



EDGAR DIABETES &
OBESITY RESEARCH
A UNIVERSITY OF OTAGO RESEARCH CENTRE

National
Science
Challenges



What's new in child obesity research?

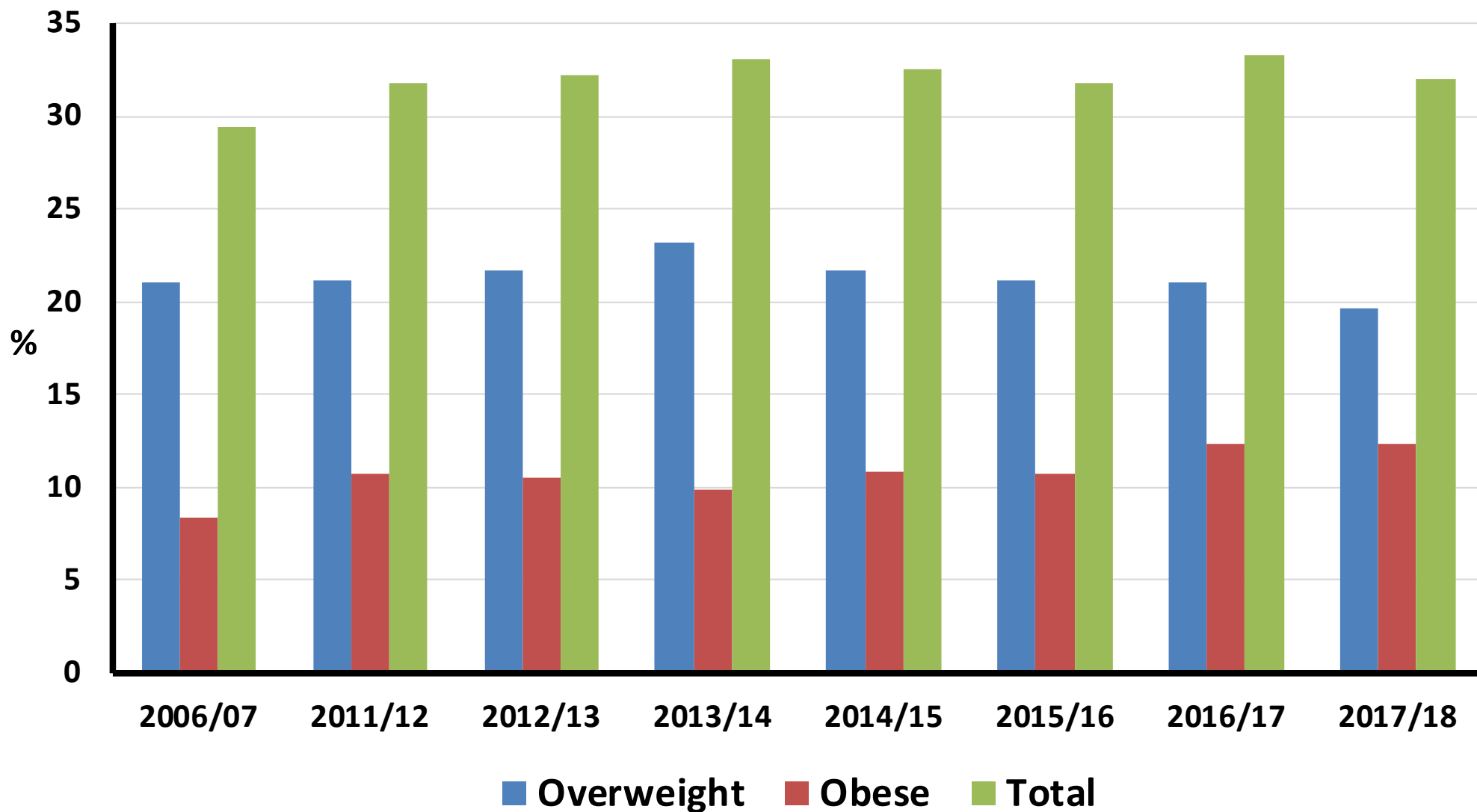
Professor Rachael Taylor

Director, EDOR

Deputy HoD, Medicine

Healthy Weight theme leader, A Better Start NSC

1 in 3 children are overweight or obese in NZ



MOVE



EAT



SIT



MOVE



EAT



SIT



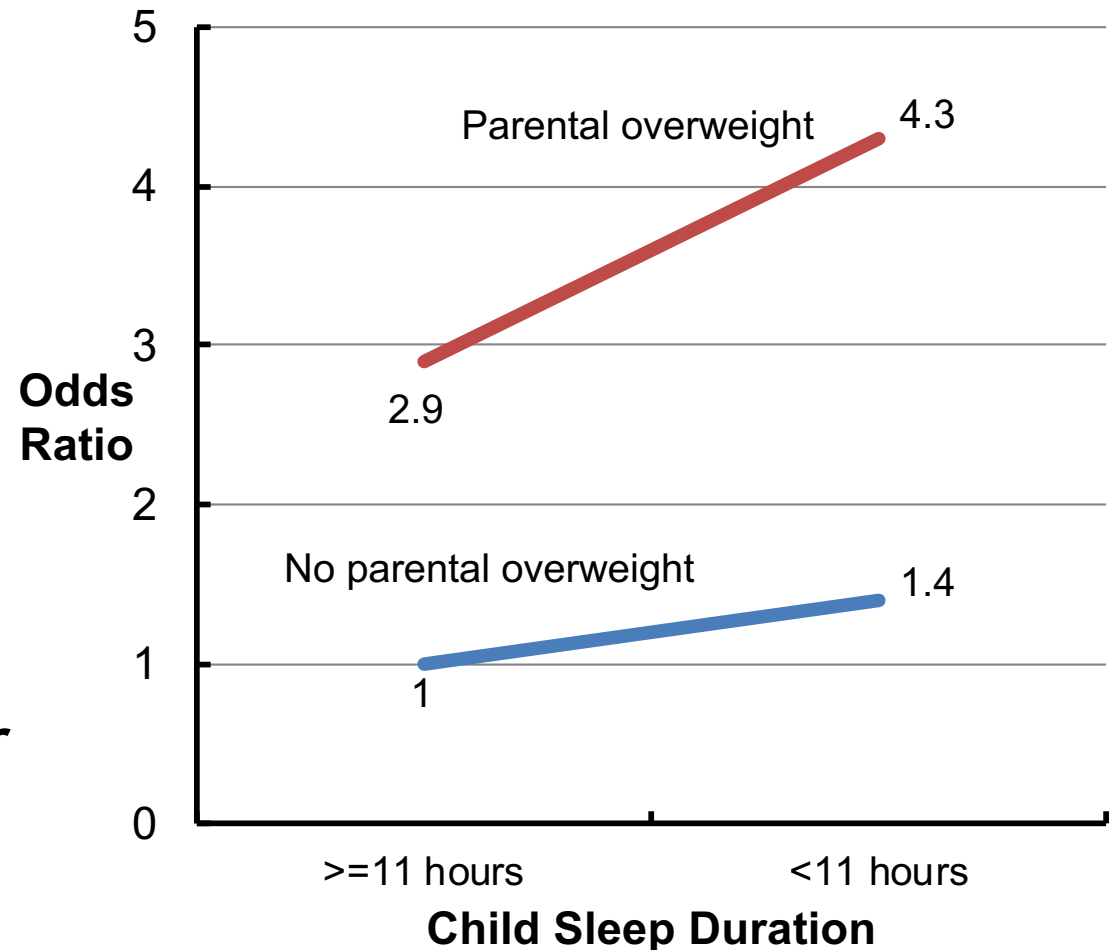
SLEEP



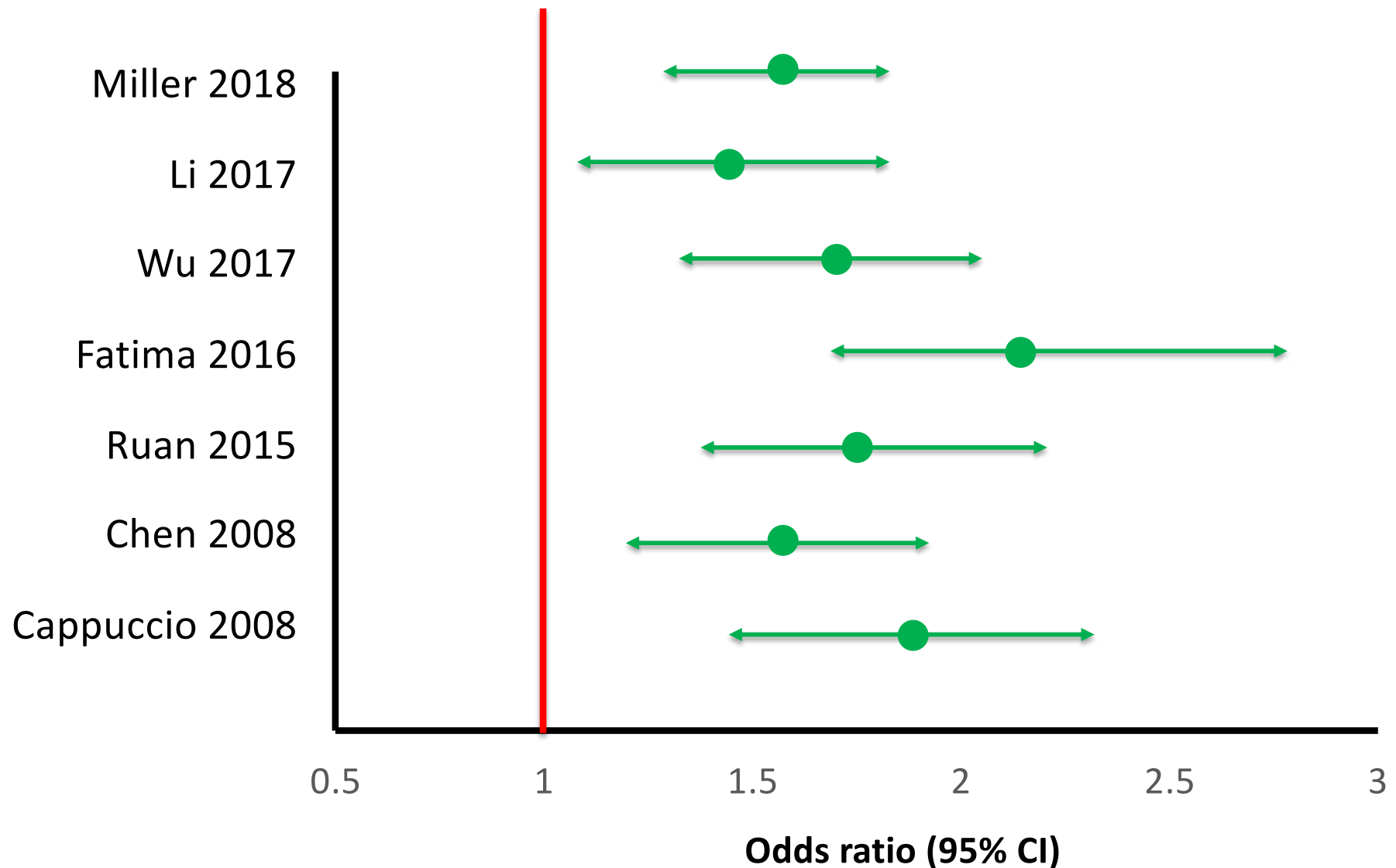
First study linking sleep with body weight in children was in 1992

- Case-control study in 327 obese and 704 non-obese 5y olds
- Many factors associated with obesity - snacks, TV
- But only sleep was significant after adjusting for parental weight

Children who slept < 11 hr had a 40% increase in the odds of being obese



The observational research is incredibly consistent



802 pregnant women randomised to one of 4 groups for 2-year intervention

- Usual care
- Sleep - 2 sessions
- Food, activity and breastfeeding (FAB) - 8 sessions
- Combination - 9 sessions



Risk of obesity at 5 years of age was halved in children who had received a brief sleep intervention as infants

	Sleep	No sleep	OR (95% CI)
Prevalence (%)	5.4	10.1	0.49 (0.28, 0.84)
	FAB	No FAB	
Prevalence (%)	10.2	5.5	1.52 (0.91, 2.55)



BMJ editorial

“The subject of sleeplessness is once more under discussion. The hurry and excitement of modern life is quite correctly held to be responsible for much of the insomnia of which we hear; and most of the articles and letters are full of good advice to live more quietly and of platitudes concerning the harmfulness of rush and worry.”

