

ALCOHOL CONSUMPTION AND ASSOCIATED RISK FACTORS IN AUCKLAND PACIFIC ISLAND ADOLESCENTS

David Schaaf
Robert Scragg
*Population Health,
University of Auckland*

Background

- ◆ Youth alcohol drinking is a public health issue because of
 - ◆ their increased harm from alcohol
 - ◆ establishment of lifelong alcohol consumption patterns
- ◆ ALAC priority groups: Maori, Pacific & young people
- ◆ However, very little NZ alcohol research of Pacific youth

Pacific Experience of Alcohol

- ◆ Alcohol introduced to Pacific communities by 19th century European seafarers
- ◆ Influence of English Christian evangelical churches resulted in the widespread prohibition of alcohol among most Pacific Island communities (1800s)
- ◆ Prohibition encouraged home brewing & secrete alcohol consumption mainly by men
- ◆ These early gender-related patterns shape current alcohol drinking behaviours by Pacific people in New Zealand

Previous NZ Research - Adults

- ◆ Alcohol consumption by Pacific people increased with:
 - ◆ *Migration* (Tokelau Island Migrant Study, 1970s)
 - ◆ *Urbanisation* (Tonga, 1970s)
- ◆ Pacific people less likely to drink alcohol than Palangi
 - ◆ 1978 national survey (ALAC, 1980)
 - ◆ 1988-90 workforce survey
 - ◆ 1990-91 Plunket national child health survey
 - ◆ 1992-93 (Statistics NZ & Min. of Health, 1993)
- ◆ Alcohol exposure more common among Cook Island than Samoan women (Auckland, 1980s)

Previous NZ Research – Pacific Youth

1. *1987 FADE survey* of >24,000 NZ high school students found alcohol consumed by 6% of Pacific students, compared with 48% of Maori and 54% of Palangi
2. *2003 ALAC Youth Drinking Monitor*
 - ◆ 124 Pacific participants out of 441 aged 14-17 years
 - ◆ Pacific youth more likely to:
 - ◆ be non-drinkers (Pacific 64%, Maori 23%, Other 33%)
 - ◆ start drinking alcohol later
 - ◆ drink heavily (>10 glasses on last occasion)
 - ◆ Limitation: small sample size, only 52 Pacific drinkers

Other NZ Youth Surveys

Dunedin & Christchurch Youth cohorts

- ◆ About 1000 participants each
- ◆ Started in 1970s & followed since birth
- ◆ Identified risk factors of increased alcohol consumption:
 - ◆ Male gender
 - ◆ Early age of 1st alcohol use
 - ◆ Parental alcohol behaviour and attitudes to alcohol
 - ◆ Peer influences
 - ◆ Increased income, SES status & education
- ◆ Limitation: very few Pacific participants

Objectives

- 1) Identify and describe alcohol drinking patterns in *Pacific* adolescent high school students and compare them to adolescents of *Maori, Asian and European* ethnicity
- 2) Identify, describe and compare alcohol drinking patterns by *Samoan, Tongan, Cook Islands, and Niuean* ethnicities
- 3) Identify and describe the relationship alcohol has with *factors associated with alcohol* drinking patterns in Pacific students
- 4) Quantify the *alcohol burden* associated with lifestyle risk factors and harmful outcomes, specifically:
 - a) contribution lifestyle factors make to alcohol intake
 - b) contribution alcohol makes to adverse health outcomes

Methods – study sample

- ◆ Cross-sectional study sampling from Auckland high schools with >15% of Pacific Islands on school roll
- ◆ 10 schools with SES decile from 1 to 4
- ◆ All Year 11-13 students invited to participate
- ◆ 2549 students interviewed from May 1997 to September 1998 (66% response, school roll)
- ◆ Students interviewed in groups of 10, in the morning, after fasting overnight

Methods – Alcohol Questions

Have you ever drunk alcohol, excluding sips? Yes / No

If YES:

How old were you when you had your first drink of alcohol (years)?

During the past 4 weeks, how often on average did you drink alcohol?

During the past 4 weeks, how many times did you have 5 or more alcohol drinks in one session (ie. within a couple of hours)?

Risk Factors for Alcohol Drinking

Demographic

- ◆ Age
- ◆ Sex
- ◆ Ethnicity
- ◆ NZ birth
- ◆ School SES

Lifestyle

- ◆ Age started drinking alcohol
- ◆ Tobacco smoking
- ◆ Leisure physical activity
- ◆ TV watching
- ◆ Sun exposure

Attitudes

- ◆ Opinion of risk behaviour
- ◆ Observing adult risk behaviour

Feelings (including)

- ◆ Energy
- ◆ Nervous

Health Outcomes from Alcohol Drinking

Physiological

- ◆ Obesity
- ◆ Fitness
- ◆ Blood pressure
- ◆ Blood lipids
- ◆ Blood glucose

Health status (including)

- ◆ Opinion of current health
- ◆ Expectations of future health
- ◆ Emotional problems affecting school or other activities

Total Number of Participants

Ethnicity	Male	Female	Total
Pacific	525	500	1025
Maori	167	165	332
Asian	324	209	533
European	372	225	597

