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**BACKGROUND &
KEY CONCEPTS**

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DISCUSSION

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

Nicholas Munro, Michael Quayle,
Heather Simpson, and Shelley Barnsley



**UNIVERSITY OF
KWAZULU-NATAL**

**INYUVESI
YAKWAZULU-NATALI**

1

BACKGROUND & KEY CONCEPTS



Massification
+
Globalisation
Marketisation

Ad hoc assistance by individual depts

Increased access to higher education

Growing numbers of "hungry students"

What impact does student hunger have on retention and throughput?

Who is more vulnerable to food insecurity (FI)?



What is the extent of food insecurity at UKZN?

Food insecurity

- *Definition*
- *Dimensions*
- *National indicators*
- *Educational impact*

“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

• *Dimensions*

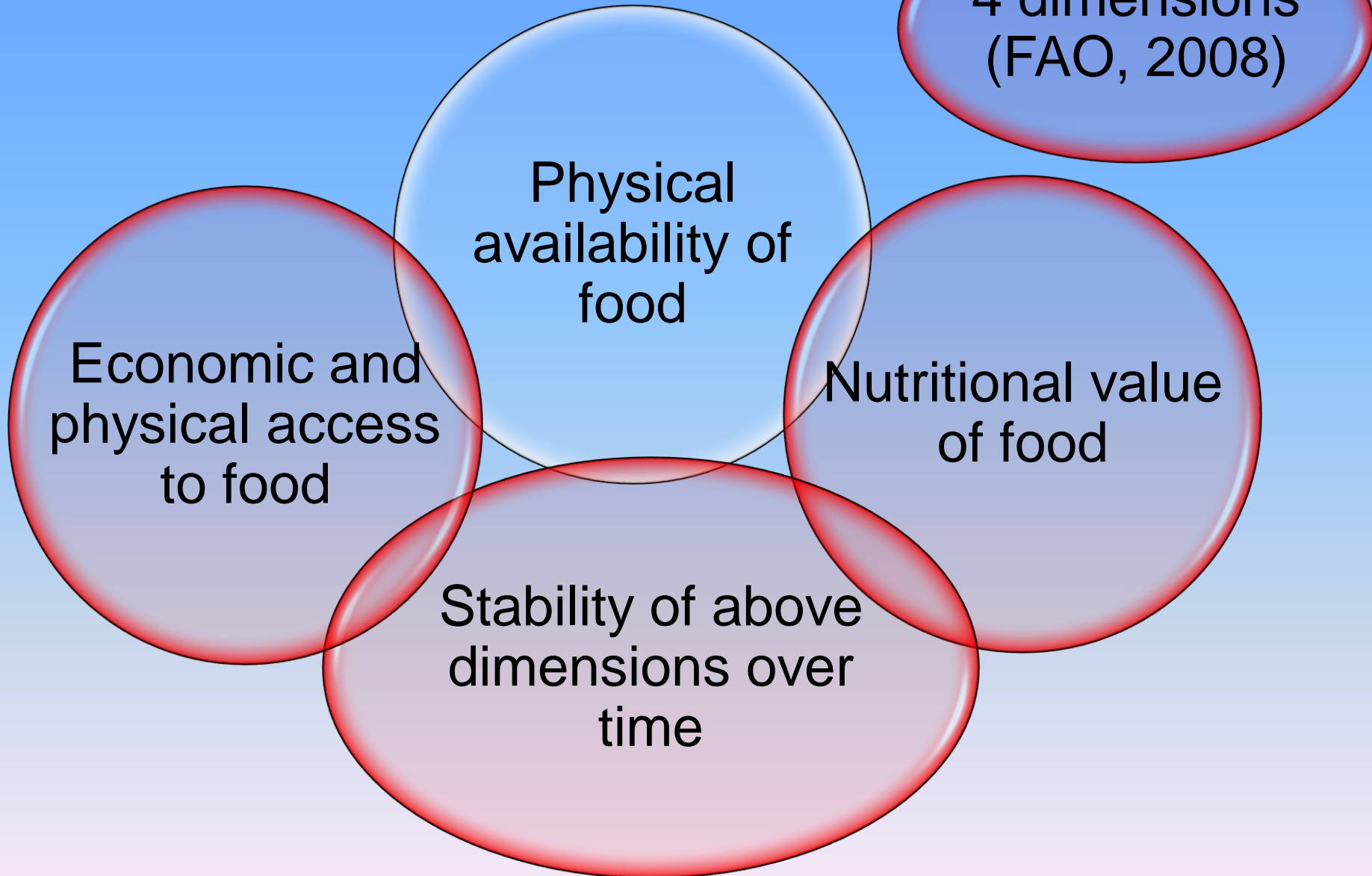
4 dimensions
(FAO, 2008)

