?	15 minutes	7.1%	633	1.1%	633	4.9%	1,201	2.20%	⇒	-3.80%	↓
	30 minutes	20.4%	633	3.8%	633	18.5%	1,201	1.90%	⇒	-14.70%	↓
	60 minutes	53.4%	633	92.1%	633	58.9%	1,201	-5.50%	↓	33.20%	↑
	90 minutes	9.3%	633	1.7%	633	9.3%	1,201	0.00%	⇒	-7.60%	↓
	120 minutes	9.8%	633	1.3%	633	8.4%	1,201	1.40%	⇒	-7.10%	↓
Q2. Does physical activity have to be done all in one go?	No	62.4%	623	84.9%	623	69.0%	1,195	-6.60%	↓	15.90%	↑
	Yes	17.2%	623	7.9%	623	15.8%	1,195	1.40%	⇒	-7.90%	↓
	Don't Know	20.4%	623	7.2%	623	15.2%	1,195	5.20%	↑	-8.00%	↓
Q3. Which of these are physical activity examples?	Watching TV	4.0%	651	1.1%	651	3.6%	1,210	0.40%	⇒	-2.50%	↓
	Walking	90.9%	651	98.5%	651	90.0%	1,210	0.90%	⇒	8.50%	↑
	Gardening	51.2%	651	66.7%	651	59.2%	1,210	-8.00%	↓	7.50%	↑
	Cycling	93.4%	651	96.5%	651	91.9%	1,210	1.50%	⇒	4.60%	↑
	Dancing	83.4%	651	93.1%	651	79.6%	1,210	3.80%	↑	13.50%	↑
	Playground games	86.2%	651	92.0%	651	85.4%	1,210	0.80%	⇒	6.60%	↑
	Watching at a football match	5.1%	651	3.5%	651	6.0%	1,210	-0.90%	⇒	-2.50%	↓
	Computer games	5.2%	651	3.2%	651	4.5%	1,210	0.70%	⇒	-1.30%	⇒
Vacuuming	28.9%	651	40.7%	651	27.6%	1,210	1.30%	⇒	13.10%	↑	
Q4. Water drank every day?	Number of glasses	4.6	546	6.4	546	5.2	1,111	-0.65%	↓	1.2	↑
Q5. How much water should you drink every day?	1-2 Glasses	7.4%	634	0.9%	634	6.3%	1,198	1.10%	⇒	-5.40%	↓
	2-4 Glasses	30.6%	634	5.2%	634	29.5%	1,198	1.10%	⇒	-24.30%	↓
	4-6 Glasses	34.9%	634	18.6%	634	33.6%	1,198	1.30%	⇒	-15.00%	↓
	6-8 Glasses	27.1%	634	75.2%	634	30.6%	119	-3.50%	⇒	44.60%	↑
Q6. Why do you think you need to eat breakfast?	Because it tastes good	1.9%	633	1.4%	633	1.2%	1,204	0.70%	⇒	0.20%	⇒
	Because it provides you with energy first thing in the morning	97.3%	633	98.3%	633	97.0%	1,204	0.30%	⇒	1.30%	⇒
	Because your parents tell you to	0.8%	633	0.3%	633	1.7%	1,204	-0.90%	⇒	-1.40%	↓
Q7. Which of these is an example of a healthy breakfast?	Fried sausages	3.9%	637	0.5%	637	1.7%	1,207	2.20%	↑	-1.20%	↓
	Porridge	84.9%	637	95.3%	637	89.0%	1,207	-4.10%	↓	6.30%	↑
	Cereal bar	10.5%	637	3.9%	637	8.9%	1,207	1.60%	⇒	-5.00%	↓
	Crisps	0.6%	637	0.3%	637	0.4%	1,207	0.20%	⇒	-0.10%	⇒
Q8. Would you like to eat a healthy breakfast every day?	No	12.6%	633	16.1%	633	10.9%	1,206	1.70%	⇒	5.20%	↑
	Yes	76.1%	633	71.9%	633	79.4%	1,206	-3.30%	⇒	-7.50%	↓
	Don't Know	11.2%	633	12.0%	633	9.8%	1,206	1.40%	⇒	2.20%	⇒
Q9. Have you heard of the 'eatwell plate'?	No	50.3%	642	2.3%	642	42.1%	1,203	8.20%	↑	-39.80%	↓
	Yes	49.7%	642	97.7%	642	57.9%	1,203	-8.20%	↓	39.80%	↑

Question	Responses	T0		T2		CONTROL		T0-Control	Sig.	T2-Control	Sig.