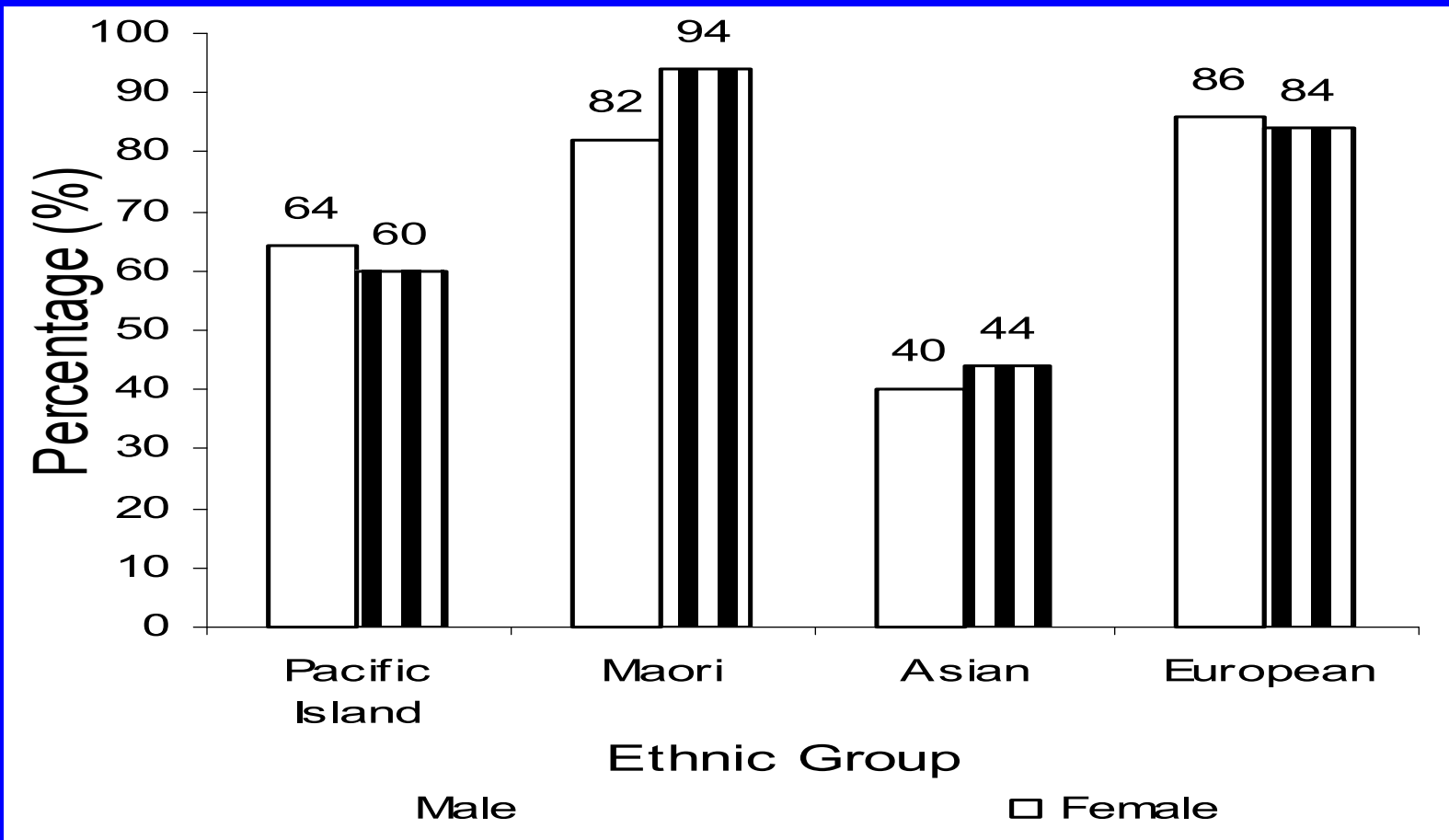
Number of Pacific Participants

Ethnicity	Male	Female	Total
Samoan	224	232	456
Tongan	119	104	223
Cook Islands	66	81	147
Niuean	59	50	109
Other Pacific	57	33	90