Physical
availability of
food

Economic and
physical access
to food

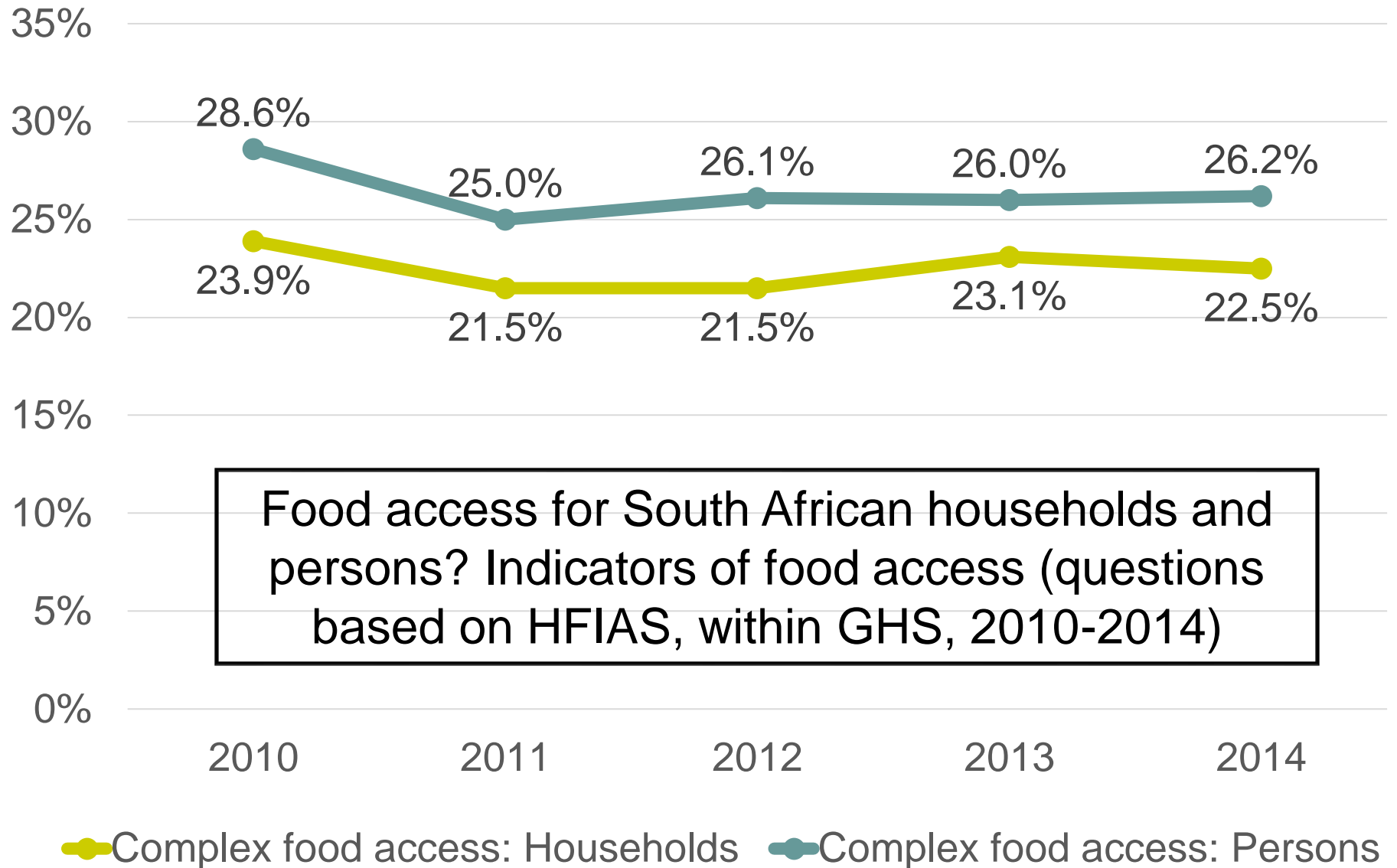
Nutritional value
of food

Stability of above
dimensions over
time



Food insecurity

• *National indicators*



Food insecurity in higher education

• *Educational impact*

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 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).

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)

**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

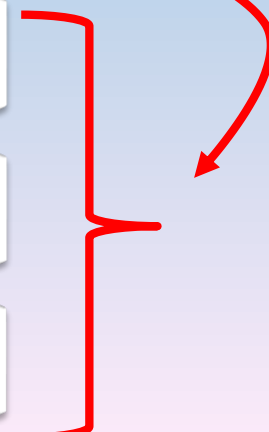
Expert input from dieticians on items

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)