1894 BMJ editorial

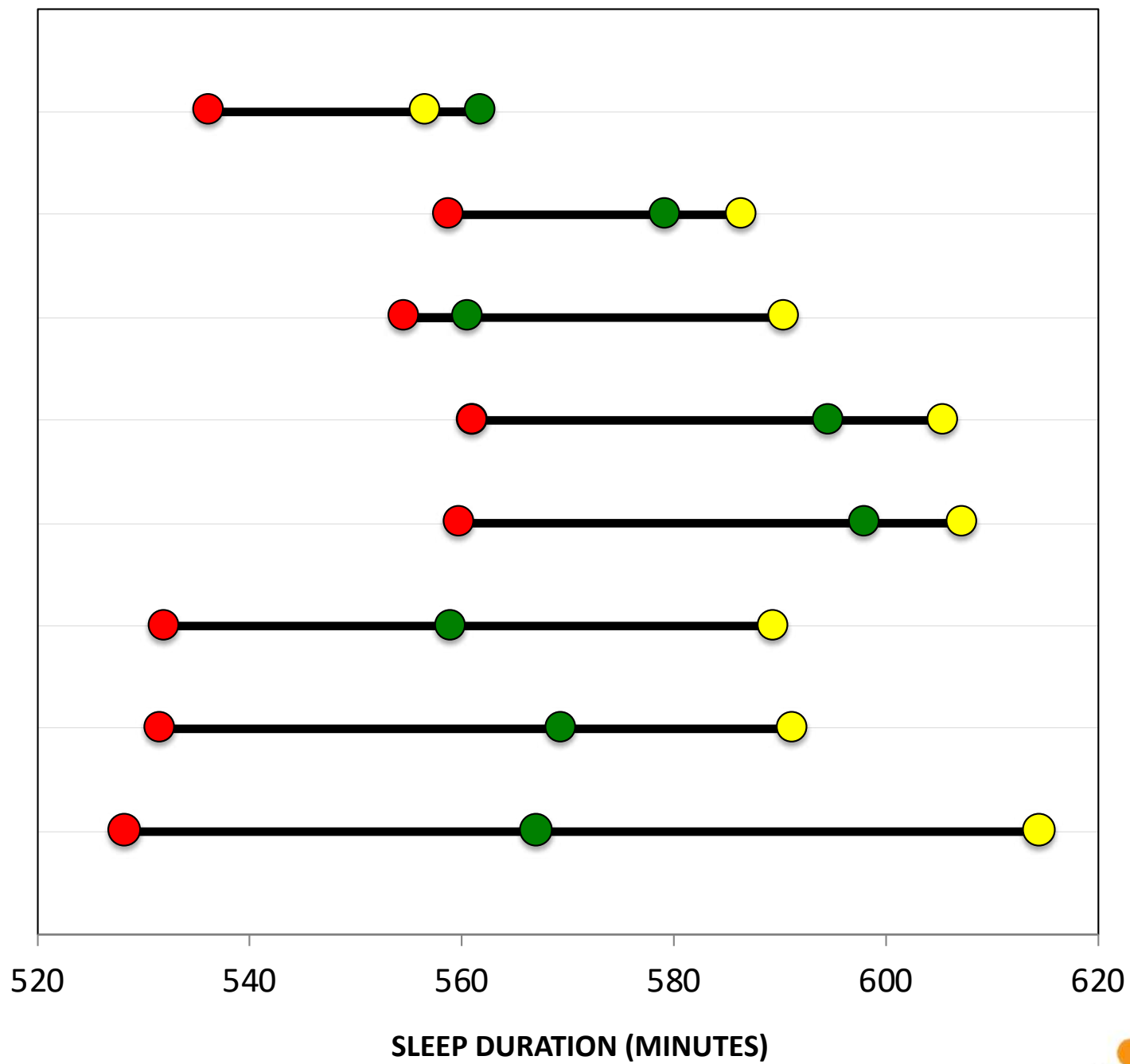
“The subject of sleeplessness is once more under discussion. The hurry and excitement of modern life is quite correctly held to be responsible for much of the insomnia of which we hear; and most of the articles and letters are full of good advice to live more quietly and of platitudes concerning the harmfulness of rush and worry.”

Why does sleep deprivation cause weight gain?

©grahamhagan@aol.com



*'What a great diet...
I just have to sleep more!'*





**Eating in the
absence of
hunger
experiment**

Eating in the absence of hunger experiment



Use of novel technology to assess eating behaviour





**What about the way we
introduce infants to foods – does
that make a difference?**





THE UK'S BESTSELLING GUIDE
Gill Rapley and Tracey Murkett

Baby-led Weaning

Helping your baby
to love good food



Fully
revised and
updated

When your baby is sick offer some of the foods that have been circled, these are energy rich foods that are easy for your baby to eat.



Remember to offer extra milk feeds when your baby is sick.

Your baby's appetite may be reduced when they are unwell so also offer appetizing, favourite foods.

Outcomes of the BLISS trial



- Following a baby-led approach did not lead to differences in
 - Weight status
 - Ability eat to appetite
 - Choking, iron deficiency, growth faltering
- But BLISS infants were
 - less fussy about food
 - had more varied diets at 7m







- Measure dietary intake in 625 infants over two days
- Including accurate measure of breast milk intake
- Each family will video a meal to how they interact with the infant during the meal
- Assess dental health using photographs