		P/m	N	P/m	N	P/m	N	P1-P0	($\alpha=0.05$)	P2-P0	($\alpha=0.05$)
Q10. How many food groups are there?	1 different food groups	1.4%	631	0.0%	631	1.0%	1,196	0.40%	⇔	-1.00%	↓
	3 different food groups	20.6%	631	2.1%	631	14.5%	1,196	6.10%	↑	-12.40%	↓
	5 different food groups	59.9%	631	89.2%	631	68.9%	1,196	-9.00%	↓	20.30%	↑
	7 different food groups	10.8%	631	7.1%	631	10.4%	1,196	0.40%	⇔	-3.30%	↓
	9 different food groups	7.3%	631	1.6%	631	5.3%	1,196	2.00%	⇔	-3.70%	↓
Q11. Which are the food groups?	Sandwiches	26.9%	651	8.4%	651	24.3%	1,210	2.60%	⇔	-15.90%	↓
	Milk & dairy products	82.2%	651	97.4%	651	88.5%	1,210	-6.30%	↓	8.90%	↑
	Bread, rice, potatoes & pasta	61.6%	651	92.6%	651	76.5%	1,210	-14.90%	↓	16.10%	↑
	Cereal bars	15.7%	651	5.4%	651	13.6%	1,210	2.10%	⇔	-8.20%	↓
	Burgers & chips	7.1%	651	5.1%	651	8.3%	1,210	-1.20%	⇔	-3.20%	↓
	Meat, fish, egg & beans	56.7%	651	90.3%	651	71.8%	1,210	-15.10%	↓	18.50%	↑
	Smoothies	22.1%	651	4.9%	651	21.3%	1,210	0.80%	⇔	-16.40%	↓
	Fruit & vegetables	90.8%	651	97.2%	651	91.6%	1,210	-0.80%	⇔	5.60%	↑
Tea & coffee	9.5%	651	3.4%	651	8.5%	1,210	1.00%	⇔	-5.10%	↓	
Food/drinks that are high in fat and/or sugar	36.1%	651	76.7%	651	47.0%	1,210	-10.90%	↓	29.70%	↑	
Q12. Why do you think you need a healthy diet?	Your parents tell you to	0.8%	638	0.9%	638	0.7%	1,201	0.10%	⇔	0.20%	⇔
	To make new friends	0.8%	638	0.8%	638	1.0%	1,201	-0.20%	⇔	-0.20%	⇔
	To be healthy	96.9%	638	96.7%	638	96.3%	1,201	0.60%	⇔	0.40%	⇔
	To not get bored eating the same thing	1.6%	638	1.6%	638	2.0%	1,201	-0.40%	⇔	-0.40%	⇔
Q13. Would you like a healthy diet?	No	3.7%	624	5.4%	624	3.1%	1,196	0.60%	⇔	2.30%	↑
	Yes	84.5%	624	82.7%	624	87.6%	1,196	-3.10%	⇔	-4.90%	↓
	Don't Know	11.9%	624	11.9%	624	9.3%	1,196	2.60%	⇔	2.60%	⇔
Q14. Do you like tasting different fruits?	No	11.2%	615	7.0%	615	7.6%	1,195	3.60%	↑	-0.60%	⇔
	Yes	79.8%	615	87.0%	615	88.7%	1,195	-8.90%	↓	-1.70%	⇔
	Don't Know	8.9%	615	6.0%	615	3.7%	1,195	5.20%	↑	2.30%	↑
Q15. Do you like tasting different vegetables?	No	26.7%	632	21.4%	632	26.1%	1,199	0.60%	⇔	-4.70%	↓
	Yes	61.2%	632	68.2%	632	65.1%	1,199	-3.90%	⇔	3.10%	⇔
	Don't Know	12.0%	632	10.4%	632	8.8%	1,199	3.20%	↑	1.60%	⇔
Q16. Fruit & veg eaten daily?	Portions of fruit and vegetables	4.5	551	5.1	551	5.4	1,156	-0.89	⇔	-0.31	⇔
Q17. How many portions of fruit & veg. should you eat/day?	1 Portions of fruit and vegetables	0.9%	633	0.8%	633	1.3%	1,198	-0.40%	⇔	-0.50%	⇔
	3 Portions of fruit and vegetables	10.1%	633	5.5%	633	9.3%	1,198	0.80%	⇔	-3.80%	↓
	5 Portions of fruit and vegetables	71.1%	633	84.8%	633	76.0%	1,198	-4.90%	↓	8.80%	↑
	7 Portions of fruit and vegetables	8.8%	633	5.7%	633	8.2%	1,198	0.60%	⇔	-2.50%	⇔
	9 Portions of fruit and vegetables	9.0%	633	3.2%	633	5.3%	1,198	3.70%	↑	-2.10%	↓
Q18. Why is it important to eat different fruit & vegetables?	Because it's fun	2.2%	636	0.6%	636	0.8%	1,199	1.40%	↑	-0.20%	⇔
	Because your body needs them	93.6%	636	96.1%	636	94.6%	1,199	-1.00%	⇔	1.50%	⇔
	Because there are lots to try	2.7%	636	2.2%	636	3.8%	1,199	-1.10%	⇔	-1.60%	⇔
	Because they are cheaper than sweets	1.6%	636	1.1%	636	0.8%	1,199	0.80%	⇔	0.30%	⇔

Question	Responses	T0		T2		CONTROL		T0-Control	Sig.	T2-Control	Sig.