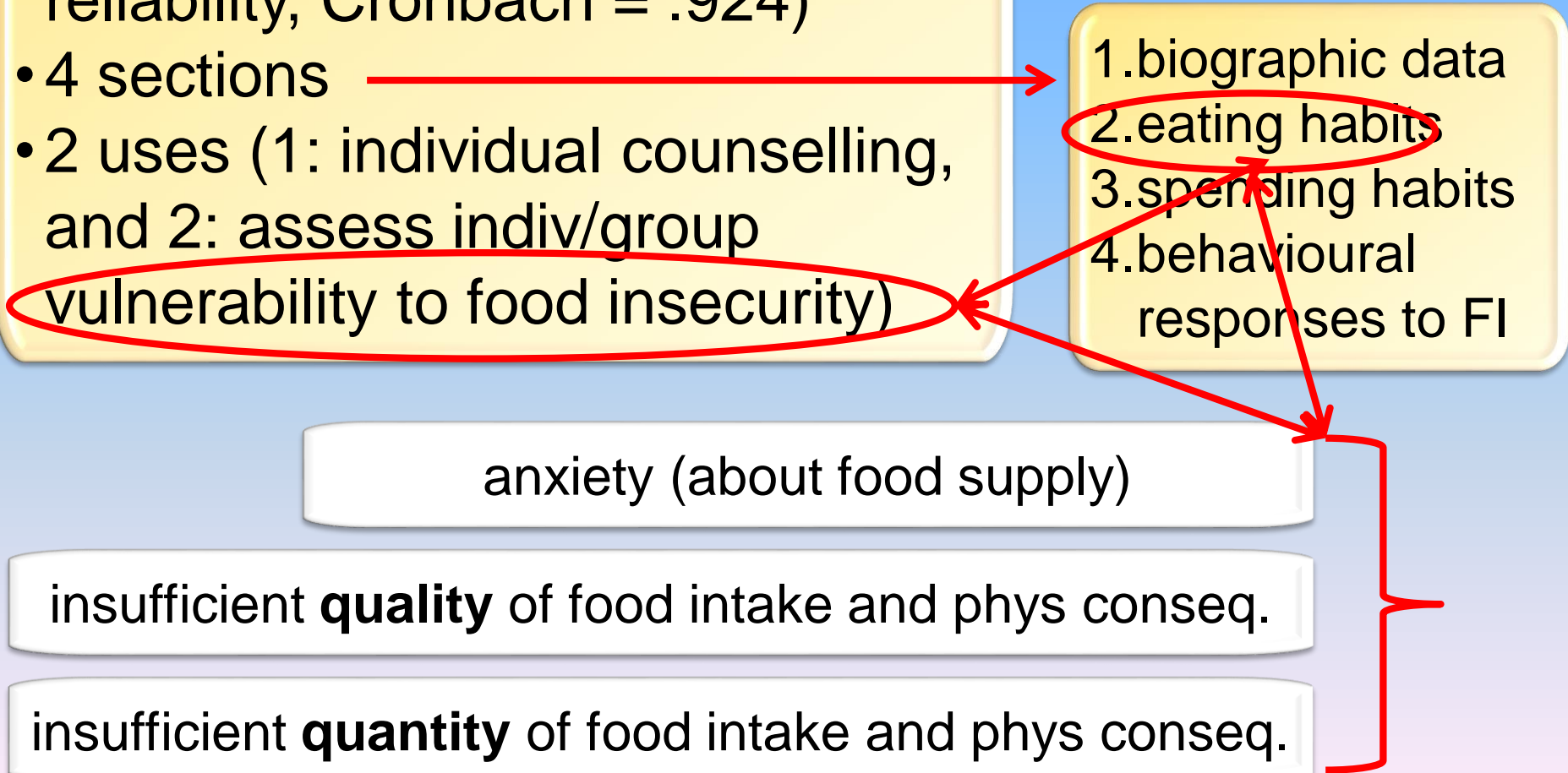
USFIQ

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

Gender	Female	52.4%
	Male	47.6%
Nationality	South African	88.6%
	International	10.3%
	Refugee	1.1%
Residence	UKZN residence	63.5%
	Home	16.6%
	Relative	2.1%
	Board	2.5%
	Flat/digs	11.3%
	Other	.9%
Financial aid	Yes	34.5%
	No/other	65.5%

3 FINDINGS

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

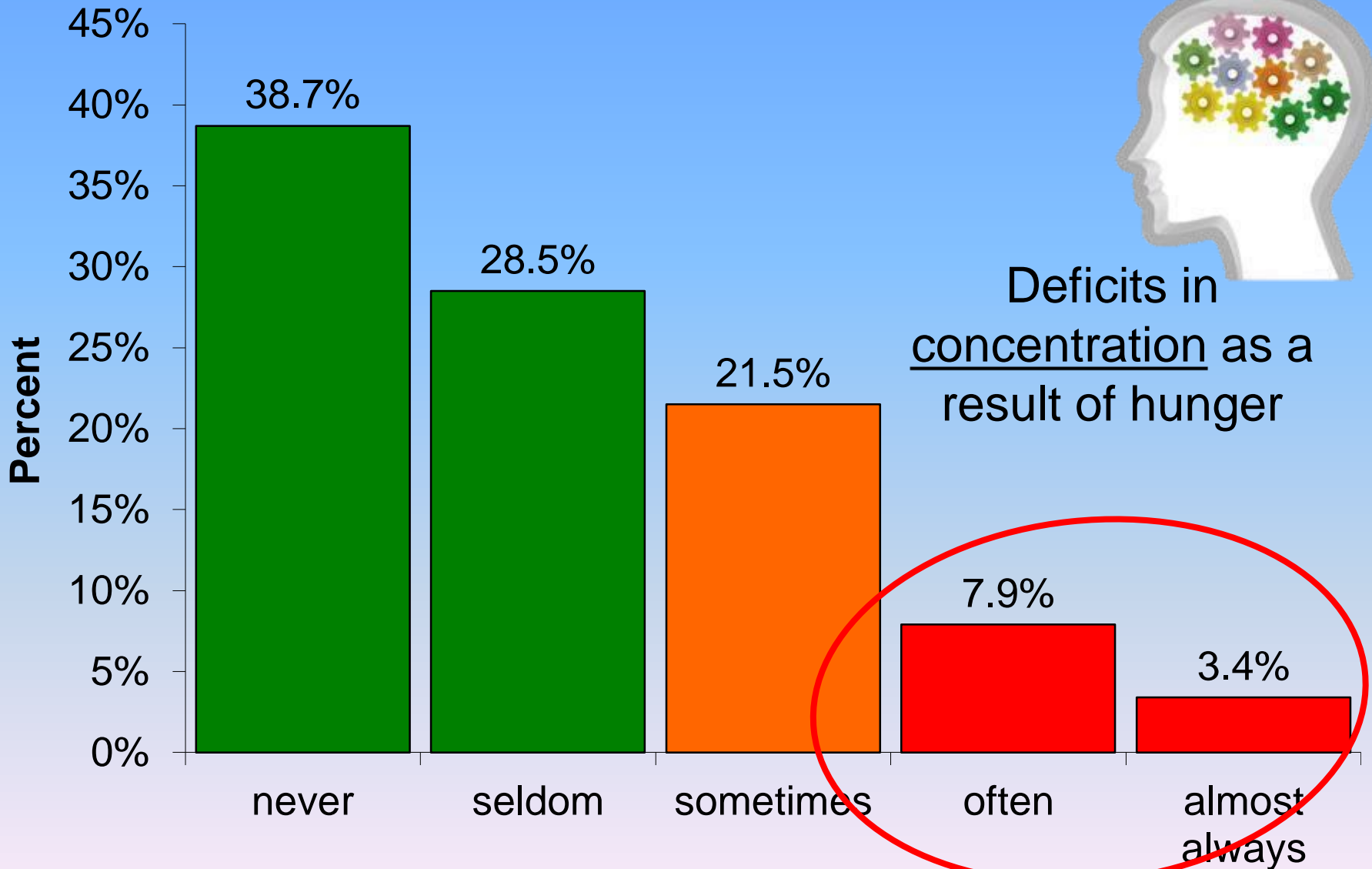
b) How often do students **worry** about where their next meal will come from?

