

Multisectoral partnerships CAN work: Curriculum-linked education programs supporting adolescents as agents of primary NCD risk prevention in the Cook Islands.

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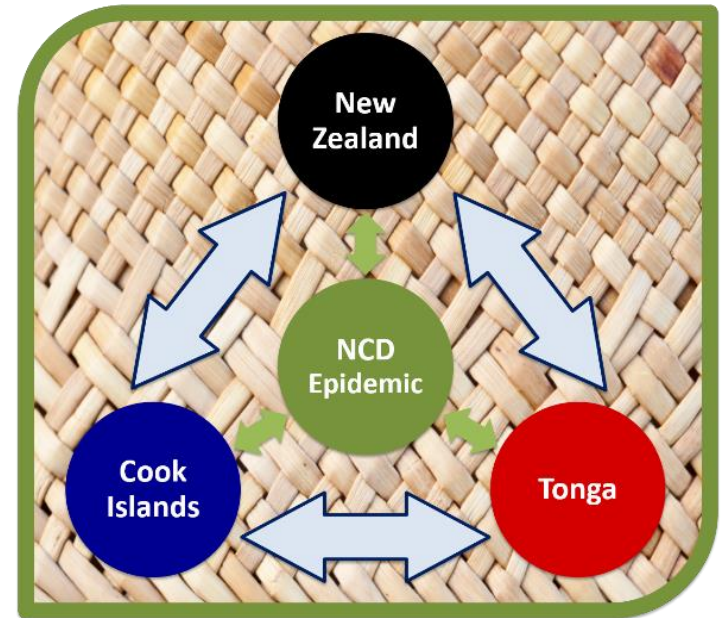
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PACIFIC SCIENCE FOR HEALTH LITERACY PROJECT

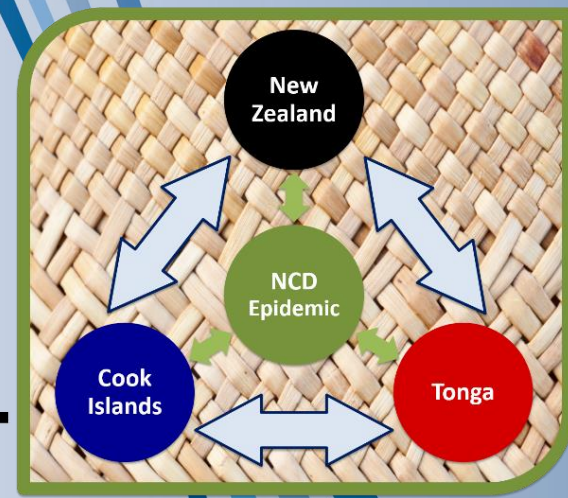
Project Goals

Via collaboration between education, health & science:

- Develop and test culturally appropriate learning resources to enable context-embedded science for health literacy education in the Cook Islands and Tonga, within the context of the NCD epidemic.
- Measure programme impact on:
 - Teaching practice
 - The development of scientific and health literacy in adolescents
 - Health knowledge, attitudes and behaviours in adolescents
 - Attitudes towards and behaviours relating to multi-sectoral collaboration in participating institutions
- Enable the **potential** for prospective studies to examine long term health and education impacts



PACIFIC SCIENCE FOR HEALTH LITERACY PROJECT



Me, Myself, My Environment: Me'akai
 Student Book
 Tongan Trial Edition
 Healthy Start to Life Educator for Adolescents Project
 LIGGINS INSTITUTE
 Tereora College
 Sustainable Energy Use: For My Ngutuare Tangata & My Kopu Tangata
 LENSscience
 Bringing Schools and Scientists Together

Me, Myself, My Environment: Kai no te Oraanga Meitaki
 Student Book
 Cook Islands Edition
 Jacque Bay, Delaney

Te Maki Toto Vene (T2): E Manamanata no Toku Iki Tangata
 Exploring Type 2 Diabetes: A Socio-scientific Issue for My Community
 Teacher Resource
 Cook Islands Edition
 Jacque Bay and Helen Mora

Glucose: A Journey from plate to cell
 INSTRUCTIONS
 KEY WORD LIST
 BLOOD, MUSCLES, MUSCLES, PANCREAS, LIVER, MUSCLE

Diabetes Around the World
 The World Health Organization (WHO) estimates that the number of people with Type 2 Diabetes is increasing rapidly around the world.
 Region of the world
 South-East Asia (SEA)
 20 million

Kingdom of Tonga STEPS Survey
 Ministry of Health, Kingdom of Tonga
 STEPS stands for the STEPS Approach to Surveillance of NCD Risk Factors.
 Percentage of Tongan adults (aged 25-64 years) who are currently eating at least 5 servings of fruit and vegetables every day.
 The STEPS scientists wanted to find out how results in the Kingdom of Tonga compare to the global average. To do this they had to measure what they believed the same method for their survey as other countries.