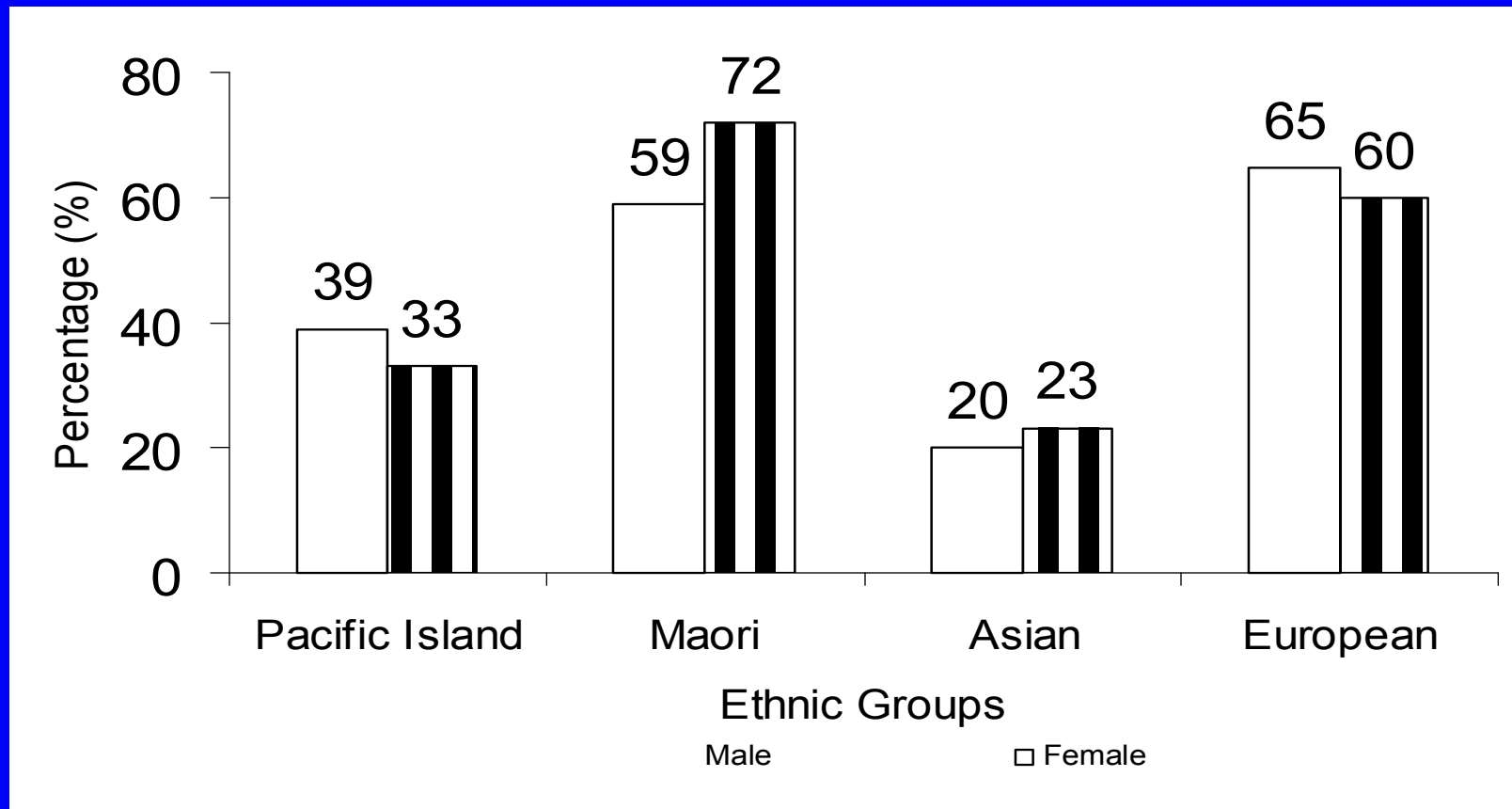
Objective 1

Alcohol Consumption of Pacific
Youth compared with Other
Ethnicities

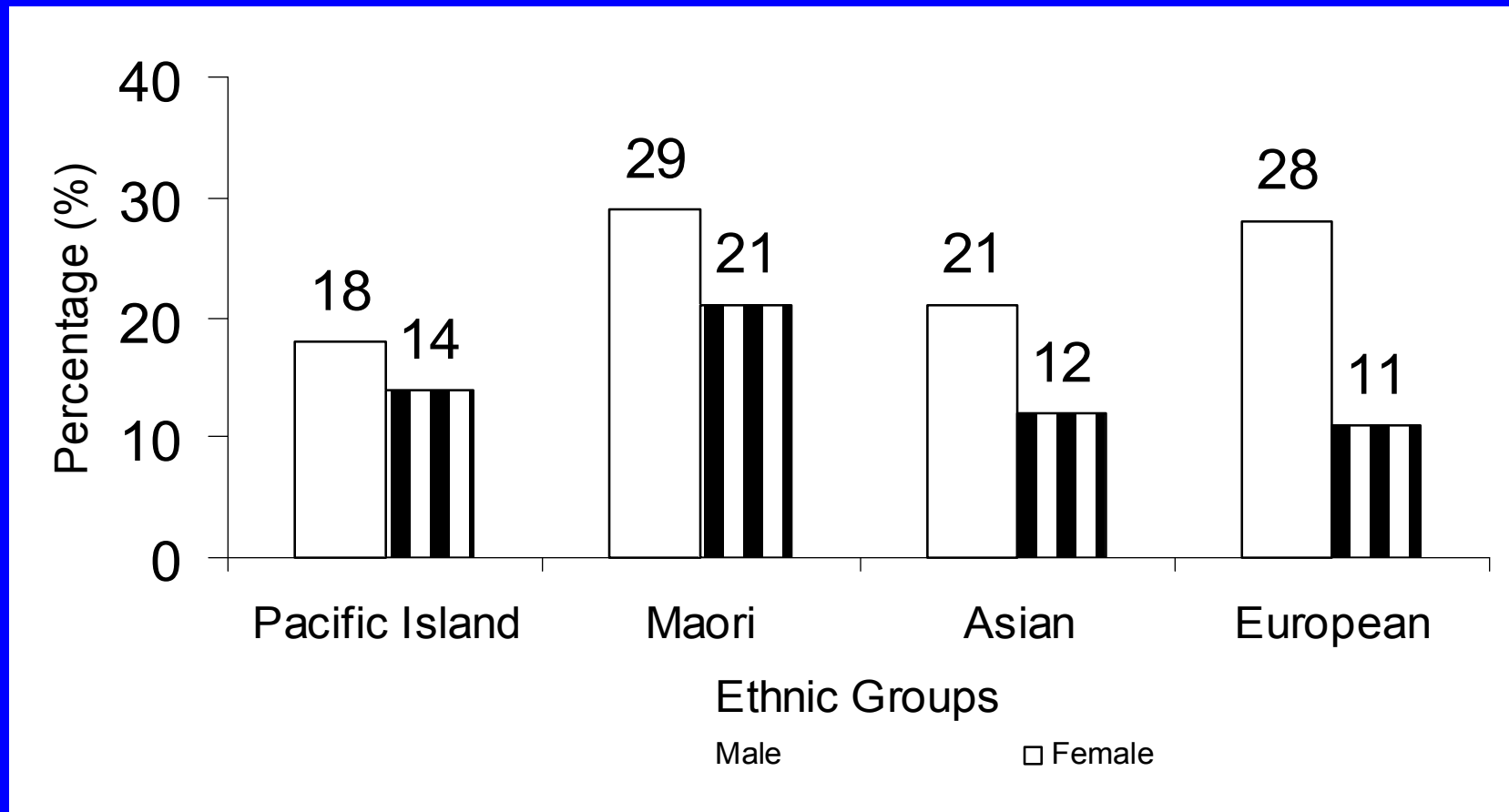