FIRST FOODS

— New Zealand —

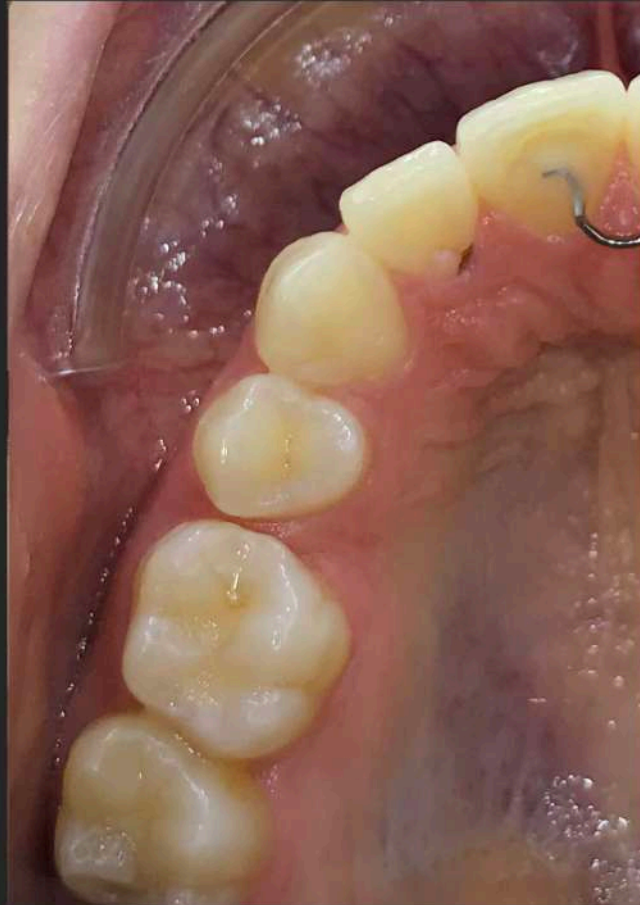


Use of smartphones and Smile Lite to take photos of teeth to check for decay

SMARTPHONES



SMARTPHONES + SMILE LITE



DIGITAL SLR



Media intere

Kids Win Big When a School Bans Playground Rules

BY SUMMIT CHANNEL | POSTED 5 MONTHS AGO

Share (348) Tweet (8) +1 (6) Print (1)

The Economist World pol

The Atlantic SHOP WEAR 157 YEARS OF HISTORY

The Atlantic

POLITICS BUSINESS TECH ENTERTAINMENT HEALTH EDUCATION SEXES

Recess Without Rules

FEATURES: The Overprotected Kid

MENU



The Overprotected Kid

A preoccupation with safety has stripped childhood of independence, risk taking, and discovery—without making it safer. A new kind of playground points to a better solution.

When trying to control a group of rowdy children on a playground, schools usually rely on rules, rules, and more rules. What would happen if we threw out the rulebook? Would there be anarchy? Would we witness a *Lord of the Flies* scenario with an extra dose of pure chaos? According to anson School in Auckland, New Zealand, the answer is

a concept of less adult oversight is not some wacky,



U.S. Army

cordia | Iraq | Ford | World

school tossed out the rulebook and let students play without rules. The results were surprising.

SARAH BOESVELD | March 21, 2014 4:40 PM ET
More from Sarah Boesveld | @sarahboesveld

Republish Reprint



Can bringing back bullrush in schools increase physical activity in kids?



J Adven Educ 2016
IJO 2017
Pediatrics 2017

"Some bloke wants to know if we've carried out
a thorough risk assessment?"

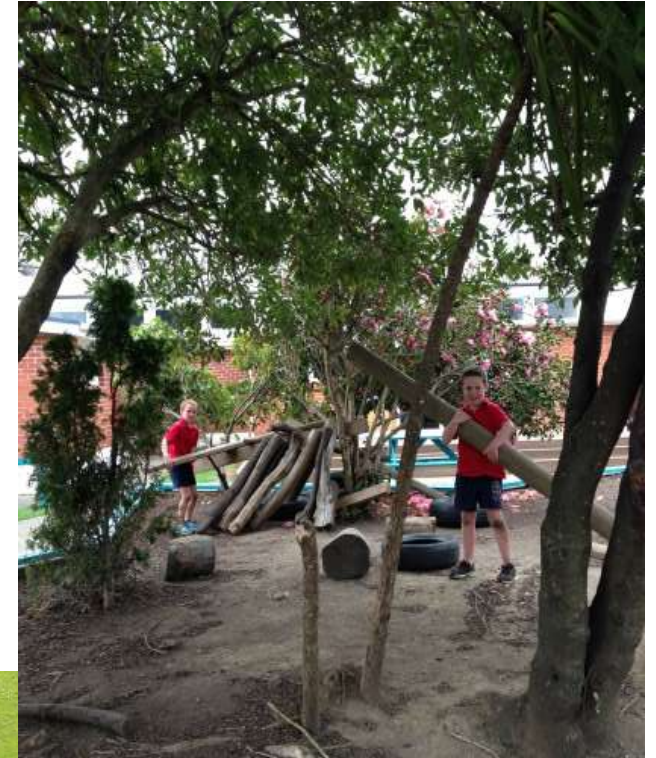


Safety assessor's dream?