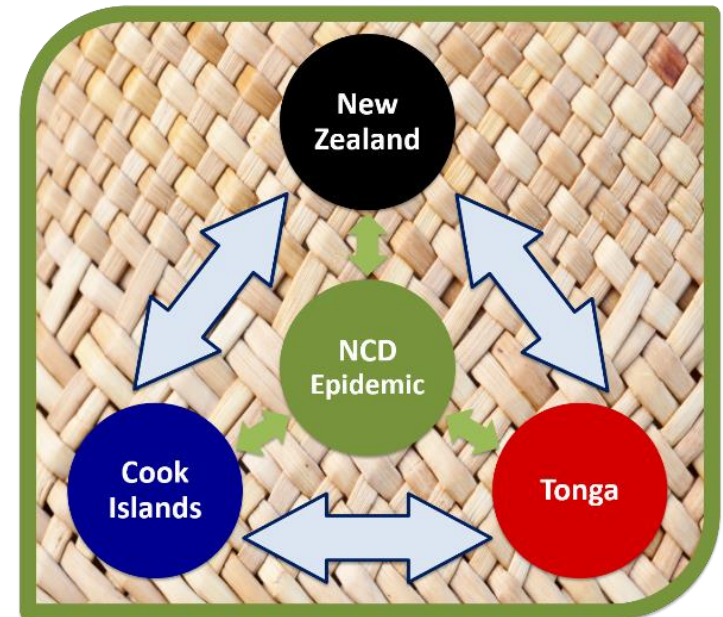
Multi-sectoral programmes should benefit ALL partner sectors via shared context and linked goals

- **Education Challenges:**

Pedagogies and resources to support the development of capable, critically engaged citizens that can make evidence-based decisions about socio-scientific issues or 'wicked problems'.

- **Health Challenges:**

Strategies to support long-term and intergenerational reduction in overweight, obesity and related NCD risk and disease burden in Pacific populations.



Underpinning evidence

- **Scientific:** A life course approach to NCD risk reduction in developing nations (Hanson et al. 2012); Developmental Origins of Health and Disease (Hanson & Gluckman 2014)
- **Epidemiological:** Cook Islands STEPS Surveys (Tairea et al. 2011); Global School-based Health Survey (Cook Islands Ministry of Health, 2014); Cook Islands School Physical Health Examination Reports (Cook Islands Ministry of Health, 2002 - 2014);
- **Pedagogical:** Capabilities for critical citizenship (OECD 2001); Cook Islands Curriculum (Cook Islands Ministry of Education 2006); Scientific literacy framework (OECD 2013) Science for health literacy pedagogical framework (Grace and Bay 2012); Contextualised learning exploring the NCD epidemic – concept impact evidence, Healthy Start to Life Education for Adolescents Project NZ (Bay et al. 2012)