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

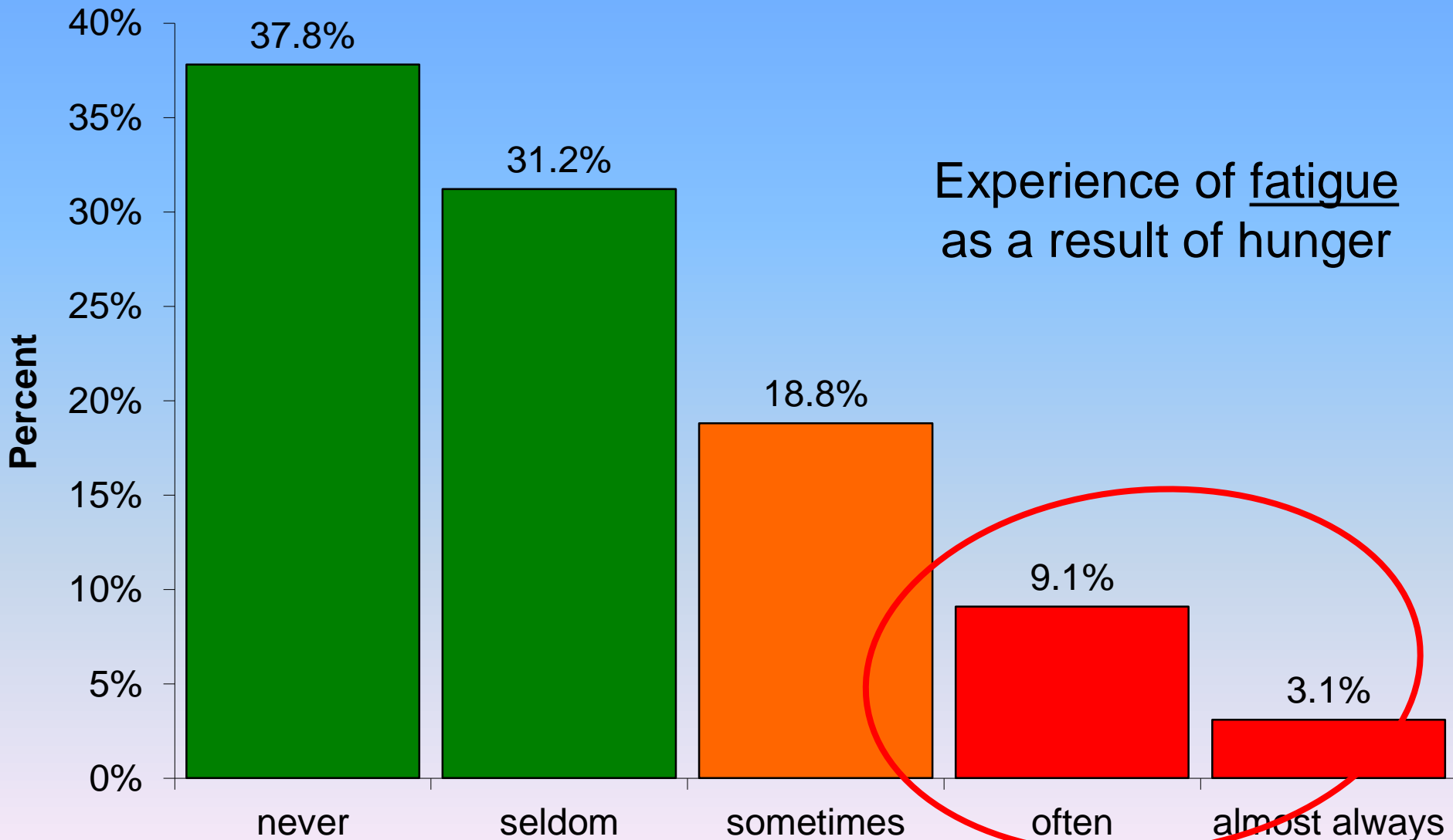
d) Overall, how **vulnerable** are students to FI?

e) Is there a **difference in vulnerability** to FI in different groups of students?

