Author’s response to reviews

Title: Relative Validity of a Web-based Food Frequency Questionnaire for Danish Adolescents

Authors: Anne Ahrendt Bjerregaard (anne@ssi.dk)
Thorhallur Halldorsson (lur@ssi.dk)
Sjurdur Frodi Olsen (sfo@ssi.dk)
Inge Tetens (inge@tetens.eu)

Version: 1 Date: 18 Jul 2017

Author’s response to reviews:

Emne: Your submission to Nutrition Journal - NUTJ-D-17-00086

NUTJ-D-17-00086

Relative Validity of a Web-based Food Frequency Questionnaire for Danish Adolescents Anne Ahrendt Bjerregaard, Ph.D. student; Thorhallur Halldorsson, Professor; Sjurdur Frodi Olsen, Professor; Inge Tetens, Professor Nutrition Journal

Thank you very much for your comments on the manuscript # NUTJ-D-17-00086 entitled “Relative Validity of a Web-based Food Frequency Questionnaire for Danish Adolescents”

We acknowledge the issues raised by the reviewers.

We have carefully gone through the manuscript again and hope that, editing and rephrasing of the text, especially more clarity on the statistical methods and the results, are satisfactory. We hope you find, that the manuscript has improved and in particular that the results and discussion are now more precisely formulated. In the responses to editor and reviewers below, please, note that all line numbers refer to lines in the present.
Reviewer #1: Relative validity of a web-based food frequency questionnaire for Danish adolescents This paper presents a necessary study of appraisal of relative validity of a new web-based FFQ for adolescents with 24HRs. The writing is overall clear but needs editing and rephrasing in several occasions. The main comment is on the reporting of results which is a bit "wobbly" (number in the text not matching the table), statistical analysis lacks details and the discussion/conclusion of the results should emphasize more the high degree of misclassification and overall low correlations and kappa.

Abstract

1.45: please clarify which food items were under or over estimated.

Thank you, this information has been added to the abstract: “We found overestimation by the FFQ compared with the 24HRs for fish, fruit, vegetables, oils and dressing and underestimation by the FFQ for dairy, bread, meat/poultry and sweets”

1.54: separate food and nutrients.

Thank you, this information has been separated in the abstract.

1.57: "Finally it seemed that…a challenge in this age group": this sentence is not supported by anything that was described before and should be deleted from the abstract.

Thank you. The sentence has been deleted.

Introduction

1.4-5, please specify that it is in adolescents and maybe cite a few more studies. This sentence should be combined with the sentence 1.7-8 which should be deleted. Suggestion: "Diet-disease associations are often based on dietary intake estimated from a food frequency questionnaire, particularly in large scale studies."
Thank you, a correction has been made. Diet-disease associations measured in adolescence are often based on dietary intake estimated from a food frequency questionnaire (FFQ) particularly in large scale studies. One more reference on use of FFQs in such large scale studies has been added.

1.11: please replace "golden standard" by gold standard.

Thank you, this has now been changed.

1.17: please rephrase, it seems that a coefficient of 0 is suitable. Please place Aim (l.32) at the end of the introduction.

Thank you for making this point. The sentence has been rephrased. FFQs are in general being evaluated suitable or valid for ranking adolescents at group level with correlation coefficients ranging from 0.2 to 0.8.

Regarding the aim, it has been moved as suggested to the end of the introduction.

Methods

Figure 1 is very simple and not particularly useful, consider omitting.

Thank you for this suggestion, figure 1 is now no longer included. The timeline for collecting the FFQ and the 24HRs is described in the text. The first 24HR was carried out four weeks after the FFQ followed by two recalls four weeks apart.

1.61: at the individual level some participants could have zero weekend days, while other may have two for instance? A common method is to have two week days and one weekend day randomly selected for each participant.