Proportion of students who have *ever tried* alcohol, by ethnic group and sex



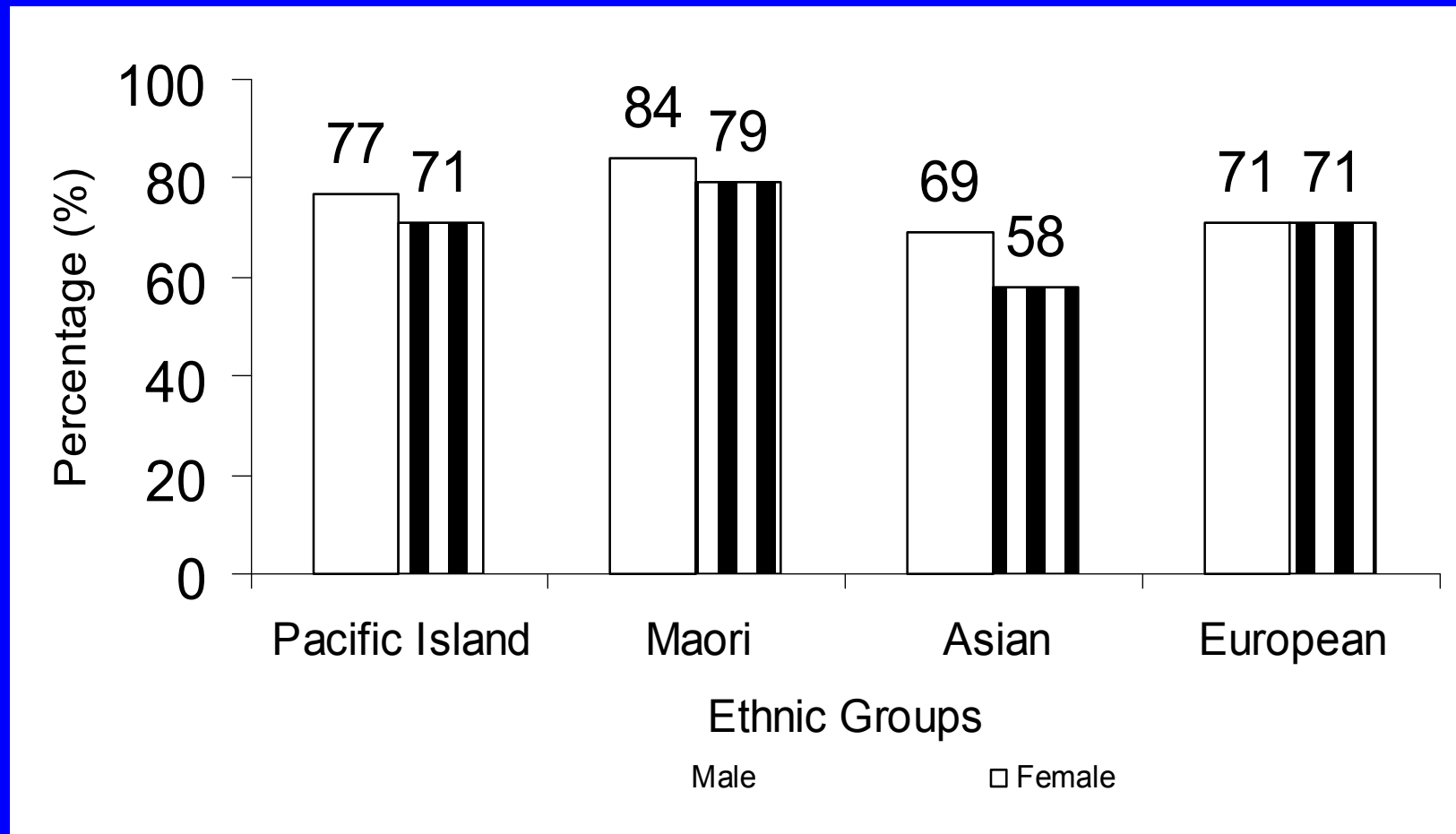
Proportion of students who consumed alcohol in the *last 4 weeks*, by ethnicity & sex