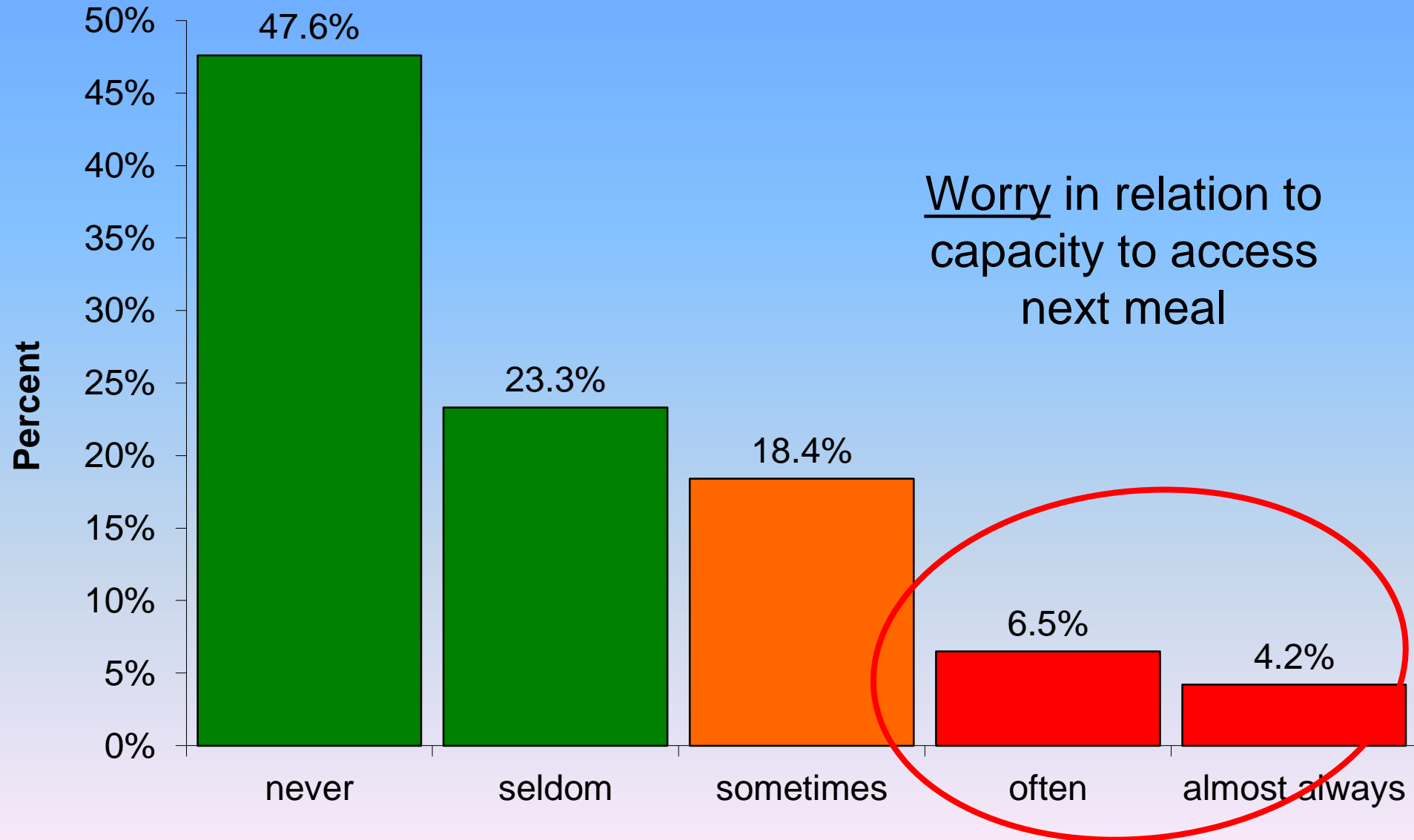
a) How often do students experience problems with **concentration** and fatigue in relation to FI?



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



b) How often to 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?

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

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

“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%**

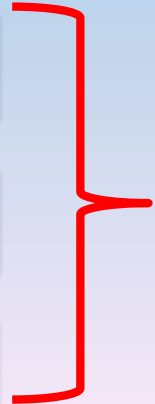
d) Overall, how vulnerable are students to FI?