In our study, we decided to address differences between weekday and weekends at group level. That is, when we report mean intakes in this population all 7 days were equally distributed. In this way, there were no mismatch in the week and weekends balance at group level. However, when we report correlations between the three 24HR and the FFQ that rely on individual
responses to these assessments, the number of days are not equally distributed between study participants. Since the days were randomly allocated this should not bias our estimates and it is difficult for us to predict what the limitations, if any, might have resulted from our methodological approach here. This aspect is now briefly discussed along with other study limitations in the discussion at line 289-292:

“When we report correlation coefficients between the FFQ and the three 24HR that relay on individual responses to these assessments, the number of days are not equally distributed between study participants. Since the days were randomly allocated this should not bias our estimate.”

1.81. Lack of details on the FFQ and administration mode: did it include photographs? How was portion size defined? It is not very clear from the methods that the FFQ was web-based and self-administered.

Thank you.

The FFQ did not include photographs. Portion sizes were predefined and visible in the questionnaire for dairy products (bowl), breakfast cereals (bowl), and beverages (glass/bottle), slices of bread, fruit (pc.), selected vegetables (pc.), and cake (pc.). However, few pictures were available as pop-up for rare vegetables, which a feasibility study showed, were often unknown to this age group (e.g. eggplant and celery root). These pictures were not related to portion size but additional information on the type of foods. The predefined portion sizes were based on standard portions developed by the National Food Institute in Denmark. Available in Danish at www.food.dtu.dk (Ygil, K.H (2013): Mål, vægt og portionsstørrelser (Dimensions, weight and portion sizes of foods). 1st ed. National Health Institute, The Technical University of Denmark).

Details on portion sizes have been added (l.75-78): “Portion sizes were predefined for dairy products (bowl), breakfast cereals (bowl), and beverages (glass/bottle), slices of bread, fruit (pc.), selected vegetables (pc.), and cake (pc.), whereas no portion size was given for the remaining items. Portion sizes were based on standard portions developed by the National Food Institute in Denmark.”

Regarding administration mode of the FFQ, it was self-administered and assessed online with an individual password that was delivered by postal letter to the participants before the clinic visit. Information on self-administration has been added (l.62): “The web-based self-administered FFQ developed for this study was based on the validated youth/adolescent questionnaire (YAQ) based on the Growing Up Today Study”
1.82: the non-dietary questions are not part of the FFQ. Please rephrase. Suggestion "Along with the FFQ, a general questionnaire included questions on…” The sentence has been rephrased (1.81-83): “Before the FFQ, questions on age, gender, and self-reported height and weight were listed. Following the FFQ, questions on (number of questions in parenthesis); meal habits (15), physical activity (11) and puberty (6) was listed.”

The sentence 1.85 "the first two pages" is misleading as it is not supposed to be paper.

Thank you for this suggestion:“the first two pages” was changed to (1.84-86):“Written instruction on how to complete the questionnaire was given at the beginning of the questionnaire together with short examples of answers”

Statistical analysis

1.109-111: it is unclear until 1.112 in which condition did you use the mean or the median. This should come up before.

Thank you. To make this clearer we rephrased the sentence 1. 111-116:

“We presented median along with 25th and 75th percentile for food groups and nutrients since data were non-normally distributed both before and after log-transformation (except energy percent of macronutrients which were normal distributed). Paired t-test was used to compare differences between groups for normal variables while Wilcoxon rank test was used for skewed variables. To compare differences in estimated intake between the two methods the percentage median difference was calculated according to the formula: median values: 100*((FFQ - 24HR)/24HR).”

1.112-114 You are comparing FFQ ranking with 24HR ranking but it is not stated in the sentence. Please clarify.

Thank you. This has been added l. 119-121: “Misclassification analysis (into quantiles) including weighted Kappa was applied in order to test whether the FFQ ranked adolescents according to magnitude of dietary and nutrient intake by comparison to three 24HRs. It has been suggested, that at least 50% of subjects should be classified into the same category, no more than 10% should be classified into the opposite category, and Cohen’s weighted Kappa should preferably be above 0.4”
Results

1.131. Where is the 26% overweight coming from? This is not matching what is found in table 1 13.7%. If you sum with obese 13.7 that would be 27.4. Also you should state "overweight or obese". Please be more thorough when reporting results.