		P/m	N	P/m	N	P/m	N	P1-P0	($\alpha=0.05$)	P2-P0	($\alpha=0.05$)
Q19. Have you heard of food labels?	No	29.6%	621	6.4%	621	34.8%	1,172	-5.20%	↓	-28.40%	↓
	Yes	70.4%	621	93.6%	621	65.2%	1,172	5.20%	↑	28.40%	↑
Q20. How can food labels be used to make healthy choices?	They show what the food looks like	5.4%	628	4.1%	628	5.8%	1,180	-0.40%	↔	-1.70%	↔
	They show the name of the food	17.2%	628	8.1%	628	19.2%	1,180	-2.00%	↔	-11.10%	↓
	They tell you how much the food costs	11.3%	628	4.5%	628	11.7%	1,180	-0.40%	↔	-7.20%	↓
	They tell you what the food is made of	66.1%	628	83.3%	628	63.3%	1,180	2.80%	↔	20.00%	↑
Q21. Do you think all breakfast cereals are healthy?	No	77.9%	637	89.0%	637	83.6%	1,203	-5.70%	↓	5.40%	↑
	Yes	10.0%	637	6.0%	637	8.4%	1,203	1.60%	↔	-2.40%	↔
	Don't Know	12.1%	637	5.0%	637	8.0%	1,203	4.10%	↑	-3.00%	↓
Q22. Do you ever think about how much physical activity you do?	Never	8.1%	627	6.5%	627	6.7%	1,203	1.40%	↔	-0.20%	↔
	Sometimes	65.4%	627	66.8%	627	65.2%	1,203	0.20%	↔	1.60%	↔
	Always	26.5%	627	26.6%	627	28.1%	1,203	-1.60%	↔	-1.50%	↔
Q23. Do you ever wonder whether your breakfast is healthy?	Never	16.1%	634	13.4%	634	15.8%	1,204	0.30%	↔	-2.40%	↔
	Sometimes	55.2%	634	57.6%	634	61.1%	1,204	-5.90%	↓	-3.50%	↔
	Always	28.7%	634	29.0%	634	23.1%	1,204	5.60%	↑	5.90%	↑
Q24. Do you ever think about how much water you drink?	Never	17.4%	633	13.9%	633	18.7%	1,206	-1.30%	↔	-4.80%	↓
	Sometimes	48.3%	633	51.8%	633	48.9%	1,206	-0.60%	↔	2.90%	↔
	Always	34.3%	633	34.3%	633	32.3%	1,206	2.00%	↔	2.00%	↔
Q25. Is it good to join a physical activity or sports club?	No	1.3%	637	1.3%	637	4.0%	1,204	-2.70%	↓	-2.70%	↓
	Yes	89.6%	637	90.0%	637	89.4%	1,204	0.20%	↔	0.60%	↔
	Sometimes	5.8%	637	6.4%	637	3.7%	1,204	2.10%	↑	2.70%	↑
	Don't Know	3.3%	637	2.4%	637	2.9%	1,204	0.40%	↔	-0.50%	↔
Q26. Why do you think you should join a club?	To win prizes	11.7%	648	9.7%	648	7.5%	1,210	4.20%	↑	2.20%	↔
	To be active and healthy	94.4%	648	96.6%	648	94.9%	1,210	-0.50%	↔	1.70%	↔
	To get new kit	8.3%	648	9.9%	648	7.4%	1,210	0.90%	↔	2.50%	↔
	To have fun	77.0%	648	79.6%	648	80.6%	1,210	-3.60%	↔	-1.00%	↔
	To make new friends	53.2%	648	66.4%	648	58.4%	1,210	-5.20%	↓	8.00%	↑
	To be cool	10.3%	648	11.7%	648	5.5%	1,210	4.80%	↑	6.20%	↑

APPENDIX 7: MATCHED PAIRS - TEACHERS

TEACHERS		T0	T1	T2	T1-T0	Sig.	T2-T0	Sig.		
		P/m	P/m	P/m	P1-P0	(α=0.05)	P2-P0	(α=0.05)		
Q1. Recommended amount of physical activity for children per day?		30	12.9%	0.0%	0.0%	-12.90%	↓	-12.90%	↓	
		45	6.5%	0.0%	0.0%	-6.50%	→	-6.50%	→	
		60	80.6%	100.0%	96.8%	19.40%	↑	16.20%	↑	
		90	0.0%	0.0%	3.2%	0.00%	→	3.20%	→	
	AVG	55	60	61	5	5	↑	6	↑	
Q2. Has this to be completed all at once?	No		96.8%	100.0%	100.0%	3.20%	→	3.20%	→	
	Yes		0.0%	0.0%	0.0%	0.00%	→	0.00%	→	
	Don't Know		3.2%	0.0%	0.0%	-3.20%	→	-3.20%	→	
Q3. Minimum intensity of such activity?	Light		25.8%	15.0%	12.9%	-10.80%	→	-12.90%	→	
	Moderate		71.0%	82.5%	80.6%	11.50%	→	9.60%	→	
	Vigorous		3.2%	2.5%	6.5%	-0.70%	→	3.30%	→	
Q4. Examples of appropriate physical activity?	PlayStation		0.0%	2.4%	3.2%	2.40%	→	3.20%	→	
	Skateboarding		93.5%	95.1%	93.5%	1.60%	→	0.00%	→	
	Gardening		80.6%	87.8%	80.6%	7.20%	→	0.00%	→	
	Dancing		100.0%	100.0%	100.0%	0.00%	→	0.00%	→	
	Playground games		100.0%	95.1%	100.0%	-4.90%	→	0.00%	→	
	Spectating at a sporting event		6.5%	0.0%	0.0%	-6.50%	→	-6.50%	→	
	Shopping		16.1%	17.1%	35.5%	1.00%	→	19.40%	→	
	Vacuuming		83.9%	95.1%	87.1%	11.20%	→	3.20%	→	
Q5. Weekly curricular PE recommendations?	Curricular PE per week (minutes) - Foundation stage	30	7.1%	2.7%	3.2%	-4.40%	→	-3.90%	→	
		60	53.6%	37.8%	32.3%	-15.80%	→	-21.30%	→	
		90	21.4%	18.9%	25.8%	-2.50%	→	4.40%	→	
		120	3.6%	29.7%	32.5%	26.10%	↑	28.85%	↑	
		150	14.3%	10.8%	6.5%	-3.50%	→	-7.80%	→	
		AVG	79	92	92	13.0	↑	13.1	→	
	Curricular PE per week (minutes) - Keystage 1	30	3.6%	0.0%	0.0%	-3.60%	→	-3.60%	→	
		60	57.1%	32.4%	12.9%	-24.70%	→	-44.20%	↓	
		90	17.9%	18.9%	41.9%	1.00%	→	24.00%	↑	
		120	17.9%	48.6%	45.2%	30.70%	↑	27.30%	↑	
		150	3.6%	0.0%	0.0%	-3.60%	→	-3.60%	→	
		AVG	78	95	100	16.4	↑	21.5	↑	