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Self-Efficacy

Engagement

Cognitive and
psychosocial
capability
development

Transformative
Learning

**Informed
Decision-
Making**

Actions
leading to
improved long-
term health and
wellbeing

Key Competencies for
Engaged Citizenship

Health
Literacy

Scientific
Literacy

Context: Personal, Social and Environmental

Self-Efficacy

Engagement

Cognitive and psychosocial **capability** development

Transformative **Learning**

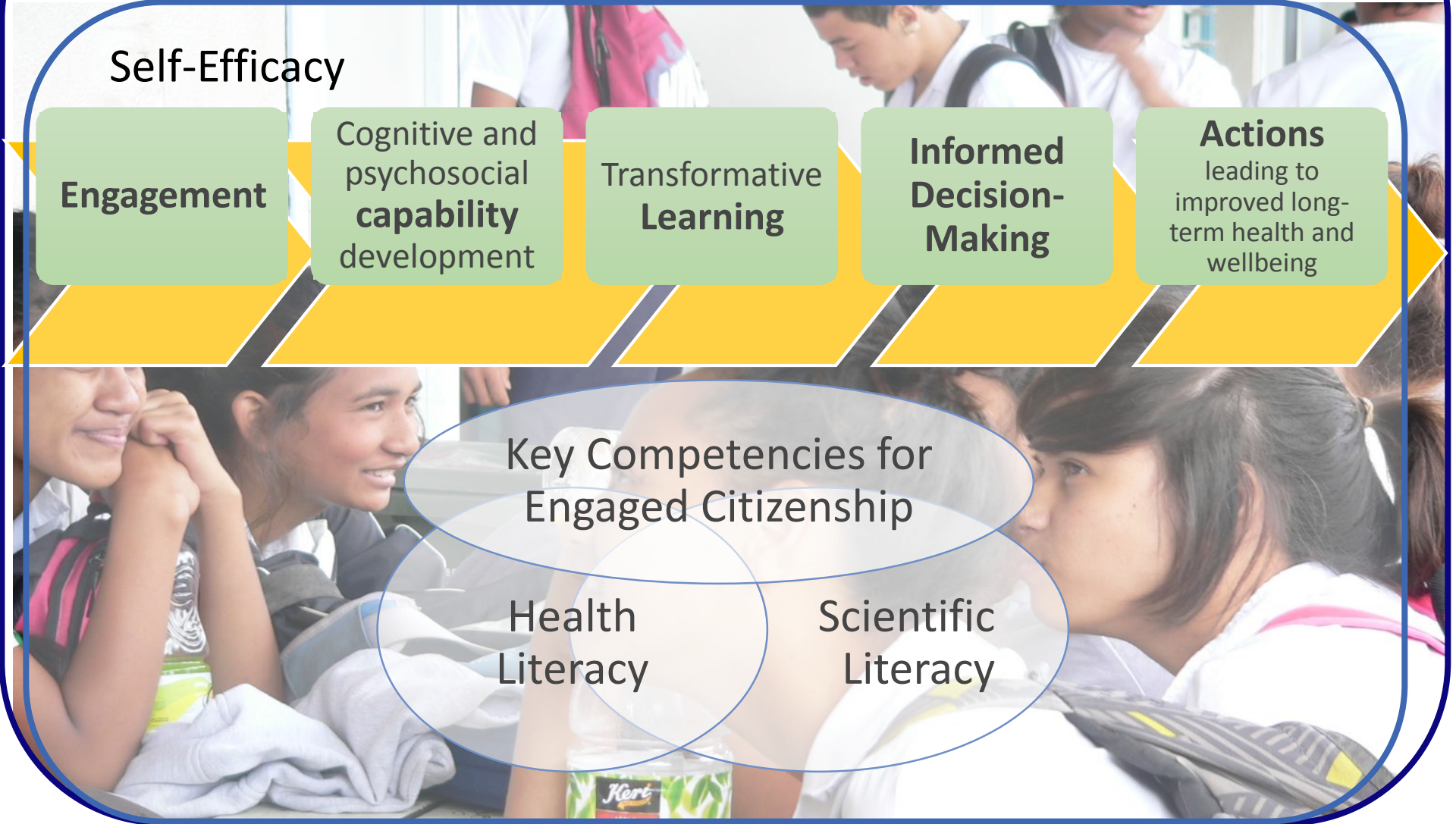
Informed Decision-Making

Actions leading to improved long-term health and wellbeing

Key Competencies for Engaged Citizenship

Health Literacy

Scientific Literacy



The Learning Journey

1: Exploring Oraanga e Pitoenua...

Think like a scientist...

Ask questions

Why is health and wellbeing important?

Look for evidence

What does science tell us about health & wellbeing?

Being the Scientist

Learning by investigating...

2: Learning More and Asking Questions

Learning more...

Learning more about what we eat and why we eat.

Learning more about my heart and my health.

Learning more about what scientists know about nutrition and how they find things out.

3: Investigating & Making Decisions

Act like a scientist...

Investigate: Design and carry out a scientific investigation.

Thinking about myself and my family

Make Decisions: Use evidence to make decisions about my food, my physical activity, my health and my wellbeing.

4: Communicating

Communicating like a scientist

Communicate the findings of your investigation at a scientific symposium.

Communicate with your family about what you have learnt about scientific evidence, food and physical activity.