We apologize for inconsistence in results. We have gone thoroughly through the results and corrected these mistakes. Line 138 now reads: “Among participants, 62% were born to GDM mothers, and 27.4% were overweight and obese (table 1). “

1.136. Please add "ratio > 100+50%" to stay consistent. Also, you really want to comment only on significant differences, ie ratio significantly different from 1, but the two results are redundant and you may want to choose to report either only the ratio or only the difference.

Thank you. In the light of your comment below on the use of ratios, we have revised the results and changes here are no longer needed. Please see our next response.

The ratio FFQ/24HR is not described in the methods and we don't know what is presented: is it the ratio of the medians, the ratio of the means, the mean of the individuals ratios?

Thank you. We have exchanged the median FFQ/24HR ratio with the median difference in percentage and added description in the method section 1.115: “To compare differences in estimated intake between the two methods the percentage median difference was calculated according to the formula: median values: 100%((FFQ - 24HR)/24HR).”

The use of median difference resulted of course in slightly different numbers leading to revision in interpretation of results:

1.140-153: “We found significant difference between the FFQ and the mean of three 24HRs for the majority of food groups. The food groups fish, fruit, vegetables, and oils and dressing were overestimated by the FFQ when compared with the mean of three 24HRs whereas dairy, meat/poultry and sweets were underestimated by the FFQ. We found no significant difference for the food groups beverages, bread, and cereals. Percentage median difference revealed the smallest differences for beverages (+10%), bread (-10%) and dairy (-5%) and larger differences for fish (+1000%), fruit (+121%), and sweets (-70%) (table 2).

For nutrients, there were no significant difference in total energy, poly unsaturated fatty acids (PUFA), energy percent (E%) from carbohydrate, calcium and iron. Protein E%, dietary fibres, and vitamin C were overestimated while the remaining nutrients were underestimated by the FFQ in comparison with the three 24HRs. The median differences (%) showed smallest differences (or null for carbohydrate E% and iron) for fat E% (-3%) and calcium (-0.7) whereas
The largest degree of under- or overestimation was seen for added sugar (-34%) and vitamin C (+34%) (table 2).”

1.144 why don't you show some examples of bland altman plots for dairy cereals fish fruit veg? at least in supplemental.

Thank you for this suggestion. We have included two examples of BA-plots in the results sections for dairy and sweets. The results have been changed to, 1.154-161:

“Consistency between the two methods was also examined using Bland-Altman plots. These plots for beverages, dairy, meat/poultry, vitamin C, and calcium revealed some outliers, but no systematic patterns were observed (exemplified with dairy fig.1). For the remaining variables, the plots indicated a tendency towards higher difference between the FFQ and the 24HRs at higher mean intakes indicating a higher degree of overestimation and underestimation at higher intakes (exemplified with sweets fig.2). The mean difference in intake of e.g. sweets was below zero confirming an underestimation by the FFQ. The pattern of observations indicated higher degree of underestimation at higher mean intakes.

The Bland-Altman method have been included in the method section as well, 1.121-123: “Bland-Altman plots were used to elaborate whether the differences between the two methods were constant across the range of measurements, and mean intake was plotted against mean difference”

Table 3: Please indicate significance of all coefficients (de-attenuated, energy adjusted&de-attenuated).

Thank you, significance level has been added to table 3 for all correlations.

1.162: why don't you make a table with differences between overweight and normal?

Thank you for this suggestion. Due to the few numbers of participants (BMI<25 (n=90) vs. >25 (n=34)) and the minor differences in dietary intake between BMI groups we did not include a table on BMI strata in the first submitted draft. We addressed the differences in dietary intake in the result section I. 179-183: “Overall, minor differences in dietary habits between overweight-
and normal-weight participants were found, although overweight children had significantly higher intake of dairy (mean difference of: 128g), significantly higher intake of energy from protein (mean difference of: 2.3E%), and lower energy intake from carbohydrates (mean difference of: -3.7E%).