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

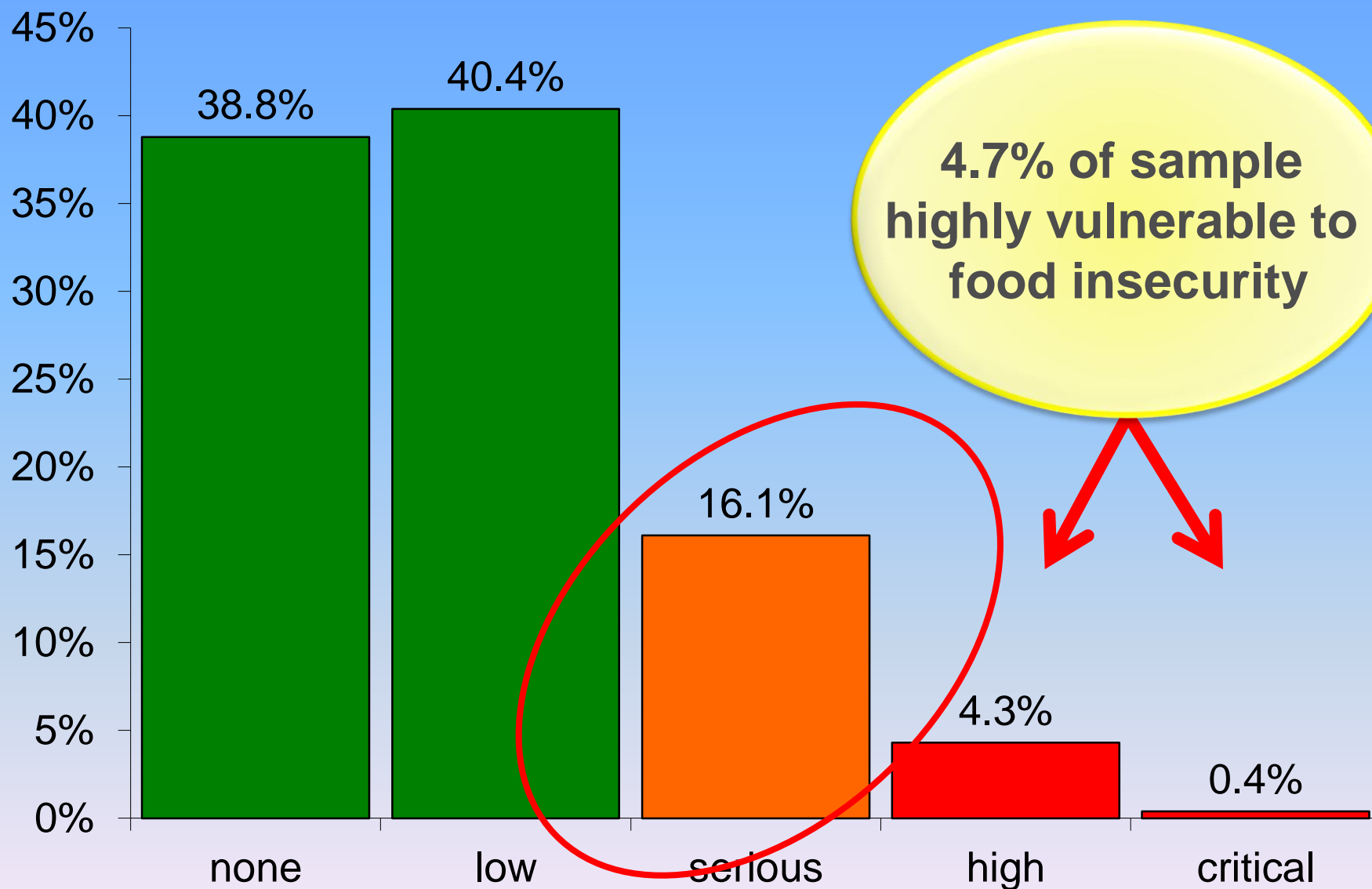
anxiety (about food supply)

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

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



d) Overall, how vulnerable are students to FI?



