

## Executive Summary: Woodside Lodge Food School Trial

---

Conducted May 2018 by Claire McDonnell Liu and Justin Liu

### Introduction

Report on the small observational nutrition pilot commissioned by Woodside Lodge Outdoor Learning Centre, Leicestershire. The purpose of the pilot was to assess if changing pupil's daily food intake for 5 school days would have a positive impact on any of the student's behaviours, mood, energy, actions or any other observational benefits.

### Pilot Implementation

**Duration: 5 days (all meals including snacks and drinks)**

**Participants: 4 (ageing from 13 to 17)**

**Diagnosis: Autistic Spectrum Disorder**

---

### Dietary Intervention: Autism Anti-inflammatory Protocol

Pupils were provided with freshly prepared, whole, real, high quality, organic (where possible) foods. Plan plans were tailored to the pupils food preferences (see Appendices for a sample).

Foods linked to inflammation were avoided:

- Highly processed foods: pies, ham, ready meals, take-aways, biscuits.
- Highly refined carbohydrates: crisps, noodles, pasta, baked goods, cereals.
- Sugars: raisins, sweetened drinks, biscuits, chocolate bars, flavoured yoghurts
- Gluten: breads, pastries, crackers, cereals, baked goods, pasta.
- Unhealthy fats: refined vegetable oils, margarines, hydrogenated seeds
- Reduced dairy: principally milk and cream.
- Excess salt (sodium chloride).

### Resources

All foods, meals and snacks were provided by Leafie Health to meet nutritional pilot and individual dietary requirements and preferences. Meals and snacks were sent home so that participants avoided their typical foods.

---

### Observations

Woodside Lodge provided quantitative monitoring forms for staff and parents to complete on a daily basis 2 weeks before and during food programme week. Pupils were graded using the following criteria:

Pupil A and Pupil B both presented as pleasant, chatty and upbeat during the trial and the monitoring sheet results showed a marked improvement in all areas.

Pupils comments:

- Enjoyed chatting about foods, giving positive feedback, and other topics.

- Commented very positively about nearly all foods and ate all meals.
- Did not enjoy unsweetened chocolate provided.

Staff comments:

- Staff observed notable positive differences in during lessons, free sessions and during transitions.
- He was reported as being more positive, cooperate and engaged particularly during the mornings, when would typically be sleepy, moody, argumentative and negative.

**Additional Impact**

Pupils C and D, expressed interest and tried some meals during the pilot week. This represented a significant breakthrough for both pupils who experience different difficult food and trust issues and are extremely limited in food intake.

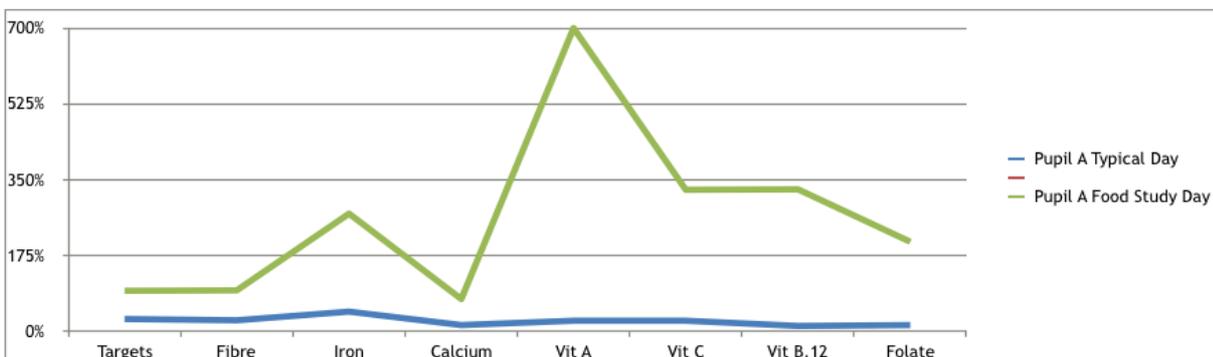
Both staff and parents were very supportive of Pupil C and D and hope they will have the opportunity to partake in the programme again.

Nutritional Analysis

Foods provided during the pilot week were compared with typical food intake, from survey information completed by parents. Our analysis of nutrient profile shows that nutrient intake improved significantly for the participants. For example pupil’s intake of fibre, iron, calcium, vitamins A, C and B12 and folate increased to meet or exceed recommended daily allowances (RDA). In comparison pupil’s typical nutritional intake does not meet nutritional RDAs.

