

# Diet quality in adults with Autistic Spectrum Disorder:

## A cross-sectional evaluation

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### Introduction:

Autistic Spectrum Disorder (ASD) is a neurological developmental disorder (Mills, 2014) affecting approximately 1 in 100 people in the UK (Brugha et al, 2012). Individuals with ASD experience impairments in social communication, interaction and imagination. Additionally, some may experience hyposensitivity or hypersensitivity to various stimuli (Lawrence, 2010). Selective eating is common and caused by differences in sensory processing (Lawrence, 2010), and there is also a high prevalence of micronutrient deficiencies (Graf-Myles et al, 2013).

### Aims:

- To assess the diet quality of adults with ASD
- To determine any relationship between impairments in ASD and diet quality.

### Methods:

This was a cross-sectional, secondary analysis study which looked at diet quality in adults with ASD. In total, there were 92 responses after the inclusion/ exclusion criteria had been applied.

The survey was developed by two former dietetic lecturers from London Metropolitan University. There is limited research in diet quality for adults with ASD and no validated food frequency questionnaires (FFQs). The questionnaire was developed using several methods including using clinical knowledge together with previous research (Huxham, 2012), and using modified FFQs (Bandini et al, 2010).

The results were analysed using SPSS software and significance was determined using the Chi-Squared test. (Pallant, 2013)

### Results:

#### Demographics:

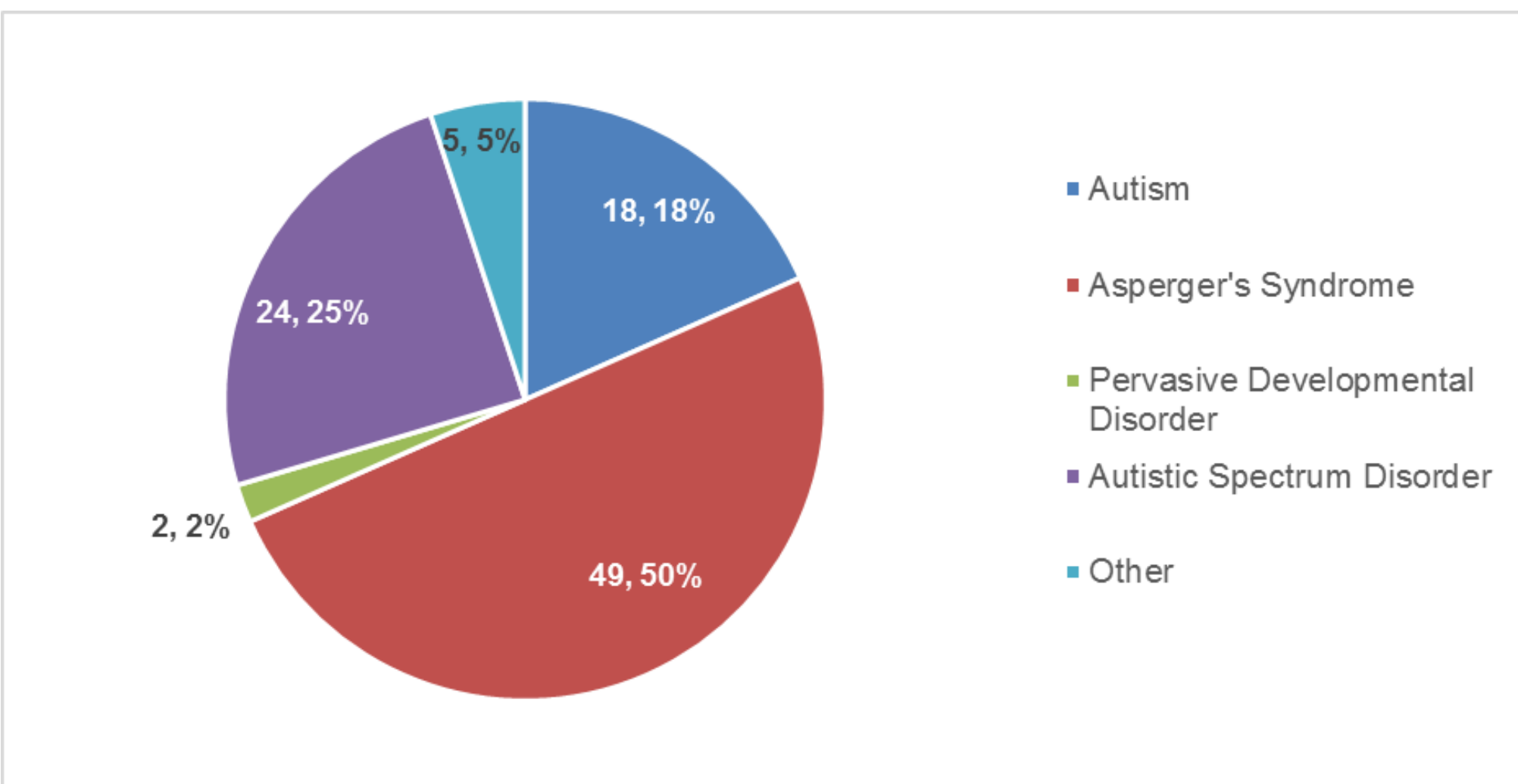
The participants in this study were mostly male (n = 61, 66%), aged between 18-29 years, White British (n = 81, 87%) and living in South East England (n = 32, 34.4%).

