Hunger for knowledge: Food insecurity amongst students at the University of KwaZulu-Natal

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What is the extent of food insecurity at UKZN?

Who is more vulnerable to food insecurity (FI)?

What impact does student hunger have on retention and throughput?

Growing numbers of “hungry students”

Ad hoc assistance by individual depts

Increased access to higher education

Massification + Globalisation

Marketisation
“limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable food in socially acceptable ways” (Anderson, 1990, p.1598)
Food insecurity

- Physical availability of food
  - Economic and physical access to food
  - Nutritional value of food
  - Stability of above dimensions over time

4 dimensions (FAO, 2008)
Food access for South African households and persons? Indicators of food access (questions based on HFIAS, within GHS, 2010-2014)
Not well documented or researched in SA

In SA: The causes of academic failure and/or dropout in higher education have been attributed to financial or funding problems (Africa, 2005; Jones *et al.*, 2008).

By implication this includes FI, however no studies have specifically considered this issue.
In adults, food insecurity can lead to:

- reduced **efficiency**, 
- decreased ability to **learn**, 
- increased levels of **stress** and **anxiety**, 
- **passivity**, 
- feelings of **demotivation** and **powerlessness**, and 
- difficulty in **social interactions**.

(Food Research and Action Centre in America)

In school children:

- Food insecurity is associated with diminished **cognitive functioning** or academic achievement (Taras, 2005)
- **Diet quality/variety** is positively associated with **academic performance** (Florence, Asbridge & Veugelers, 2008).
2 METHOD

a) Pilot study (2005)
b) Consolidation of the questionnaire
c) Sampling
b) Consolidating the questionnaire

University Students Food Insecurity Questionnaire (USFIQ) – design finalisation 2006/7

Reflections and findings from pilot study

Expert input from dieticians on items

Inclusion of 3 domains of HFIAS

anxiety (about food supply)

insufficient **quality** of food intake and phys conseq.

insufficient **quantity** of food intake and phys conseq.
• 32 item self-report questionnaire
• 13 items = a scale providing a measure of vulnerability to food insecurity (internal consistency/reliability, Cronbach = .924)
• 4 sections
• 2 uses (1: individual counselling, and 2: assess indiv/group vulnerability to food insecurity)

1. biographic data
2. eating habits
3. spending habits
4. behavioural responses to FI

anxiety (about food supply)

insufficient quality of food intake and phys conseq.

insufficient quantity of food intake and phys conseq.
c) Sampling

- Anonymous
- Voluntary
- No incentives
- Referral for assistance for FI independent from research

- 367 questionnaires administered to students in 3 level 200 courses across faculties (Science & Agric, Humanities, and Management Studies) - 2007
- 425 questionnaires administered to students in residences – 2007
- 291 questionnaires administered to students in Centre for Science Access – 2008, 2009
- 1 083 total
### c) Sampling

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3 FINDINGS

a) How often do students experience problems with **concentration** and **fatigue** in relation to FI?

b) How often do students **worry** about where their next meal will come from?

c) Are students more vulnerable to FI at the **end of a semester** (near exams) than at the **beginning of a semester**?

d) Overall, how **vulnerable** are students to FI?

e) Is there a **difference in vulnerability** to FI in different groups of students?
a) How often do students experience problems with **concentration** and fatigue in relation to FI?

Deficits in **concentration** as a result of hunger

- **never**: 38.7%
- **seldom**: 28.5%
- **sometimes**: 21.5%
- **often**: 7.9%
- **almost always**: 3.4%
a) How often do students experience problems with concentration and **fatigue** in relation to FI?

Experience of **fatigue** as a result of hunger
b) How often do students **worry** about where their next meal will come from?

Worry in relation to capacity to access next meal

- **never**: 47.6%
- **seldom**: 23.3%
- **sometimes**: 18.4%
- **often**: 6.5%
- **almost always**: 4.2%
c) Are students more vulnerable to FI at the end of a semester (near exams) than at the beginning of a semester?