	Curricular PE per week - Key stage 2	30	0.0%	0.0%	0.1%	0.00%	→	0.10%	→	
		60	53.3%	23.1%	9.7%	-30.20%	↓	-43.60%	↓	
		90	20.0%	17.9%	29.0%	-2.10%	→	9.00%	→	
		120	13.3%	51.3%	61.3%	38.00%	↑	48.00%	↑	
		150	10.0%	5.1%	0.0%	-4.90%	→	-10.00%	→	
		AVG	87	104	106	17.0	↑	18.6	↑	
	Q6. Weekly extra-curricular sport/physical activity?	Extra-Curricular activity per week (minutes) - Foundation stage	30	24.1%	17.9%	19.4%	-6.20%	→	-4.70%	→
			60	62.1%	46.2%	54.8%	-15.90%	→	-7.30%	→
			90	6.9%	15.4%	6.5%	8.50%	→	-0.40%	→
			120	3.4%	12.8%	6.5%	9.40%	→	3.10%	→
			150	0.0%	0.0%	3.2%	0.00%	→	3.20%	→
			AVG	61	76	75	15.3	↑	13.7	↑
Extra-Curricular activity per week (minutes) - Keystage 1		30	20.7%	5.1%	3.2%	-15.60%	→	-17.50%	↓	
		60	41.4%	48.7%	48.4%	7.30%	→	7.00%	→	
		90	24.1%	20.5%	22.6%	-3.60%	→	-1.50%	→	
		120	10.3%	12.8%	12.9%	2.50%	→	2.60%	→	
		150	0.0%	2.6%	3.2%	2.60%	→	3.20%	→	
		AVG	71	87	88	15.8	↑	16.9	↑	
Extra-Curricular activity per week (minutes) - Keystage 2		30	3.2%	4.9%	3.2%	1.70%	→	0.00%	→	
		60	41.9%	34.1%	41.9%	-7.80%	→	0.00%	→	
		90	22.6%	19.5%	25.8%	-3.10%	→	3.20%	→	
		120	22.6%	19.5%	16.1%	-3.10%	→	-6.50%	→	
		150	3.5%	4.9%	3.2%	1.40%	→	-0.30%	→	
		AVG	91	101	91	10.5	→	0.4	→	

TEACHERS		T0	T1	T2	T1-T0	Sig.	T2-T0	Sig.	
		P/m	P/m	P/m	P1-P0	(α=0.05)	P2-P0	(α=0.05)	
Q7 _{T0} . How much PE is delivered to your class per week?	Curricular PE per week (minutes)	30	0.0%						
		60	45.2%						
		90	45.2%						
		120	3.2%						
		150	3.2%						
		180	3.2%						
		AVG	82						
Q7 _{T1} . How much PE will you deliver to your class for the rest of this academic year?	Curricular PE per week (minutes)	30		4.9%					
		60		39.0%					
		90		26.8%					
		120		29.3%					
		150		0.0%					
		180		0.0%					
		AVG		84					
Q7 _{T2} . How much PE will you deliver to your class over the next academic year?	Curricular PE per week (minutes)	30			0.0%				
		60			45.2%				
		90			29.0%				
		120			22.6%				
		150			0.0%				
		180			3.2%				
		AVG			86				
Q7 _{T0, T1, T2} *	Curricular PE per week (minutes)	30	0.0%	4.9%	0.0%	4.90%	⇒	0.00%	⇒
		60	45.2%	39.0%	45.2%	-6.20%	⇒	0.00%	⇒
		90	45.2%	26.8%	29.0%	-18.40%	⇒	-16.20%	⇒
		120	3.2%	29.3%	22.6%	26.10%	↑	19.40%	↑
		150	3.2%	0.0%	0.0%	-3.20%	⇒	-3.20%	⇒
		180	3.2%	0.0%	3.2%	-3.20%	⇒	0.00%	⇒
		AVG	82	84	86	2.0	⇒	3.9	⇒
Q8 _{a,b,cT0} . Days of training received to deliver curricular PE?	Avg Days - Initial Teacher Ed.	12.6							
	Avg Days - Early Prof. Dev.	3.4							
	Avg Days - Continuing Prof. Dev.	2.0							
Q8 _{a,b,cT1} . Days training you will receive to deliver curricular PE for rest of academic year?	Avg Days - Early Prof. Dev.		0.6						
	Avg Days - Continuing Prof. Dev.		0.4						
Q9 _{T0} Do you promote healthy eating in PE?	Never	12.9%							
	Sometimes	67.7%							
	Always	19.4%							
Q9 _{T1} Will you promote healthy eating in PE this year?	Never		2.4%						
	Sometimes		41.5%						
	Always		56.1%						
Q8 _{T2} Will you promote healthy eating in PE next year?	Never			0.0%					
	Sometimes			36.7%					
	Always			63.3%					
Q9 _{T0,1} /Q8 _{T2} *	Never	12.9%	2.4%	0.0%	-10.50%	⇒	-12.90%	↓	
	Sometimes	67.7%	41.5%	36.7%	-26.20%	↓	-31.00%	↓	
	Always	19.4%	56.1%	63.3%	36.70%	↑	43.90%	↑	
Q10 _{T0,1} /Q9 _{T2} Confidence levels to promote healthy eating during PE delivery?	Very Low	0.0%	0.0%	0.1%	0.00%	⇒	0.10%	⇒	
	Low	6.5%	2.4%	0.1%	-4.10%	⇒	-6.40%	⇒	
	Average	64.5%	14.6%	22.6%	-49.90%	↓	-41.90%	↓	
	High	22.6%	61.0%	58.1%	38.40%	↑	35.50%	↑	
	Very High	6.5%	22.0%	19.4%	15.50%	⇒	12.90%	⇒	
Q11 _{T0,1} /Q10 _{T2} Confidence levels to deliver curricular PE?	Very Low	0.0%	0.1%	0.1%	0.10%	⇒	0.10%	⇒	
	Low	12.9%	2.4%	0.1%	-10.50%	⇒	-12.80%	↓	
	Average	54.8%	43.9%	45.2%	-10.90%	⇒	-9.60%	⇒	
	High	29.0%	36.6%	41.9%	7.60%	⇒	12.90%	⇒	
Q12 _{T0,1} /Q11 _{T2} Confidence levels to deliver curricular PE to children with SEN ?	Very Low	6.5%	4.9%	0.0%	-1.60%	⇒	-6.50%	⇒	
	Low	29.0%	24.4%	12.9%	-4.60%	⇒	-16.10%	⇒	
	Average	54.8%	46.3%	61.3%	-8.50%	⇒	6.50%	⇒	
	High	9.7%	19.5%	25.8%	9.80%	⇒	16.10%	⇒	
	Very High	0.0%	4.9%	0.1%	4.90%	⇒	0.10%	⇒	

TEACHERS		T0	T1	T2	T1-T0	Sig.	T2-T0	Sig.
