**Supplementary Material**

**Adapted three-factor model of the questionnaire**

Overall, the 20-item, four-factor model of the questionnaire (FFEQ-R20 C) accounted for 41.2% of the variance in the data, had a good internal reliability (α=0.81), and the division of UE into UE 1 and UE 2 was conceptually sound based on theory(1); therefore, this model was considered for analysis in the article. However, the data can be fit into a three-factor model to allow for comparison with the original TFEQ-R21(2) and CTFEQ-R21(3) currently used to assess eating behaviour in adults, and children and adolescents respectively. The three-factor structure can be achieved by merging the items from the previously mentioned UE 1 and UE 2 scales as the original questionnaire suggests(2,3), and removing item 17, as it was previously identified to be problematic due to the negative non-significant loading on all factors. The UE 2 scale also had a low internal reliability (α= 0.69). This version of the questionnaire would be titled the Child Version of the 20-item Three-Factor Eating Questionnaire (TFEQ-R20 C).

The data met the assumptions for exploratory factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy index (KMO= 0.76) and Barlett’s test of sphericity (*X*2= 749.45 p<0.001) were significant, indicating that there was a sufficient proportion of variance within the sample and the items were sufficiently correlated for factor analysis. Supplemental Table 1 presents the results from the maximum likelihood, exploratory factor analysis with oblique (direct oblimin) rotation, with a three-factor restriction and item 17 removed from the TFEQ-R21 C questionnaire. The test produced 3 factors, accounting for 38.02 % of the variance. All items with the exception of item 6 loaded significantly on only one factor.

**Supplemental Table 1.** Rotated factor structure loading of the 20-item Child version of the Three-Factor Eating Questionnaire (TFEQ-R20 C) of the exploratory factor analysis with a three-factor restriction model.

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| --- | --- | --- | --- | --- |
| Questionnaire Items | Factor 1  Uncontrolled Eating | Factor 2  Emotional Eating | Factor 3  Cognitive Restraint | Communality |
| 1. I eat small portions of food to control my weight | .008 | .643\* | -.056 | .435 |
| 2. I start to eat when I feel worried | .024 | -.052 | -.519\* | .269 |
| 3. Sometimes when I start eating, it seems I can’t stop | .570 | .158 | .076 | .309 |
| 4. When I am sad, I usually eat too much | -.030 | .014 | -.553\* | .298 |
| 5. I don’t eat some kinds of food because they can make me fat | -.048 | .604\* | .040 | .359 |
| 6. When I am eating next to someone who is eating, I also feel like eating | .242 | .102 | -.248 | .192 |
| 7. When I feel angry, I need to eat | .229 | .059 | -.373\* | .276 |
| 8. I often get so hungry that I feel like I could eat loads of food without getting full | .741\* | -.031 | .012 | .544 |
| 9. When I am hungry, I feel like I have to eat all of the food on my plate in one go, without stopping | .568\* | -.022 | -.023 | .335 |
| 10. When I feel lonely, I make myself feel better by eating | -.076 | .052 | -.777\* | .584 |
| 11. I eat less than I want at meal times to stop myself from putting on weight | .152 | .718\* | .019 | .524 |
| 12. When I smell or see my favorite food, I find it hard to stop myself from eating it, even if I’ve just finished a meal | .575\* | .046 | -.121 | .406 |
| 13. I am always hungry enough to eat at anytime | .624\* | -.148 | -.049 | .440 |
| 14. If I feel nervous, I try to calm myself down by eating | -.088 | .085 | -.715\* | .505 |
| 15. When I see something that looks delicious, I get so hungry that I have to eat it right away | .570\* | .116 | -.162 | .448 |
| 16. When I feel really upset, I want to eat | .118 | -.114 | -.605\* | .418 |
| 18. How often would you eat less than you wanted to in a meal? | .057 | .376\* | -.043 | .156 |
| 19. Do you eat lots of food even when you are not hungry? | .386\* | .015 | -.144 | .217 |
| 20. How often do you feel hungry? | .710\* | -.139 | .137 | .477 |
| 21. What types of eater are you on a scale of 1 to 8? Where 1 means ‘I eat whatever I want, whenever I want’ and where 8 means ‘I am careful about what I eat to control my weight’ | -.319 | .550\* | .017 | .414 |
| Explained variance | 21.38 | 11.20 | 5.44 | - |
| Cumulative variance | 21.38 | 32.58 | 38.02 | - |

\*Items loading significantly onto subscales

N=145

As seen in Supplemental Table 1, the original factor of CR(2,3) was retained in the three-factor solution, with items 1, 5, 11, 18, and 21 loading onto Factor 3, with the exception of item 17, which was removed in the previous analysis. The original factor of UE(2,3) was also retained, with items 3, 8, 9, 12, 13, 15, 19, and 20 loading on Factor 1, with the exception of item 6, which is recommended to be removed in further analysis. The factor of EE was retained as in the original TFEQ-R 21(2,3), with items 2, 4, 7, 10, 14, and 16 loading onto Factor 2.

The item analysis also revealed that all the factors had adequate to good inter-item correlations for CR (r=0.12-0.50) and EE (r=0.24-0.62), showing that the items within each scale correlated with one another. The factor of UE showed good inter-item correlations (r=0.23-0.57), with the exception of item 6, which did not correlate well with the other items (r=0.04-0.40). The corrected item-total correlations were good (CR (r=0.30-0.50), EE (r=0.43-0.60), and UE (r=0.33-0.64)), with items correlating most strongly with their respective factors, supporting item-discriminant and convergent validity. The item-total correlations indicated that all 20 items correlated more strongly with the scores for the construct with which they were associated. Furthermore, the correlations between factors 1, 2 and 3 did not exceed 0.70 (r= -0.66-0.69), with the exception of factors 1 and 4 (r=0.58-0.92). Additionally, the strongest correlation of each item was found with the scale assigned, meeting the criteria for item-discriminant validity (UE: r=0.57–0.69; CR: r=0.55–0.72; EE: r=0.59–0.76).

**References**

1. Schachter S (1971). In: *Emotion, obesity, and crime*, pp.1-195. New York: Academic Press, Inc.
2. Cappelleri JC, Bushmakin AG, Gerber RA et al. (2009) Psychometric analysis of the Three-Factor Eating Questionnaire-R21: results from a large diverse sample of obese and non-obese participants*. Int J Obes (Lond)* **33**, 611-620.
3. Bryant EJ, Thivel D, Chaput JP et al. (2018) Development and validation of the Child Three-Factor Eating Questionnaire (CTFEQr17). *Public Health Nutr* (in press).