**Measurement of Food Insecurity in Australia**

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**Introduction**

Food insecurity exists when the availability of nutritionally adequate, affordable, culturally acceptable and safe foods or the ability to acquire suitable foods in socially appropriate ways is limited or uncertain. Food security measurement is a complex task due to difficulty in its definition and the complexity of its determinants. A valid tool to measure food insecurity has not been developed in Australia (apart from the single question used in the National Nutrition Survey - NNS). While the US measure US Department of Agriculture Community Food Security Assessment (USDA) tool kit is most widely used and validated: it continues to be altered and updated.

Studies have suggested the need to develop scientifically valid food insecurity measures, which are cost effective, which are applicable in new settings based on a common set of developed domains.

Limited prevalence information is found regarding food insecurity of domestic students compared to enrolments (p < 0.001).

1 Rychetnik L, W.K., Story L & Katz T.,

References

**Methods**

Overall

Research was carried out via a questionnaire on 399 individuals (via a range of convenience sampling techniques) studying at Griffith University Gold Coast campus (Queensland, Australia).

Representativeness to sample population (enrolments 2007):

- 2.9% of Gold Coast campus students;
- Based on Chi-square, level of study, gender, and students from Aboriginal and Torres Strait Islander backgrounds were representative;
- Higher numbers of full-time to part-time students and international to domestic students compared to enrolments ( p < 0.001).

**Measures**

A questionnaire was developed: using:

- **A single item measure** of food insecurity (as used by the National Nutrition Survey), which assesses:
  - Financial access
- **A multiple item measure** of food insecurity (as used by the USDA tool kit questions) which assesses:
  - Anxiety around food access
  - Financial access
  - Hunger
  - Weight loss
  - Reducing meal size or skipping meals

**Note** The USDA questions were altered for ease of comprehension and suitability to population (through discussions with other researchers, communications with international food security researchers and piloting period). Further testing would be useful to ascertain the validity of the current study’s questions.

- Use of emergency coping measures (including utilising food banks or pawning/stealing to obtain food).
- **Note** Questionnaire developed due to limited food security measurements exist in Australia.

**Data Analysis**

Statistical Package for the Social Sciences (SPSS) was used for all analyses and Chi–Square performed on results.

**Results**

Food insecurity status measurement differences (figures 1 and 2)

Single item measure compared to the multiple item measure of food insecurity status:

- **Single item measure** - 12.7%:
  - Food insecure without hunger -46.5%;
  - Food insecure ‘with hunger’ (moderate to severe food insecurity) - 25.3%.

Results indicated that there are a large number of individuals (59.9% of entire sample) who were considered to be food insecure according to one measure yet food secure according to another.

**Discussion**

The single item measure may be inadequate as a sole measure of food insecurity. There is widespread consensus that this question may miss many of the food insecure.

The multiple item measure:

- Assesses a large number of aspects of food insecurity;
- May better recognise the complex experience of food insecurity.

The use of emergency coping techniques cannot be used as a sole determinant of food insecurity. Failure to use food banks may indicate the lack of emergency food sources in a community or the lack of knowledge regarding these sources rather than the absence of food insecurity.

**Conclusions**

Food insecurity status amongst the student population varies widely according to the measure used. Therefore, there is potential for over and/ or underestimating of the food insecurity status depending on the classification used during measurement.

There is an imperative need to develop and validate a comprehensive and reliable tool for measuring food insecurity, which not only considers and utilises measurement tools deployed internationally, but is specific to Australian needs and priorities.

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**References**


5 Wolfe WS, F.J.E., Single item measure compared to multiple item measure ‘food insecure with hunger’ ( p < 0.001).