Safety assessor's nightmare?

Increasing risk and challenge in the school playground



Can bringing back bullrush in schools increase physical activity in kids?

- 800+ children from 16 schools for 2-year intervention
- Did not increase physical activity
- But did “reduce” bullying - increased resilience



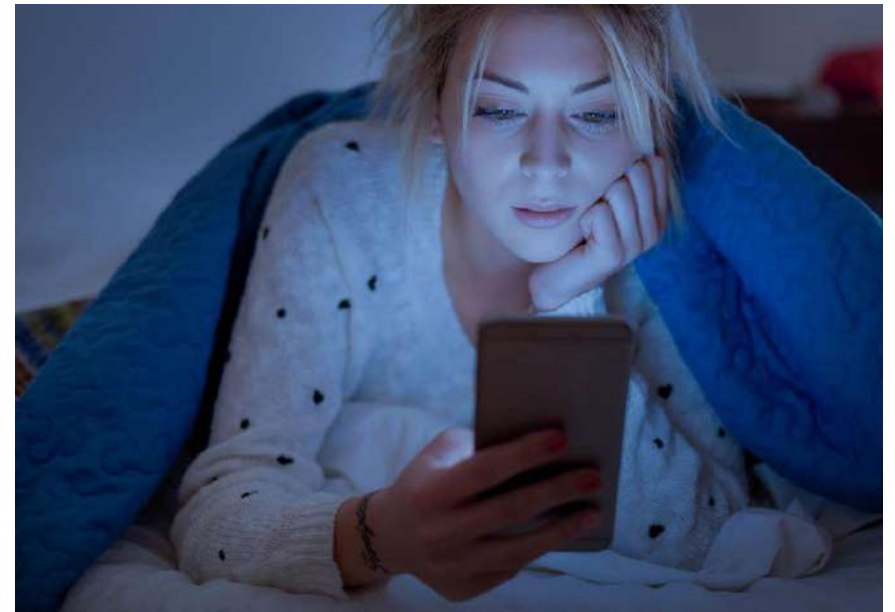
Screen time: good, bad, or ugly?





Screen time

- Is associated with increased risk of obesity
- Interventions to reduce screen time do work
- Using screens before bed is of interest for the impact on sleep