		P/m	P/m	P/m	P1-P0	(α=0.05)	P2-P0	(α=0.05)
Q13 _{T0,1} /Q12 _{T2} Barriers to delivery of curricular PE?	Time (AVG:1-9)	2.4	2.0	2.1	-0.4	⇒	-0.3	⇒
	Lack of subject knowledge (AVG:1-9)	4.0	4.9	4.9	0.9	⇒	0.9	↑
	Training (AVG:1-9)	4.0	3.9	4.3	-0.1	⇒	0.3	⇒
	Health and safety (AVG:1-9)	4.0	4.2	4.0	0.2	⇒	0.0	⇒
	Facilities (AVG:1-9)	4.3	3.9	3.9	-0.4	⇒	-0.4	⇒
	Resources (AVG:1-9)	4.9	4.0	4.1	-0.9	↓	-0.8	⇒
	Confidence (AVG:1-9)	4.9	5.8	5.1	0.9	↑	0.2	⇒
Lack of support from senior manager	6.9	7.0	7.1	0.1	⇒	0.2	⇒	
Q14 _{T0,1} /Q13 _{T2} Most important areas of learning?	Literacy (AVG: 1-6)	1.3	1.6	1.4	0.2	⇒	0.1	⇒
	Numeracy (AVG: 1-6)	1.7	1.8	1.8	0.1	⇒	0.1	⇒
	The world around us (AVG: 1-6)	3.9	3.7	3.7	-0.2	⇒	-0.2	⇒
	PE (AVG: 1-6)	4.0	4.3	4.2	0.3	⇒	0.2	⇒
	PDMU (AVG: 1-6)	4.9	4.5	4.7	-0.4	⇒	-0.2	⇒
	Arts (AVG: 1-6)	5.1	5.3	5.1	0.2	⇒	0.0	⇒
Q15. Is PE part of school dev plan?	No	63.6%						
	Yes	36.4%					T2 - T1	
Q15a/Q14a*. PE should be part of dev plan?	No		18.2%	24.0%			5.80%	⇒
	Yes		81.8%	76.0%			-5.80%	⇒
Q15b/Q14b. Promote PE in sch dev plan?	No		18.2%	8.0%			-10.20%	↓
	Yes		81.8%	92.0%			10.20%	↑
Q16 _{T0,1} Heard of eatwell?	No	28.6%	0.0%		-28.60%	↓		
	Yes	71.4%	100.0%		28.60%	↑		
Q17 _{T0} Do you teach eatwell this yr?	Never	37.5%						
	Sometimes	25.0%						
	Always	37.5%						
Q15 _{T1} Will you teach eatwell this yr?	Never		0.0%					
	Sometimes		9.5%					
	Always		90.5%					
Q15 _{T2} Will you teach eatwell next yr?	Never			0.0%				
	Sometimes			15.6%				
	Always			84.4%				
Q17 _{T0,1} /Q15 _{T2} *	Never	37.5%	0.0%	0.0%	-37.50%	↓	-37.50%	↓
	Sometimes	25.0%	9.5%	15.6%	-15.50%	⇒	-9.40%	⇒
	Always	37.5%	90.5%	84.4%	53.00%	↑	46.90%	↑
Q18 _{T0,1} /Q16 _{T2} How many food groups?	1 food group	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
	3 food groups	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
	5 food groups	96.8%	90.9%	100.0%	-5.90%	⇒	3.20%	⇒
	7 food groups	3.2%	9.1%	0.0%	5.90%	⇒	-3.20%	⇒
	9 food groups	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
Q19 _{T0} . Do you promote physical activity in healthy eating lessons?	Never	6.5%						
	Sometimes	48.4%						
	Always	45.2%						
Q19 _{T1} . Will you promote physical activity in healthy eating lessons this yr?	Never		0.0%					
	Sometimes		5.0%					
	Always		95.0%					
Q17 _{T2} . Will you promote physical activity in healthy eating lessons next yr?	Never			0.0%				
	Sometimes			9.7%				
	Always			90.3%				
Q19 _{T0,1} /Q17 _{T2} *	Never	6.5%	0.0%	0.0%	-6.50%	⇒	-6.50%	⇒
	Sometimes	48.4%	5.0%	9.7%	-43.40%	↓	-38.70%	↓
	Always	45.2%	95.0%	90.3%	49.80%	↑	45.10%	↑
Q20 _{T0,1} /Q18 _{T2} How many glasses of water should children drink a day	1-2 glasses	0.0%	0.0%	0.1%	0.00%	⇒	0.10%	⇒
	2-4 glasses	12.9%	0.0%	0.1%	-12.90%	↓	-12.80%	↓
	4-6 glasses	61.3%	13.6%	9.7%	-47.70%	↓	-51.60%	↓
	6-8 glasses	25.8%	86.4%	90.3%	60.60%	↑	64.50%	↑
Q21 _{T0} . Do you encourage kids to drink water in PE lessons	Never	19.4%						
	Sometimes	58.1%						
	Always	22.6%						
Q21 _{T1} . Will you encourage kids to drink water in PE this year	Never		4.8%					
	Sometimes		9.5%					
	Always		85.7%					

TEACHERS		T0	T1	T2	T1-T0	Sig.	T2-T0	Sig.