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

Extent of vulnerability to food insecurity at UKZN

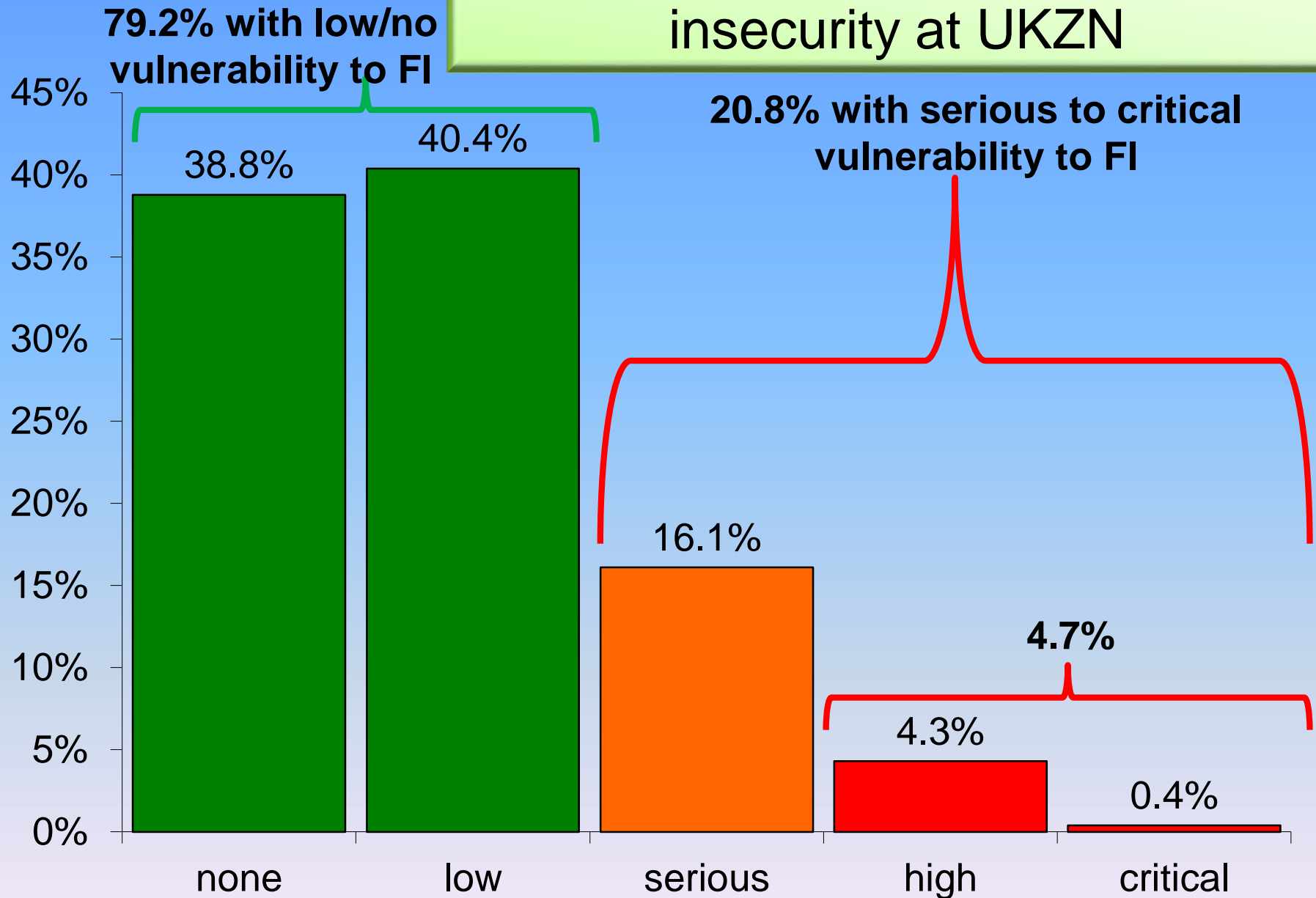
High levels (11% - 18%) of **worry** in relation to sourcing food, as well as adverse effects on **concentration** and **fatigue**.

At UKZN, estimated **between 4 400 – 7 200** students

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

At UKZN, approximately **7000** students

Extent of vulnerability to food insecurity at UKZN



Extent of vulnerability to food insecurity at UKZN

79.2% with low/no vulnerability to FI

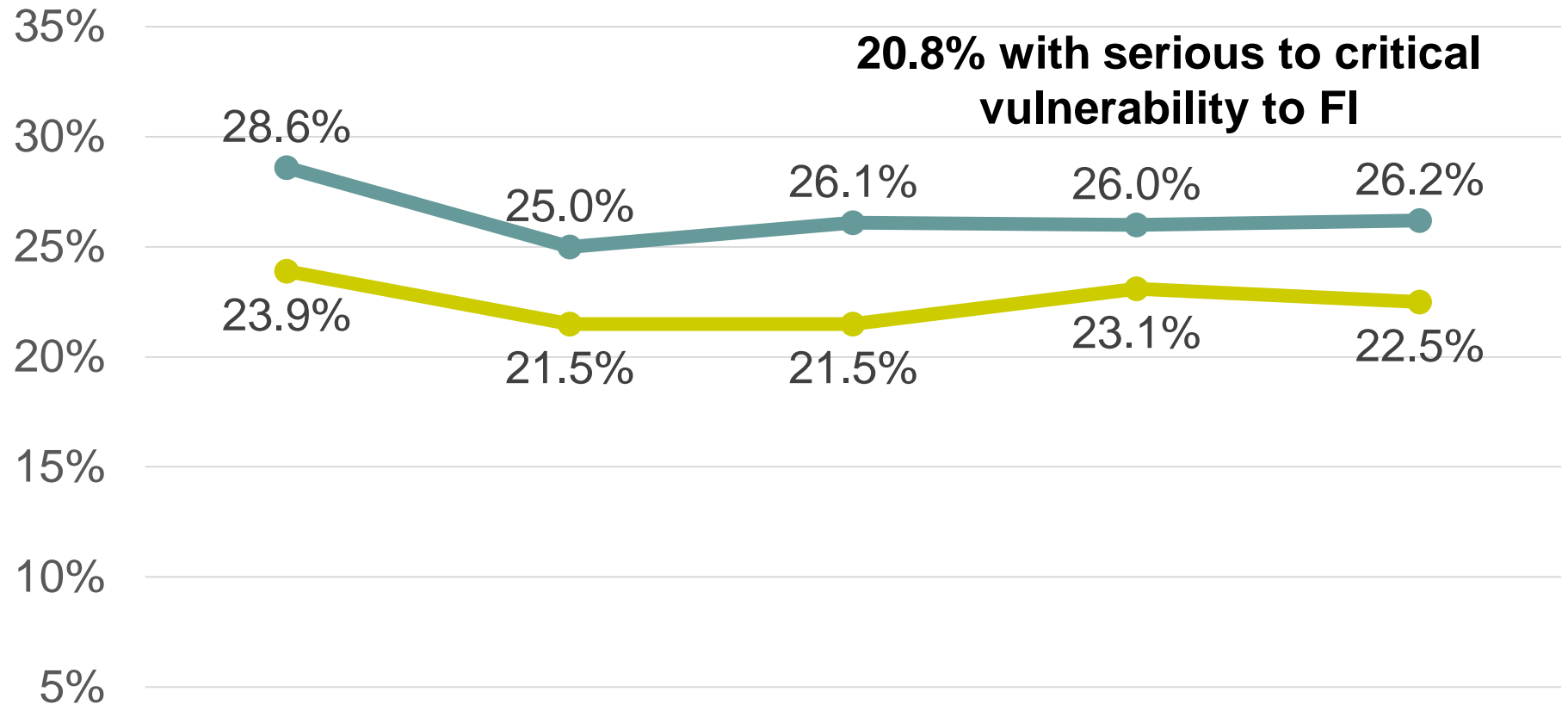
20.8% with serious to critical vulnerability to FI