Nationwide Facebook survey

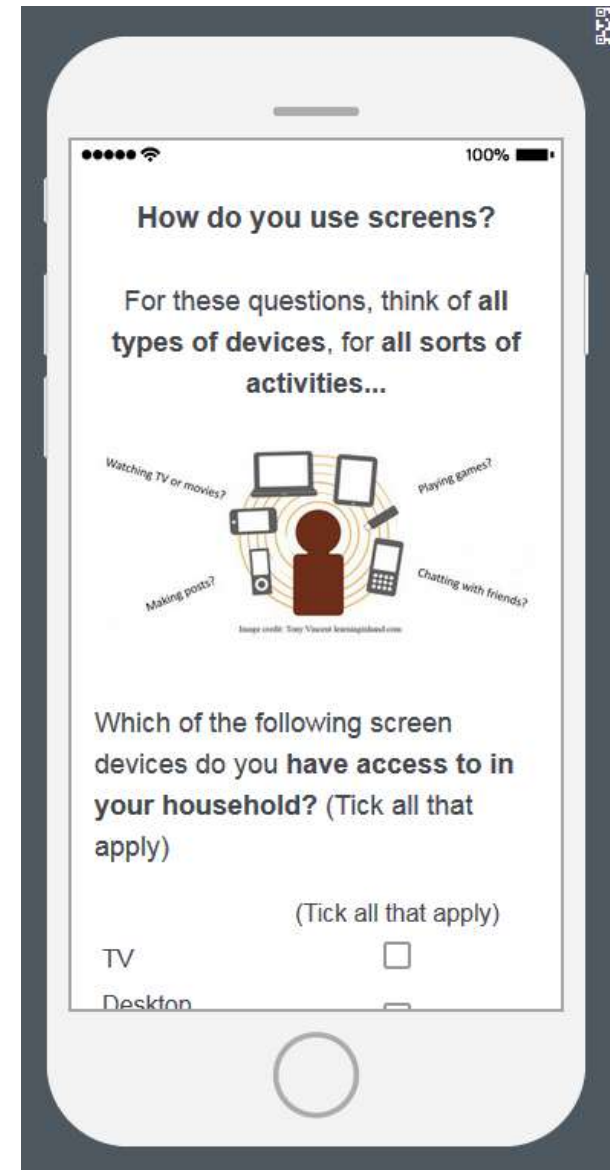
> 4500 adolescents 13-17y

Assessed screen use before
bed and sleep

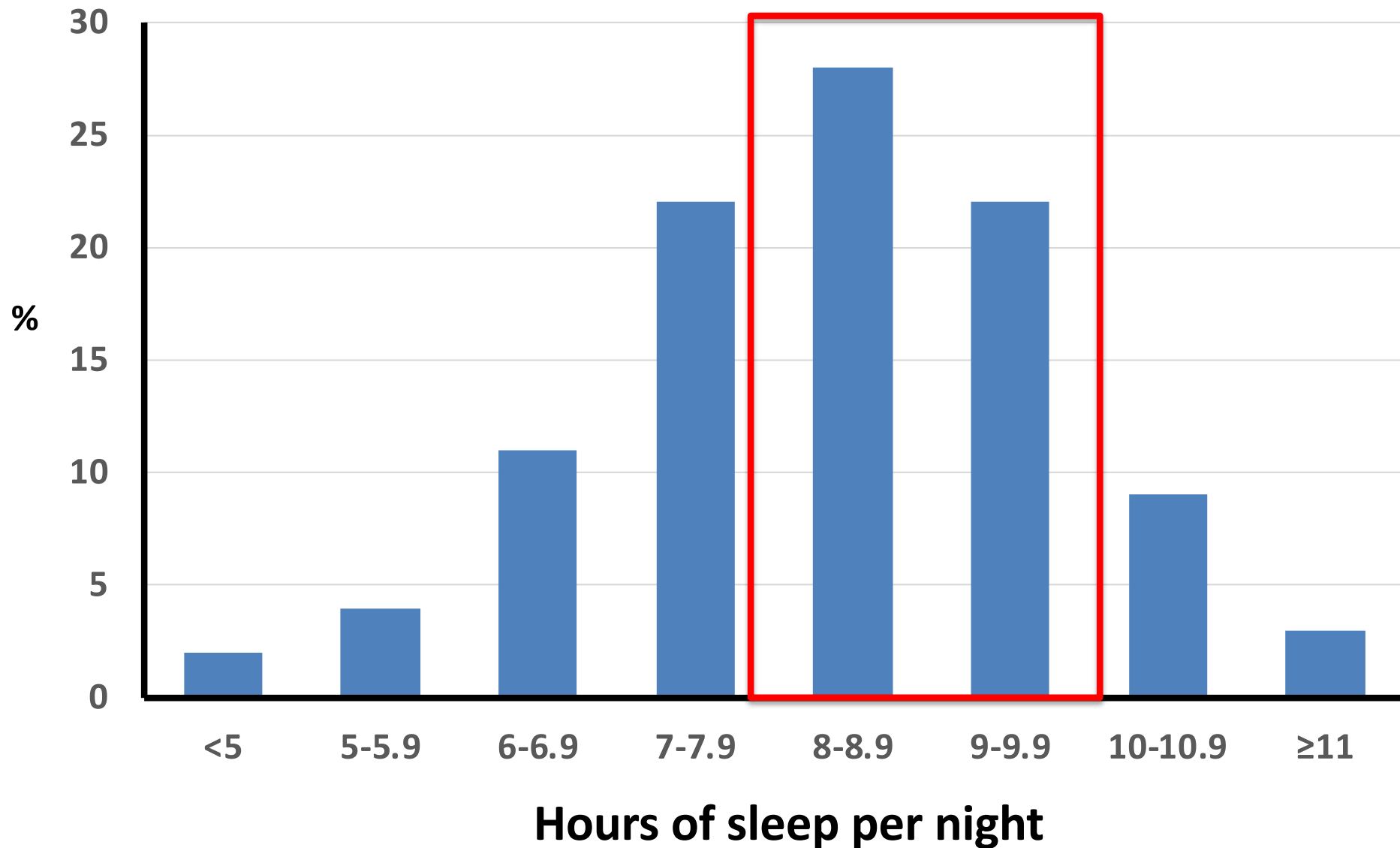
Throughout NZ

Range of household
deprivation and ethnicity

Led by Claire Smith

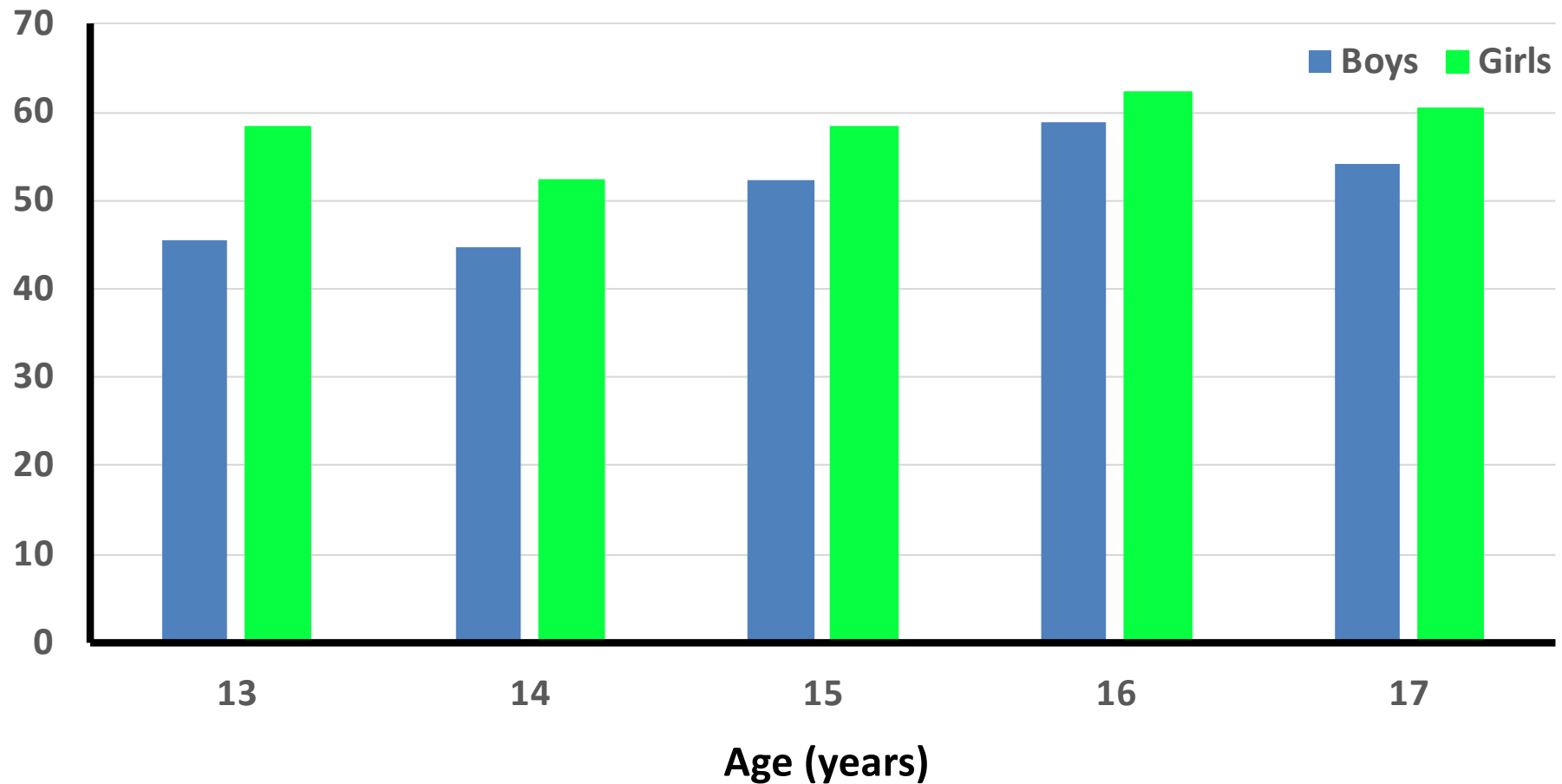


Only ~ 50% meet sleep guidelines



And half report poor sleep quality

% reporting PSQI global score > 5



	% most nights	Difference in sleep (mins)	OR for poor sleep quality
Social media	88	-12	1.3
Web browsing	78	-22	1.5
Texting	77	-6	1.2
Watching TV	64	-11	1.2
Listening to music	60	-19	1.4
Gaming	34	-19	1.4
Family	65	13	0.7
Schoolwork	38	-7	0.8
Exercise	33	9	0.7
Reading	19	4	0.9
Caffeine	15	-28	1.8

Acknowledgements

Anne-Louise Heath

Barry Taylor

Barbara Galland

Jill Haszard

Sheila Williams

Andrew Gray

Kim Meredith-Jones

Jim Mann

Victoria Farmer

Aimee Ward

Deb McIntosh

Grant Schofield

Claire Smith

Alice Cox

Rose Richards

Lisa Te Morenga

Cath Conlon

Pam von Hurst

Kathryn Beck

Neve McLean

Willemijn de Bruin

Silke Morrison

Rosie Jackson

Julie Lawrence