Figure A: RDA Nutritional intake comparison.

	Targets	Fibre	Iron	Calcium	Vit A	Vit C	Vit B.12	Folate
Pupil A Typical Day	29%	26%	46%	15%	25%	25%	13%	15%
Pupil A Food Study Day	94%	95%	272%	75%	700%	327%	328%	207%



Note: Ultra-processed foods removed from Pupil A Typical Day intake due to fortified ingredients skewing results.

Pupil’s RDA nutritional intake was substantially improved from that reported by parents in our typical foods survey (Figure A) including for fibre, calcium, iron, Vitamins A, C, B.12 and folate.

## Outcomes

### Compliance

Excellent compliance achieved by the 2 of the participants. Parents, carers and school staff supported the young people taking part very positively.

During the pilot these participants were happy to express their food preferences. This resulted in adhoc adaptations to menus and re-sourcing of foods.

### Deviations

Deviations from foods were minimal, which was exceptionally positive for a first week food intervention with logistical challenges:

- Staff provided sugary drinks on a couple of occasions.
- Pupil B did not eat one evening meal, eating a homemade quiche instead as she didn't like the look of the food.

### Learning

- Meeting with parents and carers to explain the principles and objectives of the trial in advance is essential.
- Adapting the menus to preferences as expressed maintains compliance.
- A one-to-one nutritional therapy may be preferable for pupils with ASD.

### Notes

The food programme was not intended as a rigorous scientific study but did produce tangible benefits as best nutritional practice, including observed benefits to pupil's behaviours.

Monitoring and wider staff support could be improved.

---

## Conclusion

As a small observational pilot applying best nutritional practice the pilot has yielded tangible benefits in behaviour, mood and energy levels of Pupil A. This exceeded programme expectations.

Positive results are different for different children and young people, depending on their diet, level of food restriction, food issues present and their ASD behaviours and symptoms.

One-to-one nutritional therapy or very small group nutrition programme offer is compatible and perhaps more suitable and sustainable for pupils with ASD.

Food therapy a realistic addition for pupils with ASD.

## Appendices

### Pupil A's Food Diary

<b>MONDAY</b>	
BREAKFAST	Almond Bread, mushrooms, tomato, eggs, bacon, pork sausages
LUNCH	Wild smoked salmon eggs benedict, coconut waffle, wild garlic leaves
DINNER	Cottage pie, celeriac and cauliflower mash, salad: carrot, cucumber, celery, red pepper
SNACKS	Macadamia nut bar and chocolate brownie
<b>TUESDAY</b>	
BREAKFAST	Waffle, mushrooms, tomato, eggs, bacon, pork sausages
LUNCH	Squash soup, tuna mayonnaise (avocado) sandwich, almond bread.
DINNER	Lamb burger, purple long stem broccoli, onion, mushroom, garlic leaves, sweet potato mash, chilli.
SNACKS	Apple cinnamon waffle (coconut flour)
<b>WEDNESDAY</b>	
BREAKFAST	Leek, spinach, mushroom omelette
LUNCH	Roast chicken, radish, long stem broccoli, cauliflower, red peppers. pesto sauce (wild garlic, cashews, olive oil, salt).
DINNER	Bolognese with courgette spirals, salad pick and mix
SNACKS	Apple, plain waffle, chocolate bar
<b>THURSDAY</b>	
BREAKFAST	Scrambled eggs, almond bread, mushrooms
LUNCH	Lamb mushroom burger, coleslaw: leek, carrot, white cabbage, salad, avocado mayonnaise
DINNER	Mediterranean beef, celeriac mash, broccoli, spinach
SNACKS	Homemade popcorn, sandwich: tuna, sunflower seed bread, almond waffle, apple
<b>FRIDAY</b>	
BREAKFAST	Waffle and fruit
LUNCH	Fish fingers, sauerkraut, sweet potato chips, cauliflower mash, spinach and garlic leaves, salad, avocado mayonnaise
DINNER	Cottage pie, celeriac and cauliflower mash, salad: carrot, cucumber, celery, red pepper
SNACKS	Homemade popcorn, sandwich: tuna and mayonnaise (avocado), sunflower seed bread, almond waffle, apple

Please contact us if you would like the recipes and further nutritional profiling of this meal plan.