		P/m	P/m	P/m	P1-P0	(α=0.05)	P2-P0	(α=0.05)
Q19 _{T2} . Will you encourage kids to drink water in PE next year?	Never			3.2%				
	Sometimes			19.4%				
	Always			77.4%				
Q21 _{T0,1} /Q19 _{T2} *	Never	19.4%	4.8%	3.2%	-14.60%	⇒	-16.20%	⇓
	Sometimes	58.1%	9.5%	19.4%	-48.60%	⇓	-38.70%	⇓
	Always	22.6%	85.7%	77.4%	63.10%	↑	54.80%	↑
Q22 _{T0} . Do you encourage kids to drink water in class lessons?	Never	0.0%						
	Sometimes	25.8%						
	Always	74.2%						
Q22 _{T1} . Will you encourage kids to drink water in class this year?	Never		0.0%					
	Sometimes		5.0%					
	Always		95.0%					
Q20 _{T2} . Will you encourage kids to drink water in class next year?	Never			0.1%				
	Sometimes			9.7%				
	Always			90.3%				
Q22 _{T0,1} /Q20 _{T2} *	Never	0.0%	0.0%	0.1%	0.00%	⇒	0.10%	⇒
	Sometimes	25.8%	5.0%	9.7%	-20.80%	⇓	-16.10%	⇒
	Always	74.2%	95.0%	90.3%	20.80%	↑	16.10%	⇒
Q22 _{T2} . Will you deliver A&E next academic year?	No			3.2%				
	Yes			77.4%				
	Don't know			19.4%				
Q23 _{T0} . Do you encourage pupils to have healthy break/lunch in school?	Never	3.2%						
	Sometimes	12.9%						
	Always	83.9%					T2-T1	
Q23 _{T1} / Q21 _{T2} . Will you encourage pupils to have a healthy break/lunch in school?	Never		0.0%	0.0%			0.00%	⇒
	Sometimes		4.5%	3.2%			-1.30%	⇒
	Always		95.5%	96.8%			1.30%	⇒
Q23 _{T0,1} /Q21 _{T2} *	Never	3.2%	0.0%	0.0%	-3.20%	⇒	-3.20%	⇒
	Sometimes	12.9%	4.5%	3.2%	-8.40%	⇒	-9.70%	⇒
	Always	83.9%	95.5%	96.8%	11.60%	⇒	12.90%	⇒
Q24 _{T0} . Training received to deliver healthy eating at these stages of dev?	Hours - Initial Teacher Ed.	5.0						
	Hours - Early Prof. Dev.	4.6						
	Hours - Continuing Prof. Dev.	2.5						
Q24 _{T1} . Training I will receive to deliver healthy eating this year?	Hours - Early Prof. Dev.		0.1					
	Hours - Continuing Prof. Dev.		0.5					
Q25 _{T0,1} /Q23 _{T2} Barriers to delivery of healthy eating lessons? Low score = high rank	Time	1.8	2.1	1.8	0.3	⇒	0.0	⇒
	Resources	2.8	3.4	2.5	0.6	⇒	-0.2	↑
	Facilities	4.7	3.4	4.0	-1.3	⇒	-0.6	⇒
	Training	3.2	4.2	4.3	1.0	⇒	1.1	⇒
	Lack of subject knowledge	4.4	4.5	4.7	0.1	⇒	0.3	⇒
	Health and safety	5.0	4.1	4.9	-0.9	⇒	-0.2	⇒
	Confidence	5.5	5.9	5.5	0.4	⇒	0.0	⇒
Q26 _{T0} . Is healthy eating part of school dev plan?	No	43.8%						
	Yes	56.3%					T2-T1	
Q26 _{T1, T2} . Should healthy eating be part of school dev plan?	No		5.4%	9.4%			3.98%	⇒
	Yes		94.6%	96.6%			2.03%	⇒
Q26 _{bT1} /Q24 _{bT2} . Will you promote inclusion of healthy eating in school dev plan	No		9.7%	9.7%			0.00%	⇒
	Yes		90.3%	90.3%			0.00%	⇒

APPENDIX 8: MATCHED PAIRS - COACHES

Coaches		T0	T1	T2	T1-T0	Sig.	T2-T0	Sig.	