However, we have decided to add the table below as supplementary material:

### Supplementary table 1.

Mean intake of food groups, energy and nutrients from FFQ stratified by BMI

<table>
<thead>
<tr>
<th>Food groups (g/d)</th>
<th>FFQ</th>
<th>24HR</th>
<th>FFQ</th>
<th>24HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td>1030</td>
<td>1139</td>
<td>1107</td>
<td>1232</td>
</tr>
<tr>
<td>Dairy</td>
<td>412</td>
<td>373</td>
<td>532</td>
<td>365</td>
</tr>
<tr>
<td>Bread</td>
<td>286</td>
<td>214</td>
<td>321</td>
<td>202</td>
</tr>
<tr>
<td>Cereals</td>
<td>36</td>
<td>37</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>Meats/poultry</td>
<td>91</td>
<td>113</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>Fish</td>
<td>23</td>
<td>11</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Fruit</td>
<td>216</td>
<td>97</td>
<td>164</td>
<td>78</td>
</tr>
<tr>
<td>Vegetable</td>
<td>144</td>
<td>113</td>
<td>134</td>
<td>89</td>
</tr>
<tr>
<td>Sweets</td>
<td>24</td>
<td>83</td>
<td>19</td>
<td>68</td>
</tr>
<tr>
<td>Oils &amp; dressing</td>
<td>39</td>
<td>35</td>
<td>37</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nutrients</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (MJ/d)</td>
<td>9.2</td>
<td>9.4</td>
<td>9.0</td>
<td>8.4</td>
</tr>
<tr>
<td>Protein (E%)</td>
<td>14</td>
<td>13</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>35</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Fat (E%)</td>
<td>29</td>
<td>36</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>SFA (g/d)</td>
<td>26</td>
<td>30</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>MUFA (g/d)</td>
<td>14</td>
<td>12</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>PUFA (g/d)</td>
<td>14</td>
<td>51</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Carbohydrate (E%)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>53</td>
</tr>
<tr>
<td>Added sugar (g/d)</td>
<td>34</td>
<td>50</td>
<td>28</td>
<td>48</td>
</tr>
<tr>
<td>Dietary fiber (g/d)</td>
<td>29</td>
<td>20</td>
<td>28</td>
<td>19</td>
</tr>
<tr>
<td>Vitamin C (mg/d)</td>
<td>88</td>
<td>54</td>
<td>77</td>
<td>50</td>
</tr>
<tr>
<td>Calcium (mg/d)</td>
<td>998</td>
<td>950</td>
<td>1143</td>
<td>877</td>
</tr>
<tr>
<td>Iron (mg/d)</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

FFQ, food frequency questionnaire; 24HR, 24-hour recalls; SFA, saturated fatty acids; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids

Discussion

1.177: where is the threshold of 30% coming from? You should define it before with references as an acceptable threshold.

Thank you for making this point. The cutoff of 30% was an arbitrary decision however, as a result of exchanging FFQ/24HR ratio with medians instead of mean differences this sentence was deleted and this cutoff is no longer used.

> 1.178: please list the main food underreported and the main food items over reported. Thank you. The information have been included 192-195:

“Comparing dietary intake assessed by the web-based FFQ with that of three 24HRs among Danish adolescents we found that four out of 10 food groups (fish, fruit, and vegetables) and three of the 11 nutrients (protein E%, dietary fibres, and vitamin C) were overestimated by the FFQ.”
1.181: the lowest value of kappa is 0.05, not 0.10. A value <0.40 is considered poor. Please rephrase.

Thank you. The value of 0.05 has been corrected 1.199-204: “Even though the agreement estimated by the kappa statistics primarily was poor to fair/moderate (ranging from 0.05-0.43), the ability to rank adolescents according to magnitude of intake was good in the sense that misclassification (in the opposite quartile) below 10% was seen for most food groups and nutrients except fish and carbohydrate E%. However, misclassification below 5% was seen for oils and dressing, fatty acids, and iron.”