Proportion of alcohol drinkers who had their *first drink* of alcohol before age 12 years



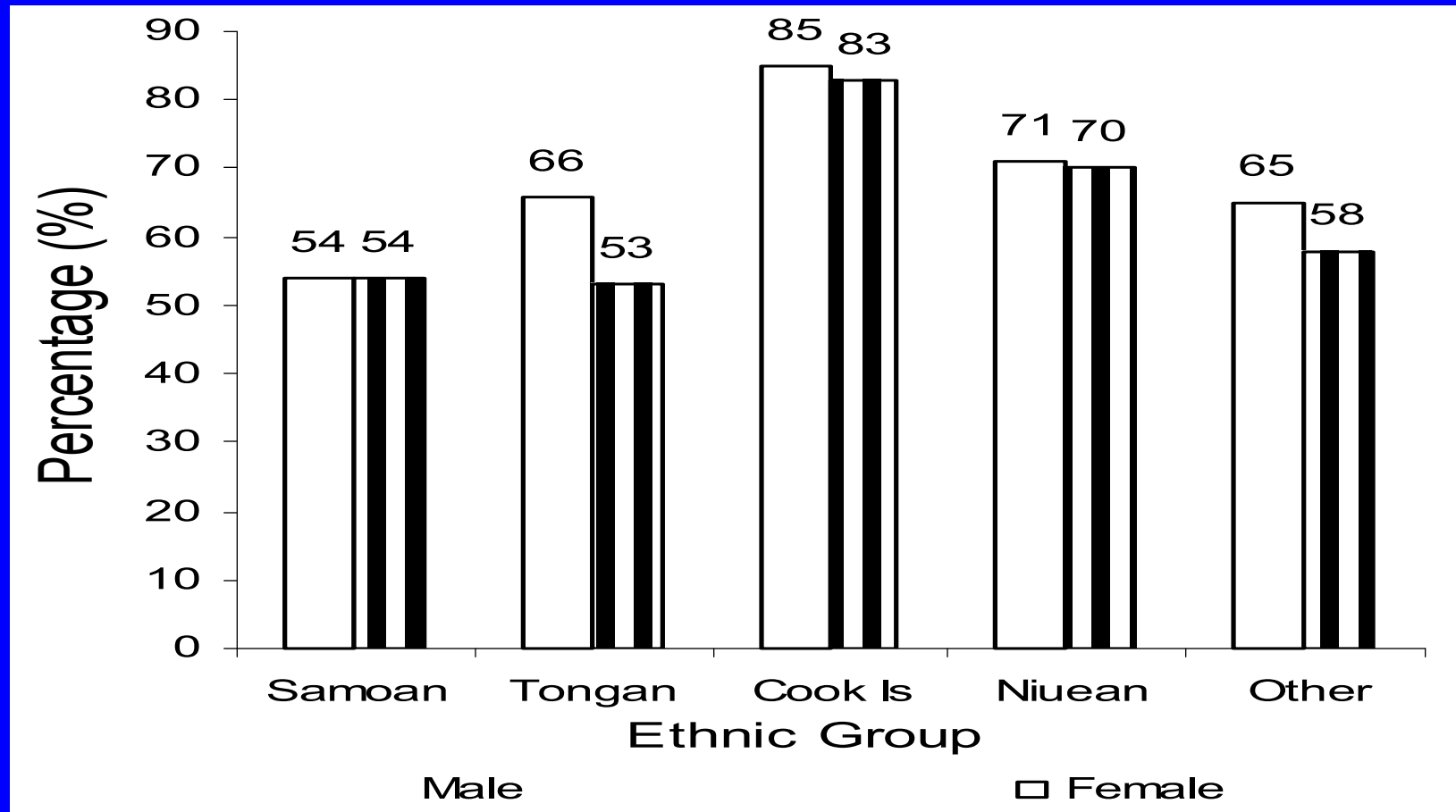
Proportion of current alcohol drinkers who *binge drink*, by ethnic group and sex