		P/m	P/m	P/m	P1-P0	(α=0.05)	P2-P0	(α=0.05)	
Q1. Recommended minutes of physical activity per day for children?	Recommended physical activity for children per day (minutes)	15	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		30	0.0%	12.5%	0.0%	12.50%	⇒	0.00%	⇒
		60	100.0%	87.5%	100.0%	-12.50%	⇒	0.00%	⇒
		90	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		120	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		AVG	60	56	60		⇒		⇒
Q2. Should this activity be completed all in one go?	No	100.0%	100.0%	75.0%	0.00%	⇒	-25.00%	⇒	
	Yes	0.0%	0.0%	25.0%	0.00%	⇒	25.00%	⇒	
	Don't Know	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒	
Q3. Minimum intensity of activity?	Light	50.0%	0.0%	25.0%	-50.00%	↓	-25.00%	⇒	
	Moderate	50.0%	0.0%	75.0%	-50.00%	↓	25.00%	⇒	
	Vigorous	0.0%	100.0%	0.0%	100.00%	↑	0.00%	⇒	
Q4. Examples of moderate intensity physical activity?	PlayStation	12.5%	0.0%	0.0%	-12.50%	⇒	0.00%	⇒	
	Skateboarding	75.0%	62.5%	50.0%	-12.50%	⇒	-25.00%	⇒	
	Gardening	75.0%	75.0%	50.0%	0.00%	⇒	25.00%	⇒	
	Dancing	100.0%	100.0%	100.0%	0.00%	⇒	0.00%	⇒	
	Playground games	100.0%	100.0%	100.0%	0.00%	⇒	0.00%	⇒	
	Spectating at a sporting event	12.5%	25.0%	0.0%	12.50%	⇒	-25.00%	⇒	
	Shopping	50.0%	0.0%	25.0%	-50.00%	↓	0.00%	⇒	
	Vacuuming	62.5%	75.0%	50.0%	12.50%	⇒	25.00%	⇒	
Q5. Recommended amount of PE per week?	Curricular PE per week (minutes) - Foundation stage	30	28.6%	14.3%	25.0%	-14.30%	⇒	0.00%	⇒
		60	42.9%	57.1%	50.0%	14.20%	⇒	50.00%	⇒
		90	28.6%	14.3%	0.0%	-14.30%	⇒	-50.00%	⇒
		120	0.0%	14.3%	25.0%	14.30%	⇒	0.00%	⇒
		150	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		180	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
	AVG	60	69	68		⇒		⇒	
	Curricular PE per week (minutes) - Key stage 1	30	0.0%	0.0%	25.0%	0.00%	⇒	25.00%	⇒
		60	57.1%	42.9%	25.0%	-14.20%	⇒	0.00%	⇒
		90	14.3%	14.3%	25.0%	0.00%	⇒	25.00%	⇒
		120	28.6%	42.9%	25.0%	14.30%	⇒	-50.00%	⇒
		150	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		180	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
	AVG	81	90	75		⇒		⇒	
	Curricular PE per week - Key stage 2	30	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		60	42.9%	14.3%	50.0%	-28.60%	⇒	25.00%	⇒
		90	28.6%	0.0%	0.0%	-28.60%	⇒	0.00%	⇒
		120	14.3%	85.7%	25.0%	71.40%	↑	-25.00%	⇒
150		14.3%	0.0%	25.0%	-14.30%	⇒	0.00%	⇒	
180		0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒	
AVG	90	111	98		⇒		⇒		
Q6. Recommended sport/phys. activity per week?	Extra-Curricular activity per week (minutes) - Foundation stage	30	28.6%	14.3%	50.0%	-14.30%	⇒	25.00%	⇒
		60	57.1%	57.1%	25.0%	0.00%	⇒	-25.00%	⇒
		90	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		120	0.0%	14.3%	25.0%	14.30%	⇒	0.00%	⇒
		150	14.3%	0.0%	0.0%	-14.30%	⇒	0.00%	⇒
		180	0.0%	14.3%	0.0%	14.30%	⇒	0.00%	⇒
	AVG	64	81	60		⇒		⇒	
	Extra-Curricular activity per week (minutes) - Key stage 1	30	14.3%	0.0%	50.0%	-14.30%	⇒	25.00%	⇒
		60	57.1%	42.9%	0.0%	-14.20%	⇒	-25.00%	⇒
		90	0.0%	14.3%	25.0%	14.30%	⇒	25.00%	⇒
		120	14.3%	28.6%	25.0%	14.30%	⇒	-25.00%	⇒
		150	0.0%	0.0%	0.0%	0.00%	⇒	0.00%	⇒
		180	14.3%	14.3%	0.0%	0.00%	⇒	0.00%	⇒
	AVG	81	99	68		⇒		⇒	
	Extra-Curricular activity per week (minutes) - Key stage 2	30	0.0%	0.0%	25.0%	0.00%	⇒	25.00%	⇒
		60	57.1%	42.9%	25.0%	-14.20%	⇒	-25.00%	⇒
		90	14.3%	0.0%	0.0%	-14.30%	⇒	0.00%	⇒
		120	14.3%	42.9%	25.0%	28.60%	⇒	-25.00%	⇒
150		0.0%	0.0%	25.0%	0.00%	⇒	25.00%	⇒	
180		14.3%	14.3%	0.0%	0.00%	⇒	0.00%	⇒	
AVG	90	103	90		⇒		⇒		

Coaches		T0	T1	T2	T1-T0	Sig.	T2-T0	Sig.