1.182. The definition of misclassification is rather extreme as being classified into the opposite quartile is the worst possible misclassification. A value of 10% is not low for such strong error. Thank you for this comment. Cutoffs for evaluating level of correct or incorrect level of classification in tertiles, quartiles etc. are generally missing in the literature making the evaluations rather arbitrary. We decided to base our evaluation on the paper by Masson et al, in order to have some level of reference on the evaluation of misclassification analyses. However, we included in the results section 1.203-205: “However, misclassification below 5% was seen for oils and dressing, fatty acids, and iron. When comparing our results to a validation study performed on a similar FFQ to ours in the Norwegian mother-child cohort, we found lower level of misclassification into opposite quintile in general.”


1.200: on which data is based this assumption that the underreporting of sweets happens during the weekends?

Thank you for this question. We based the assumption of underreporting during weekend on a paper on Danish children evaluating difference in diet intake between weekdays and weekends. This has now been included in the discussion 1. 215-220: “A Danish study using dietary data from The Danish National Survey of Dietary Habits and Physical Activity 2003-2008 showed that intake of sweets, cakes, and sugar-sweetened beverages among 789 children aged 4-14 years were higher during weekends compared to weekdays. Together with the fact that adolescents were found to be more prone to omit foods compared with adults the lower estimated intake of sweets in the FFQ might be a result of intake during weekends being omitted by the adolescents when completing the FFQ”
1.210 Snack or meals but not snack meals. Also this sentence makes a strong assumption as a 24HR if well conducted should include incentive questions to help remember snacks.

Thank you for this comment. We have changed the wording to “Meals during school hours” (1.229). In addition, we included a more detailed discussion on the assumption that 24HR may not have estimated fruit intake during school hours or the number of questions on fruit in the FFQ may have overestimated fruit intake”221-232:

“The percentage difference in intake between the FFQ and 3x24HR of 121% for fruit (highest in the FFQ) and a correlation coefficient of 0.13 for vegetables was noticeable. A relatively large intervention study among 798-nine to ten-year old Danish children reported a median g/d (p10, p90) intake of 126 g/d (38, 244) of fruit and 126 g/d (54, 227) of vegetables (measured by 7d food record) and showed a significantly higher consumption during school hours compared with outside school. The level of intake is comparable to the estimated median (p25, p75) intake of fruit with our FFQ of 126 (52-247) g/d. Further, a study among 96 adolescents aged 11-15-years old found only 30% direct match between a 24HR method and direct observations. Therefore, it could be speculated that meals during school hours were omitted during 24HRs and fruit and vegetables underestimated by the 24HRs. However, since prompt questions were included in the 24HRs to ensure that intake during school hours was captured, fruit intake may have been overestimated by the FFQ as a consequence of a high number of questions on fruits in the FFQ.”

1.224-6. This sentence does not add any information and it mixes results in adults and adolescents: I don't know where you are going with this.

Thank you for this comment. The sentence has been rephrased and divided in two, 1.260-269:

“However, in a recent meta-analysis by Tabacchi et al, correlation coefficients for most nutrients in 16 validity studies were above 0.40 and it was suggested that the number of food items should not exceed 114. We cannot rule out that, the number of food items in our FFQ (145) could be a contributor to the observed overestimation of some food groups. However, correlation coefficient of e.g. fruits was 0.40. Nonetheless, both similar and stronger correlation coefficients ranging from ~0 to 0.8 have been reported for nutrients and food groups in other validation studies among adolescents. Also in adults, higher correlation coefficients have been observed which could be due to better skills in frequency estimation, better memory of consumed foods, and more knowledge to identify foods compared with those of children."

1.228: please replace "distribute" by administer.

Thank you, this has been done.
“broadened the validation perspective” does not make much sense. These methods allow assessment of validity where the current study only allows assessment of relative validity compared with 3 24HRs.

Thank you. The wording has been changed to “could have added an objective validation perspective of the FFQ tested.” (l.300)

Reviewer #2: this research describes the relative validation of an FFQ in Danish adolescents. this age group is often neglected and therefore this study is informative and of importance for researchers working in this age group, although it does not provide new methods in this area. I have a small number of points for clarification.

methods

line 101 are the standard portions age specific? where do they come from?