Yes, using a repeated measures (paired samples) t test

Students are significantly more likely ($t = -6.817; \text{df} = 1059; p < .001$) to report going hungry at the end of the semester ($M = 1.12; \text{SD} = 1.3$) than at the beginning of the semester ($M = .9; \text{SD} = 1.2$).

“Often” or “almost always” going hungry at the beginning of the semester = 11.4%

“Often” or “almost always” going hungry at the end of the semester = 17.3%
d) Overall, how vulnerable are students to FI?

USFIQ includes a scale of 13 items that measure vulnerability to FI:

- anxiety (about food supply)
- insufficient **quality** of food intake and phys conseq.
- insufficient **quantity** of food intake and phys conseq.
d) Overall, how vulnerable are students to FI?

4.7% of sample highly vulnerable to food insecurity.
e) Is there a difference in vulnerability to FI in different groups of students?

Yes, using an independent samples t test.

Are students on financial aid more vulnerable to FI when compared to those not on financial aid?

There is a highly significant difference in vulnerability to FI (t = 7.955; df = 1027; p<.001) between students on financial aid (M = 1.3; SD = 0.8) and those not on financial aid (M = 0.9; SD = 0.8).
e) Is there a difference in vulnerability to FI in different groups of students?

Yes, using an independent samples t test

Are Centre for Science Access students more vulnerable to FI when compared to those in mainstream programmes?

The difference in vulnerability to FI between students in the CSA ($M = 1.4; SD = 0.8$) and those in mainstream programmes ($M = 0.9; SD = 0.8$) is also highly significant ($t = 9.708; df = 1034; p<.001$).
4 DISCUSSION

- Recommendations and way forward for FI in HE
- Method: limitations & recommendations
- Vulnerability to food insecurity at UKZN
High levels (11% - 18%) of **worry** in relation to sourcing food, as well as adverse effects on **concentration** and **fatigue**.

Experience of “often” or “almost always” going hungry at the **end of a semester** near exams – 17.3%.

At UKZN, estimated between 4 400 – 7 200 students

At UKZN, approximately 7 000 students
79.2% with low/no vulnerability to FI

20.8% with serious to critical vulnerability to FI

Extent of vulnerability to food insecurity at UKZN
79.2% with low/no vulnerability to FI

At UKZN, approx 8,320 students

20.8% with serious to critical vulnerability to FI

At UKZN, approx 1,880 students

4.7%
• Correlation between **food insecurity** and **academic achievement**.
• Positive association between **diet quality/variety** and **academic performance**.
Variations in vulnerability to food insecurity at UKZN

Students on **financial aid** significantly more vulnerable to FI when compared to those not on financial aid.

Students in **access programmes** significantly more vulnerable to FI when compared to those in mainstream programmes.
Limitations:
- Possible exaggeration of extent of food insecurity despite attempts to minimize this
- Generalisability to larger UKZN student population given purposive sampling

Recommendations:
- Correlation between vulnerability to food insecurity, academic performance and other dimensions/effects of food insecurity (eg, wellness)
- Replicate research at other institutions – with the aim of yielding a national indicator of food insecurity in higher education students – with the eventual aim of informing a national response in higher education SA
Recommendations and way forward for FI in HE

1. Create awareness of FI at UKZN and other HEIs
2. Provision of a food voucher or parcel system for FI students
3. Investigate viability of on-campus food banks or reduced fee meals on campus
4. Bolster student employment opportunities
5. Provision of psychoeducation and lifeskills training
6. Reassessment of financial aid
SUMMARY AND CONCLUSION

- We explored the dimensions of FI in South Africa, highlighting the absence of engagement with this in HE.
- What are the effects of vulnerability to FI in HE context?
- What is the extent of vulnerability to FI at UKZN, and are some students more vulnerable than others?

SUMMARY AND CONCLUSION

- Design and consolidation of USFIQ
- Administration to 1,083 UKZN students across 3 years to FI in HE context?
- Identified similar levels of vulnerability to FI in UKZN student population when compared to SA population (approx. 20%).
- Identification of students who are likely to be more vulnerable to FI.

Likely extent of vulnerability to FI at UKZN

Is it reasonable to expect a food secure UKZN society?

If so, what can be done to facilitate this?