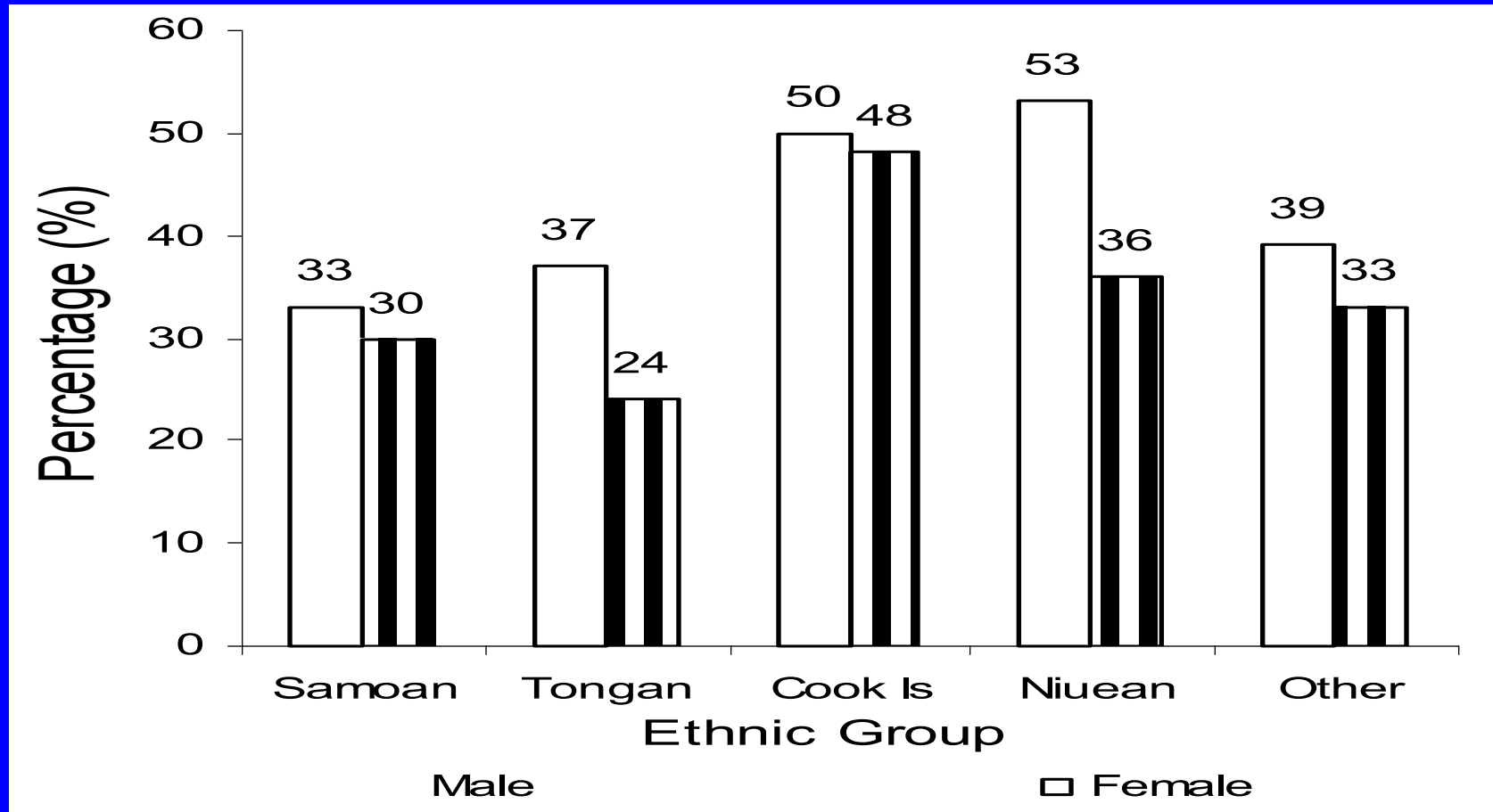
Objective 2

**Comparisons of Alcohol Drinking
between Pacific Youth**

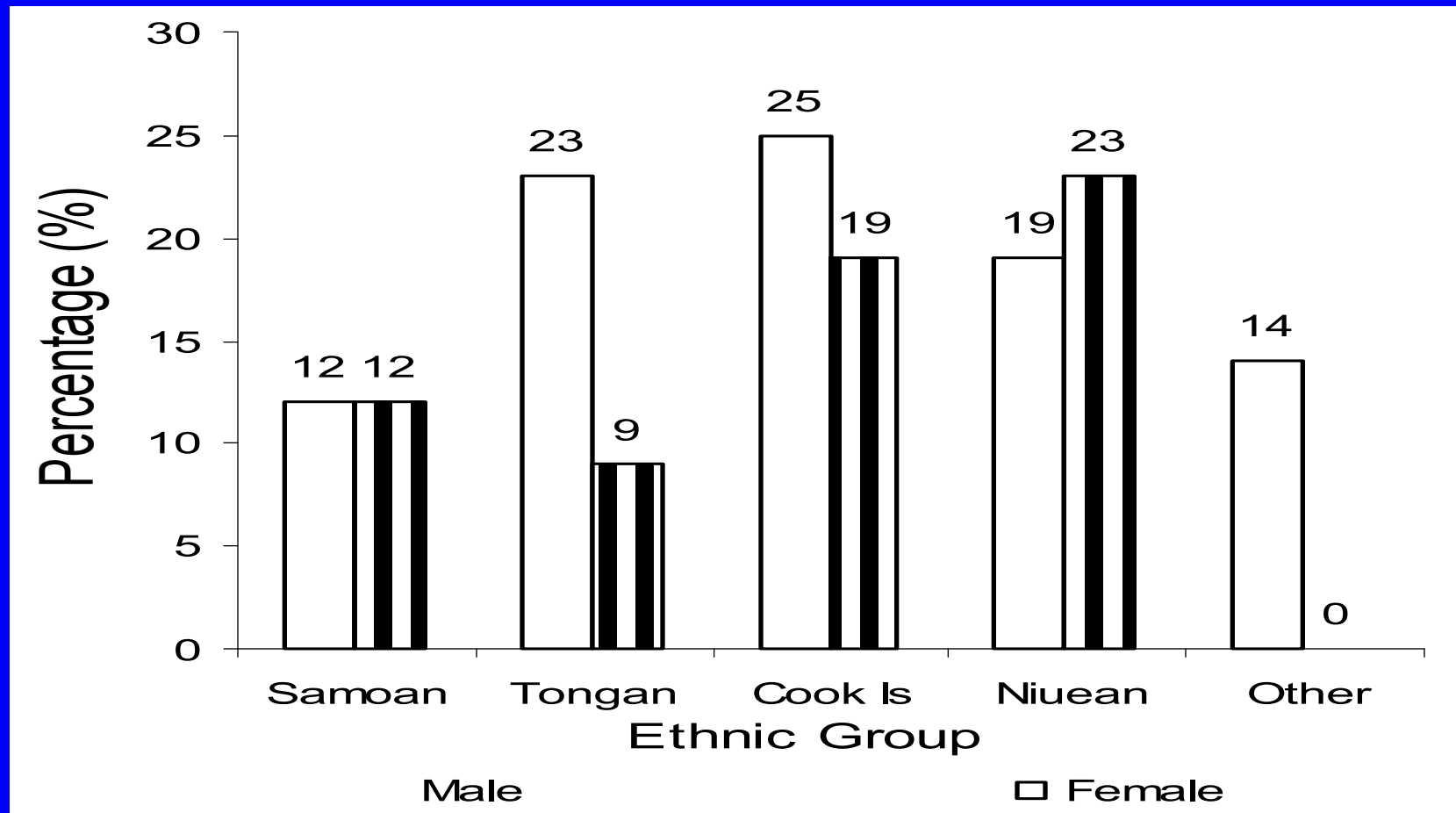
Proportion of Pacific Island students who have *ever tried* alcohol, by ethnic group and sex