Bringing Schools and
Scientists Together

Me, Myself, My Environment: Kai no te Oraanga Meitaki

Student Book
Cook Islands Edition



Jacquie Bay and Delaney Yaqona

Authors:

Jacquie Bay and Delaney Yaqona
with
Karen Tairea, Mark Vickers, Deborah
Sloboda and Helen Mora

Trial Schools:

Nukutere College
Tereora College

Partner Tongan Schools:

Tonga College Atele
Tonga High School
Tonga Side School

Publisher:

Read Pacific Publishing Ltd



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Exploring Type 2 Diabetes:
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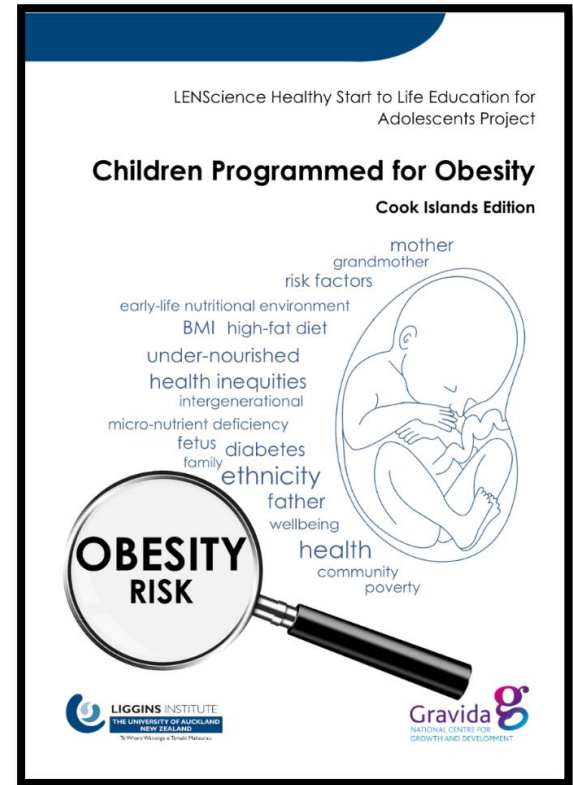
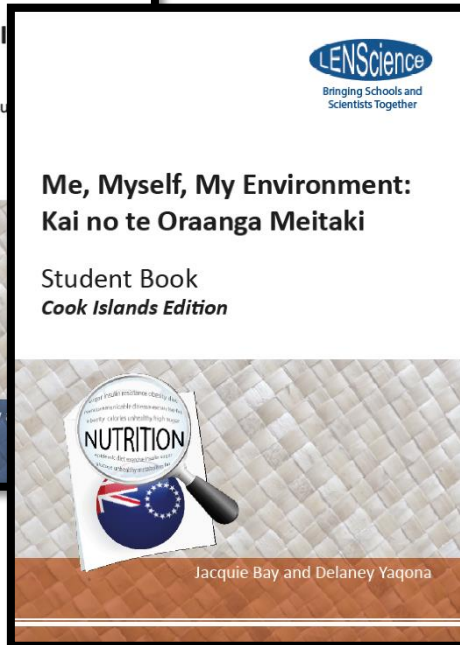
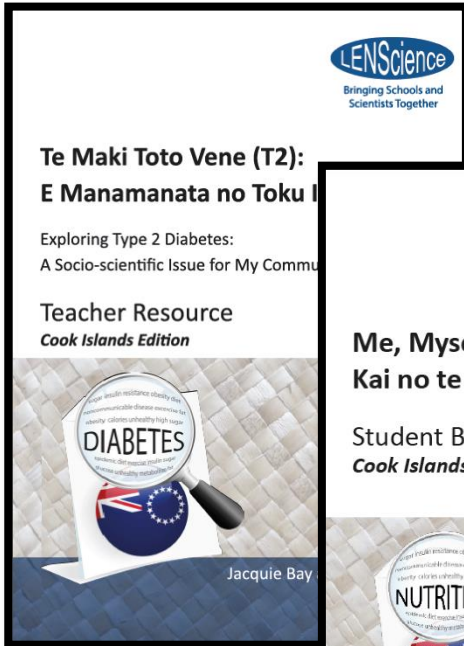
Tamaki College, Auckland
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Looking to the future

- ePub capability
- inter-country adaptability via use of country specific WHO data



**Public Health Global Challenge NCDs
Schools as a Setting**

Emerging evidence (full data will be available by February 2016)

Baseline:

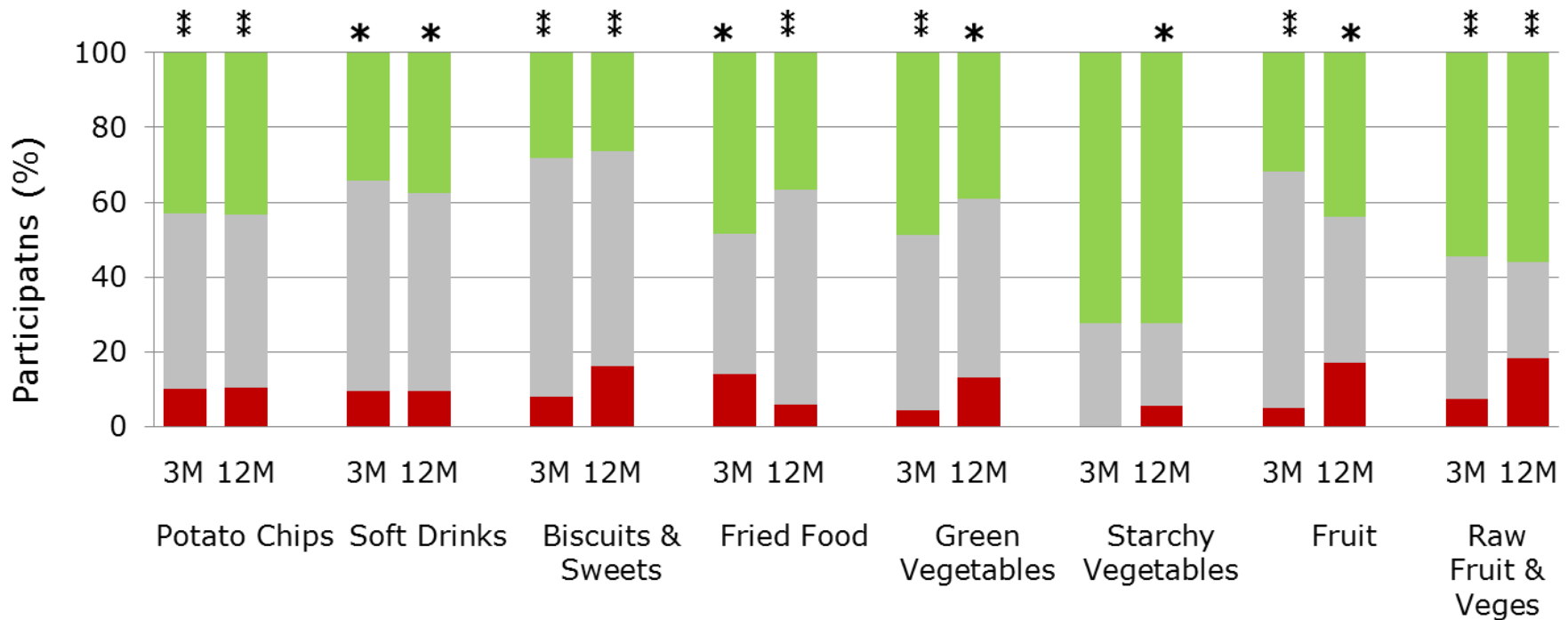
- 404 students at Years 9 and 11 (65% of total cohort for Rarotonga 2014 – 2015)
- Nutritional behaviours mirror those seen in STEPS and GSHS
- Phase 1 post-intervention data collection will be completed in 2015

Early Indicators of change:

- Positive attitudes towards the importance of health promoting behaviours are increasing
- Knowledge of the impact of health behaviors in adolescence on life-long health is changing positively
- Students' perceptions of the quality of their diet is improving – i.e. they are more discerning and diet ratings are more closely reflecting diet scores
- Baseline data is showing changes between 2014 and 2015, particularly where the school took a combined curriculum and whole of school approach i.e. there is a spin off to the students in lower classes within the school.

Healthy Start to Life Adolescent Education Project

Individually Matched Self-Reported Dietary Behaviour:
Change at 3- and 12-Months Post-Intervention in Adolescents Reporting At-Risk
Pre-Intervention Dietary Behaviours



* P < .01 ‡ P < .001 ■ Negative Change ■ No Change ■ Positive Change

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- Titikaveka College
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- Gravida National Centre for Growth and Development
- University of Southampton
- Tonga Ministry of Health
- Tonga Ministry of Education
- NZ High Commission Cook Islands
- New Zealand Ministry of Foreign Affairs and Trade Aid Programme