		P/m	P/m	P/m	P1-P0	(α=0.05)	P2-P0	(α=0.05)
Q7 _{T0} . Do you promote healthy eating in sport/activity sessions?	Never	0.0%						
	Sometimes	25.0%						
	Always	75.0%						
Q7 _{T1} . Will you promote healthy eating in sport/activity sessions?	Never		0.0%					
	Sometimes		12.5%					
	Always		87.5%					
Q7 _{T2} . Will you promote healthy eating in future sport/activity sessions?	Never			0.0%				
	Sometimes			25.0%				
	Always			75.0%				
Q7 _{T0, T1, T2}	Never	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Sometimes	25.0%	12.5%	25.0%	-12.50%	⇔	-25.00%	⇔
	Always	75.0%	87.5%	75.0%	12.50%	⇔	25.00%	⇔
Q8. Confidence in delivering sports/activity sessions to children?	Very Low	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Low	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Average	12.5%	0.0%	25.0%	-12.50%	⇔	0.00%	⇔
	High	75.0%	62.5%	50.0%	-12.50%	⇔	-25.00%	⇔
	Very High	12.5%	37.5%	25.0%	25.00%	⇔	25.00%	⇔
Q9. Confidence in delivering sports/activity sessions to SEN children?	Very Low	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Low	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Average	50.0%	25.0%	50.0%	-25.00%	⇔	0.00%	⇔
	High	50.0%	25.0%	50.0%	-25.00%	⇔	0.00%	⇔
	Very High	0.0%	50.0%	0.0%	50.00%	⇔	0.00%	⇔
Q10 Barriers to delivery of sport and physical activity to kids? Low score = high rank	Time (AVG:1-9)	2.7	2.4	4.00	-0.3	⇔	2.0	⇔
	Lack of subject knowledge (AVG:1-9)	6.3	6.3	5.00	0.0	⇔	-1.3	⇔
	Training (AVG:1-9)	3.7	4.4	4.75	0.7	⇔	2.0	⇔
	Resources (AVG:1-9)	2.7	3.1	5.25	0.4	⇔	2.8	⇔
	Health and safety (AVG:1-9)	4.9	4.4	2.25	-0.4	⇔	-3.0	⇔
	Lack of support from senior management (AVG:1-9)	6.0	6.0	4.50	0.0	⇔	-2.3	⇔
	Confidence (AVG:1-9)	6.4	6.6	7.75	0.1	⇔	0.3	⇔
Facilities (AVG:1-9)	3.3	2.7	2.50	-0.6	⇔	-0.5	⇔	
Q11 _{T0, T1, T2} . Heard of 'eatwell plate'?	No	12.5%	12.5%	0.0%	0.00%	⇔	0.00%	⇔
	Yes	87.5%	87.5%	100.0%	0.00%	⇔	0.00%	⇔
Q12 _{T0, T1, T2} /Q11 _{T2} . Food groups?	1 food group	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	3 food groups	12.5%	0.0%	0.0%	-12.50%	⇔	0.00%	⇔
	5 food groups	87.5%	100.0%	100.0%	12.50%	⇔	0.00%	⇔
	7 food groups	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	9 food groups	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
Q13 _{T0, T1, T2} /Q12 _{T2} . Recommended daily glasses of water?	1-2 glasses	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	2-4 glasses	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	4-6 glasses	62.5%	12.5%	25.0%	-50.00%	⇔	-50.00%	⇔
	6-8 glasses	37.5%	87.5%	75.0%	50.00%	⇔	50.00%	⇔
Q14 _{T0} . Do you encourage kids to drink water in your sport/activity sessions?	Never	0.0%						
	Sometimes	0.0%						
	Always	100.0%						
Q14 _{T1} . Will you encourage kids to drink water in your sport/activity sessions?	Never		0.0%					
	Sometimes		0.0%					
	Always		100.0%					
Q13 _{T2} . Will you encourage kids to drink water in your future sport/activity sessions?	Never			0.0%	0.00%			
	Sometimes			0.0%	0.00%			
	Always			100.0%	0.00%			
Q14 _{T0, T1, T2} / Q13 _{T2} *	Never	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Sometimes	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Always	100.0%	100.0%	100.0%	0.00%	⇔	0.00%	⇔
Q15 _{T0} . Received any basic nutrition training?	No	25.0%						
	Yes	75.0%						
Q15 _{T1} . Would you like further basic training in nutrition in future?	No		0.0%					
	Yes		100.0%					
Q15 _{T0, T1} *	No	25.0%	0.0%		-25.00%	⇔		
	Yes	75.0%	100.0%		25.00%	⇔		
Q14 _{T2} . Will you incorporate elements of A&E in future sessions?	No			0.0%				
	Yes			100.0%				
Q16 _{T0, T1, T2} /Q15 _{T2} . Confidence to promote healthy eating during sport/activity sessions?	Very Low	0.0%	0.0%	0.0%	0.00%	⇔	0.00%	⇔
	Low	12.5%	0.0%	0.0%	-12.50%	⇔	-25.00%	⇔
	Average	25.0%	37.5%	0.0%	12.50%	⇔	-50.00%	⇔
	High	62.5%	25.0%	75.0%	-37.50%	⇔	50.00%	⇔
	Very High	0.0%	37.5%	25.0%	37.50%	⇔	25.00%	⇔
Q17 _{T0, T1, T2} /Q16 _{T2} . Barriers to promoting healthy eating? Low score = high rank	Cost	3.0	3.0	2.50	0.0	⇔	-2.3	⇔
	Time	5.3	5.5	3.50	0.2	⇔	0.0	⇔
	Resources	3.8	4.2	4.00	0.3	⇔	-0.8	⇔
	Facilities	4.7	4.0	4.25	-0.7	⇔	1.0	⇔
	Training	5.7	4.8	5.25	-0.8	⇔	0.0	⇔
	Lack of subject knowledge	3.8	2.8	5.75	-1.0	⇔	1.0	⇔
	Health and safety	4.3	5.8	6.25	1.5	⇔	0.5	⇔
	Confidence	7.5	7.3	6.25	-0.2	⇔	-1.3	⇔
Lack of support from Senior management	6.8	7.5	7.25	0.7	⇔	1.8	⇔	