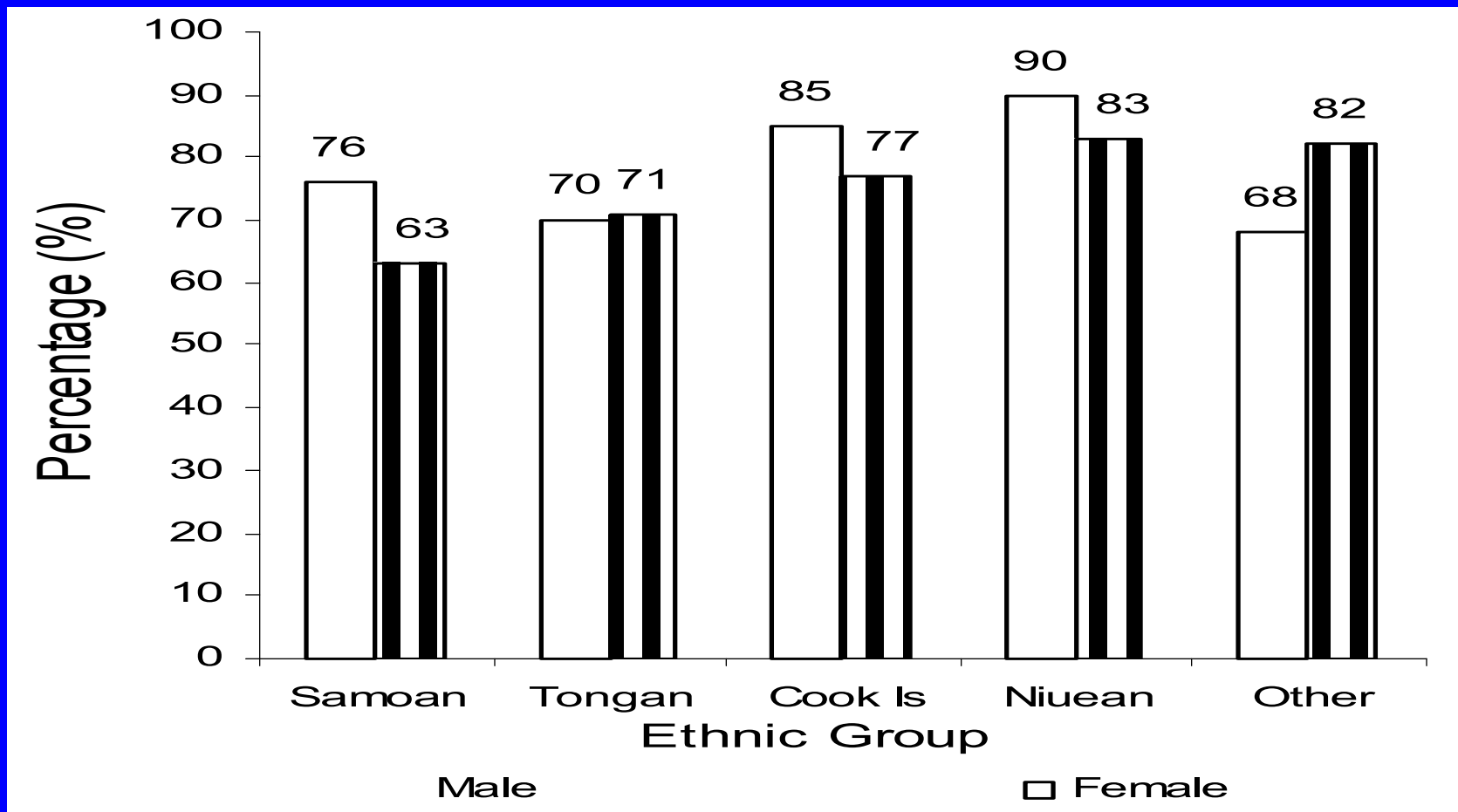
Proportion of Pacific Island students who have drunk alcohol in the *last 4 weeks*



Proportion of Pacific Island students who had their *first drink* of alcohol before age 12 years



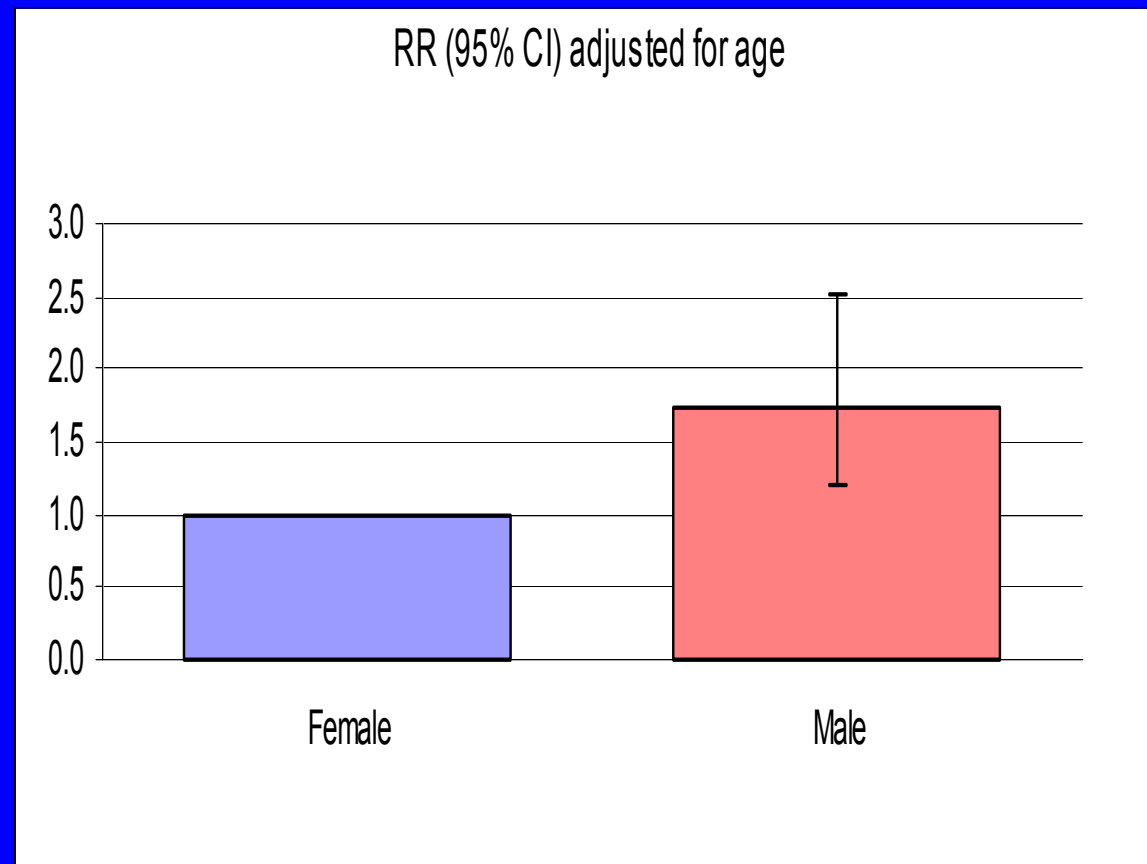
Proportion of Pacific Island current alcohol drinkers who *binge drink*