The age of diagnosis for the participants was typically more varied with a range of 54 compared to age of participants which had a range of 40.

Chart 1: Pie chart showing the proportion of diagnoses for participants

Asperger's Syndrome was the most common diagnosis (n = 49, 50%) followed by ASD (n = 24, 25%) as shown in chart 1.

Typically participants needed Level 1 support for both impaired social communication and restricted, repetitive behaviours (n = 55 and 49 respectively). There was an inverse relationship between level of severity and frequency in participants.



### Diet quality:

Table 1: Table showing portions consumed of food groups from the Food Frequency Questionnaire

| Food group                            | Portions (mode)   | Frequency | Valid percentage (%) |
|---------------------------------------|-------------------|-----------|----------------------|
| Fruit and vegetables                  | 2 per day         | 17        | 22.1                 |
| Bread, rice, cereals, potatoes, pasta | 3 or more per day | 42        | 54.5                 |
| Dairy and alternatives                | 1 per day         | 22        | 28.6                 |
| Meat, fish, eggs, alternatives        | 2 per day         | 27        | 35.1                 |
| Oily fish                             | None – never eat  | 29        | 37.7                 |
| White fish                            | None – never eat  | 20        | 26.0                 |
| Snack foods                           | 1 per day         | 17        | 22.1                 |
| Total responses:                      |                   | 77        |                      |