At UKZN, approx 8 320 students

4.7%

At UKZN, approx 1 880 students

UKZN and national data?



- 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.

Method: limitations & recommendations

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

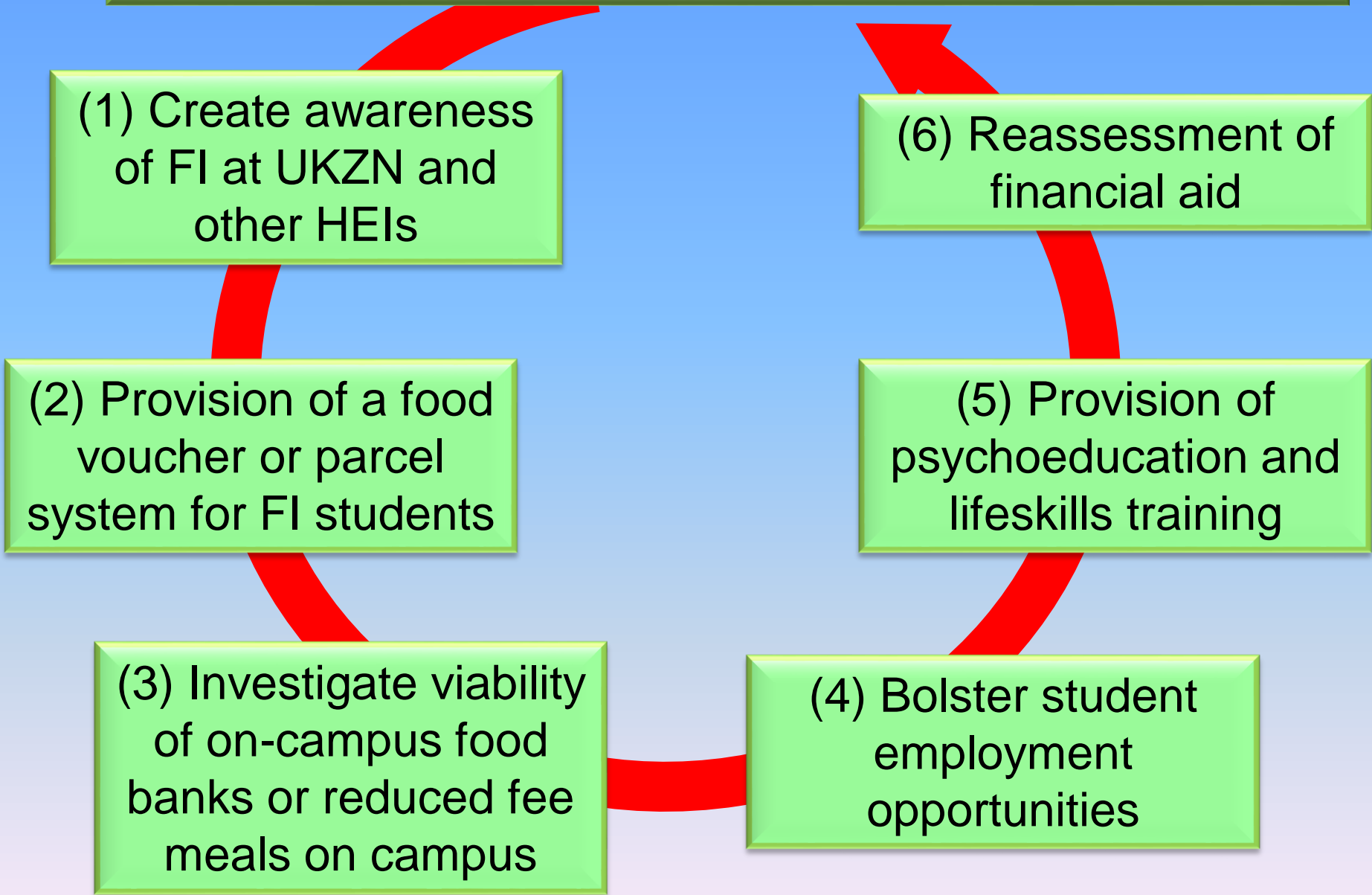
(2) Provision of a food voucher or parcel system for FI students

(3) Investigate viability of on-campus food banks or reduced fee meals on campus

(4) Bolster student employment opportunities

(6) Reassessment of financial aid

(5) Provision of psychoeducation and lifeskills training



SUMMARY AND CONCLUSION

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DISCUSSION

- We explored the dimensions of FI in South Africa, highlighting the

- 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

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?