Thank you. The portion sizes were not age specific. The portion sizes were based on standard portions developed by the National Food Institute in Denmark. Available in Danish at www.food.dtu.dk (Ygil, K.H (2013): Mål, vægt og portionsstørrelser (Dimensions, weight and portion sizes of foods). 1st ed. National Health Institute, The Technical University of Denmark). The method section l. 75-78 now reads:

“Portion sizes were predefined for dairy products (bowl), breakfast cereals (bowl), and beverages (glass/bottle), slides of bread, fruit (pc.), selected vegetables (pc.), and cake (pc.), whereas no portion size was given for the remaining items. Portion sizes were based on standard portions developed by the National Food Institute in Denmark”

Discussion

A little more is needed to explain why the agreement was worse than with existing work in adults and what is needed to address this. Just saying that adolescents are not good at estimating the frequency with which they consume certain foods doesn't seem to explain the whole problem.

Thank you for these comments. We do think that other characteristics of the adolescents’ population, which potentially affect agreement between methods, have been addressed in the discussion 1.239-243: “Adolescents are known to pay less attention to dietary habits and their
snacking and eating habits tend to be more unstructured compared with those of adults. They may also be less motivated to record their dietary intake and have increased focus on body image which seems to affect the accuracy of their self-report”.

However, we added in l.270-273: “Also in adults, higher correlation coefficients have been observed which could be due to better skills in frequency estimation, better memory of consumed foods, and more knowledge to identify foods compared with those of children.”

Additionally, we added to the discussion on how to handle the difficulties of assessing dietary intake among adolescents l. 269-275:

“This was to some extend confirmed in a study among 11-15-year-old children that found unfamiliar food terms, unfamiliar measurements, and poor knowledge of food fractions made recording diet problematic using a web-based 24HR (Krehbiel et al. 2017). Training of recalling diet among children have previously been suggested by Lu and colleagues in order to improve accuracy (Lu et al. 2014). It could therefore be speculated whether training in recalling diet before the actual dietary assessment with an FFQ could increase, both motivation and food knowledge among the adolescent population and thereby increase quality of the results.”

Other relative validations report Bland Altman plots for agreement (eg Albar et al, 2016 BJN validation of 24hr recall and myfood24 in adolescents).

Yes, Bland Altman plots can assess agreement between methods and we have decided to include Bland Altman plots in the result section. Because the plots showed different patterns between the different food groups, two figures (for dairy and sweets) are presented in the results to exemplify the observed patterns (see otherwise response to the same comment for reviewer 1 above):

The result section, l. 154-161. “Consistency between the two methods was also examined using Bland-Altman plots. These plots for beverages, dairy, meat/poultry, vitamin C, and calcium revealed some outliers, but no systematic patterns were observed (exemplified with dairy fig.1). For the remaining variables, the plots indicated a tendency towards higher difference between the FFQ and the 24HRs at higher mean intakes indicating a higher degree of overestimation and underestimation at higher intakes (exemplified with sweets fig.2). The mean difference in intake of e.g. sweets was below zero confirming an underestimation by the FFQ. The pattern of observations indicated higher degree of underestimation at higher mean intakes.

Discussion and justification for the use of Bland-Altman plots has been added to the method section l. 121-123: “Bland-Altman plots were used to elaborate whether the differences between
the two methods were constant across the range of measurements, and mean intake was plotted against mean difference”.

What is the advantage of using de-attenuated coefficients. perhaps include in strengths/limitations.

Thank you for this question. The discussion on the advantages of de-attenuated correlation coefficients has added to the discussion 1.289-292: “Since adolescents seem to have high within person variation in diet, de-attenuated correlation coefficients were calculated in order to obtain an estimate similar to that gained with a higher number of 24HRs.”

Other minor comments.

p38-change to 'is described in detail elsewhere..' Thank you. This has now been corrected.

p81- were included. Thank you. This has now been corrected.

p203-quantitate is an ambiguous term. Thank you. It was rephrased to: “Studies have reported that adolescents might have some difficulties in combining amount of foods eaten and frequency which could also have contributed to the observed level of inconsistencies across foods and nutrients.”(1.251)

p204 - change to substantially. Thank you. This has now been corrected.

p219 - fewer rather than less. Thank you. This has now been corrected.