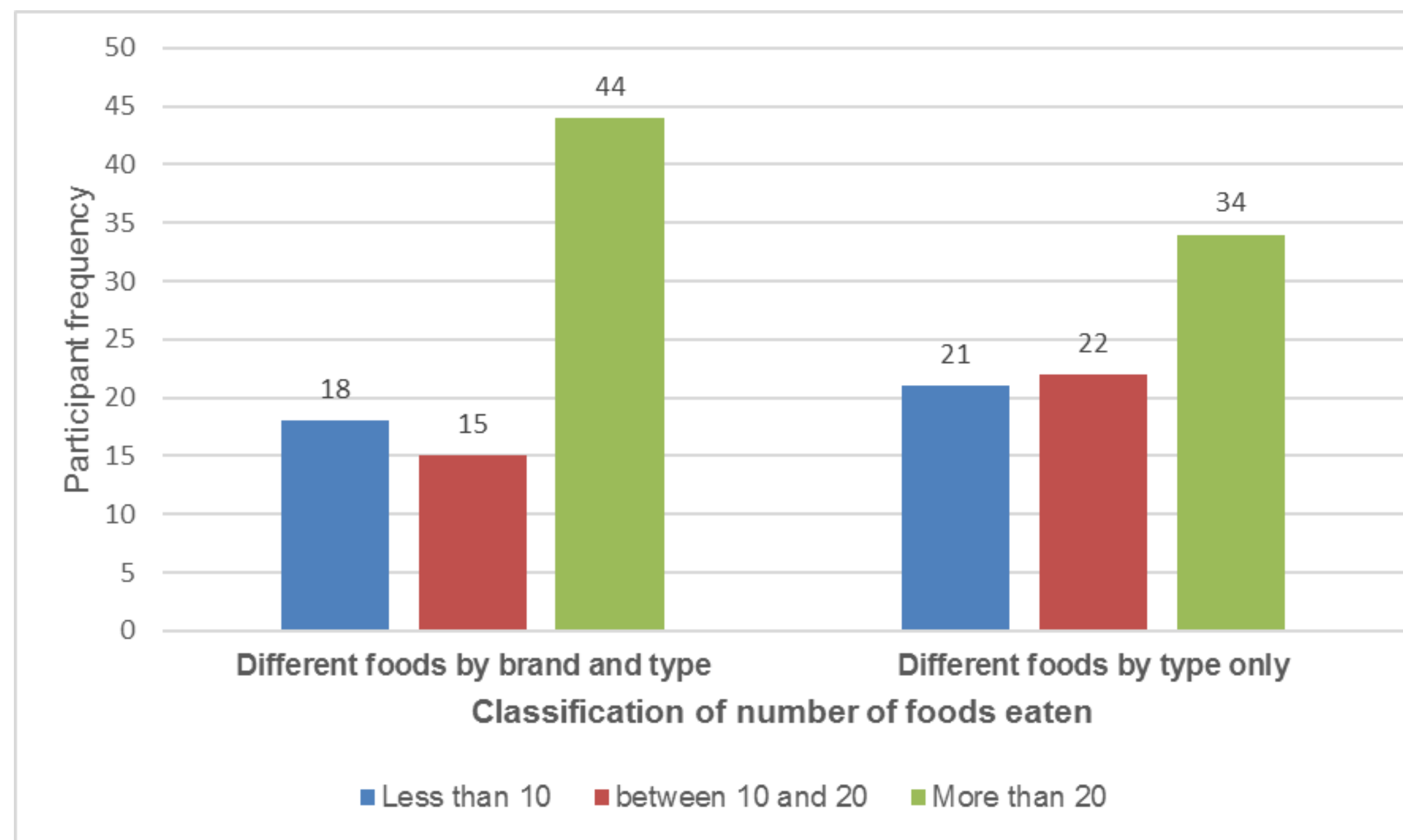
When the portions of the food groups were compared to the variables in table 2 there were no significant correlations when p = 0.05.

Table 2: Table showing correlations between food groups and variables

| Significance values using Likelihood Ratio (p = 0.05) |       |                  |           |                      |                      |
|-------------------------------------------------------|-------|------------------|-----------|----------------------|----------------------|
| Food group                                            | Age   | Age of diagnosis | Ethnicity | Social communication | Restricted behaviour |
| Fruit and vegetables                                  | 0.289 | 0.096            | 0.846     | 0.267                | 0.407                |
| Bread, rice, cereals, potatoes, pasta                 | 0.667 | 0.606            | 0.562     | 0.809                | 0.916                |
| Dairy and alternatives                                | 0.203 | 0.763            | 0.703     | 0.146                | 0.545                |
| Meat, fish, eggs and alternatives                     | 0.051 | 0.667            | 0.494     | 0.353                | 0.053                |
| Oily fish                                             | 0.364 | 0.368            | 0.839     | 0.124                | 0.157                |
| White fish                                            | 0.449 | 0.711            | 0.495     | 0.428                | 0.265                |
| Snack foods                                           | 0.495 | 0.200            | 0.982     | 0.811                | 0.444                |

### Number of foods eaten:

Graph 1: Graph showing quantities of foods eaten by brands and type



This was broken down into two sections where foods were counted either by brand and type or by type only. Graph 1 shows the differences in results; when different brands and types are counted as one, the majority (n = 44, 57.1%) reported eating more

than 20 food items. However, when only the type of food is counted, the results are more evenly spread with a lower majority (n = 34, 36.6%) for more than 20 types.

### Conclusions:

This study has shown that there were no significant correlations between food groups and ASD impairments. However, as the questionnaire and FFQ used are not validated, the validity of this study must be questioned.

Unfortunately, there is a limited amount of literature and any literature cited in this project is predominantly based on childhood studies. Although this study did not produce any significant results, it indicates that more research is needed to consider any relationships between diet quality and ASD in adults.

### References:

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