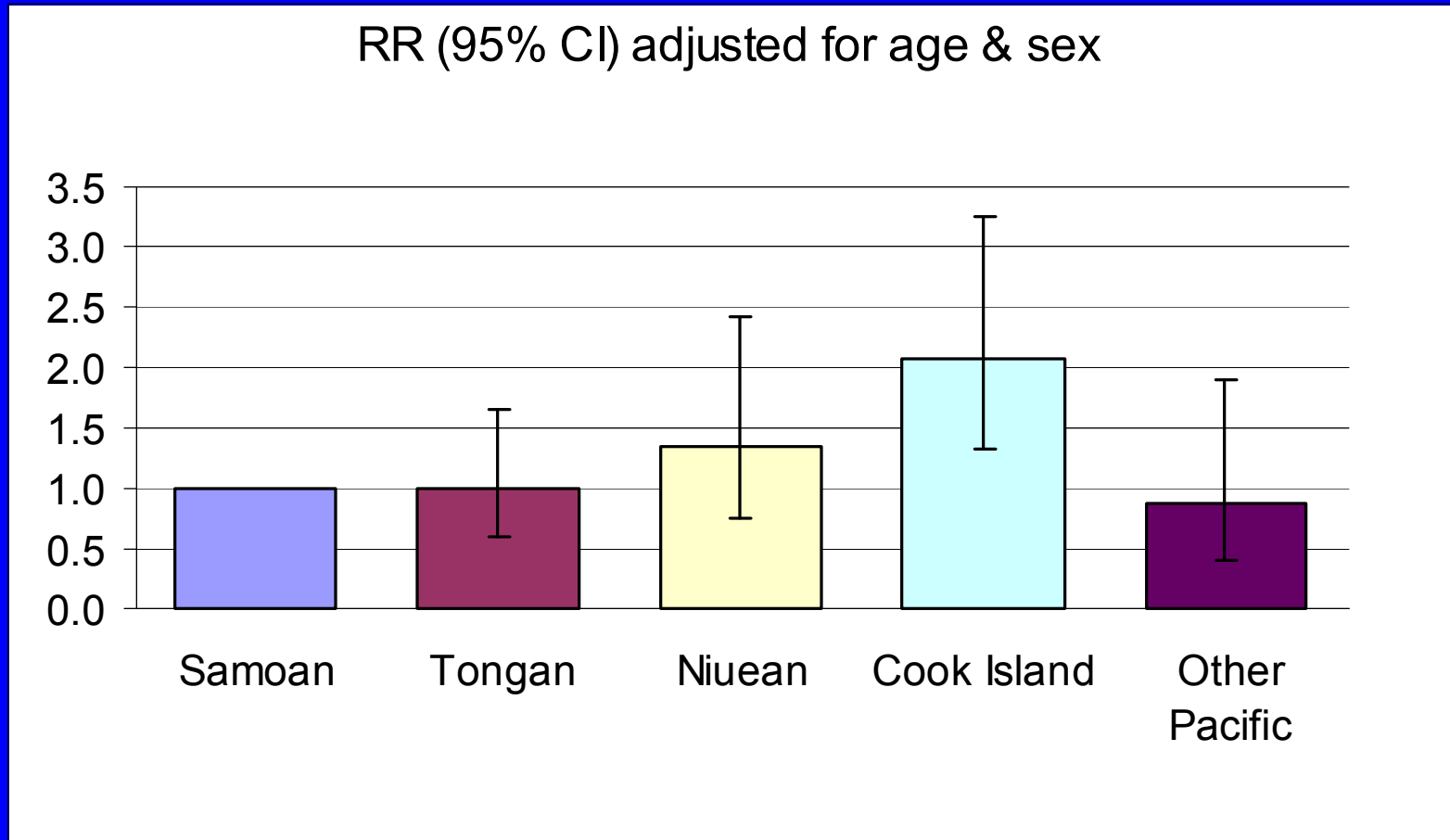
Objective 3

Risk Factors for Alcohol Drinking
by Pacific Youth

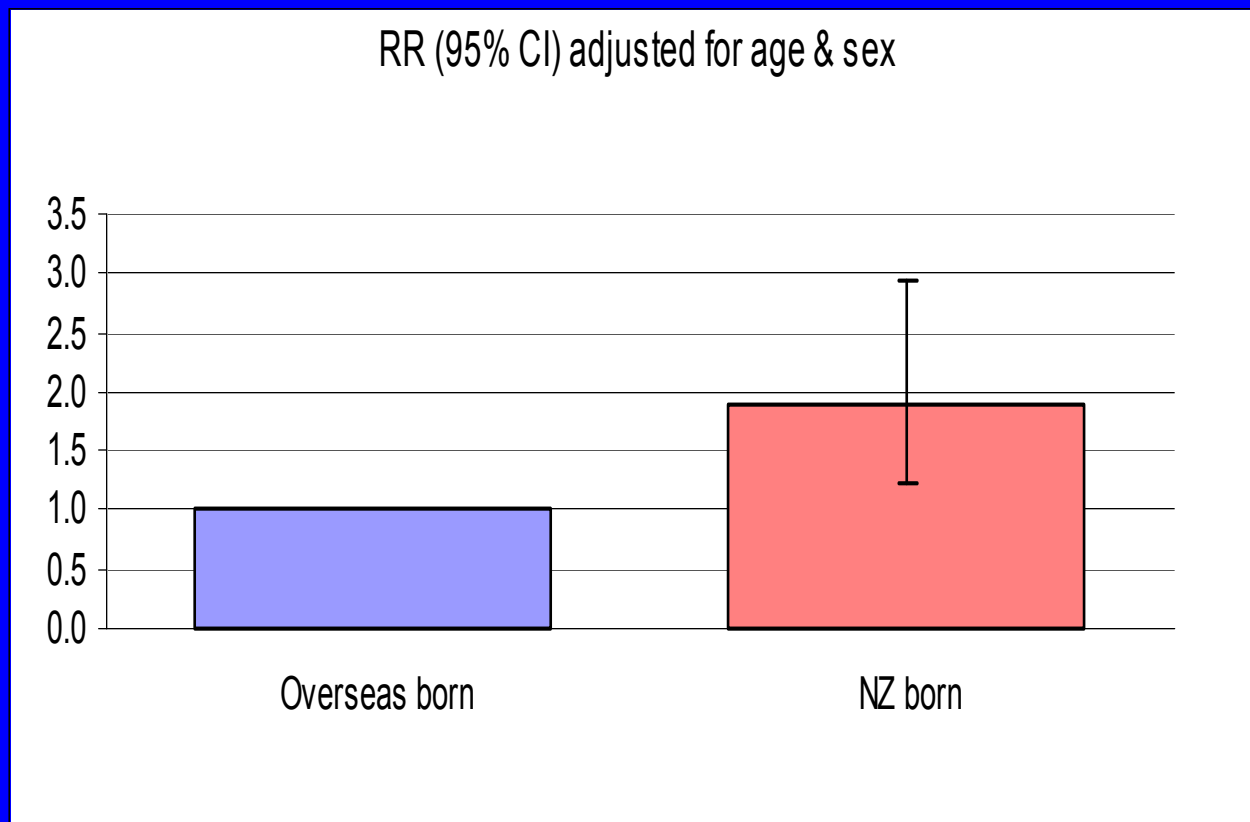
Relative Risk of *weekly alcohol drinking* associated with **Gender**



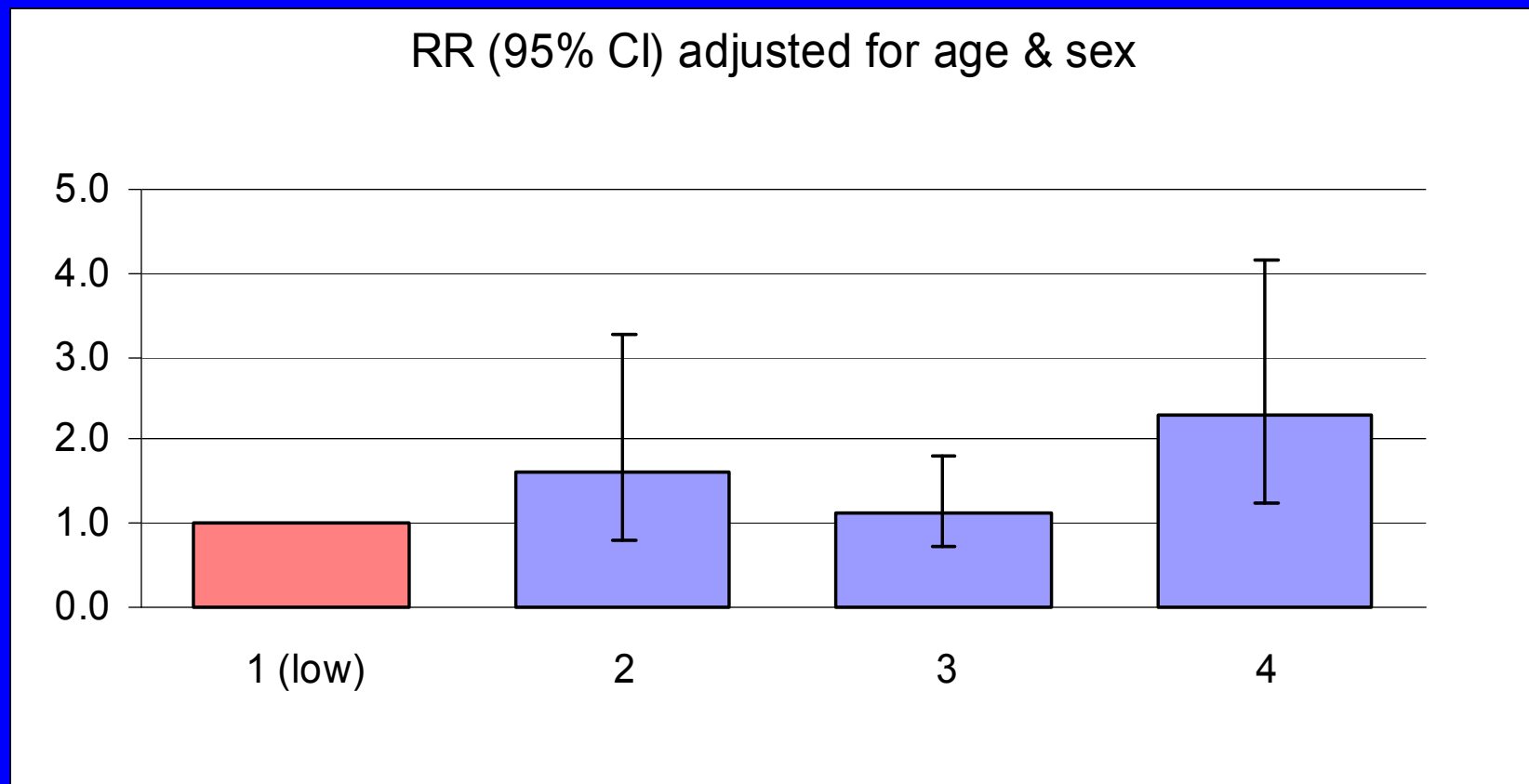
Relative risk of *weekly alcohol drinking* associated with **ethnicity**



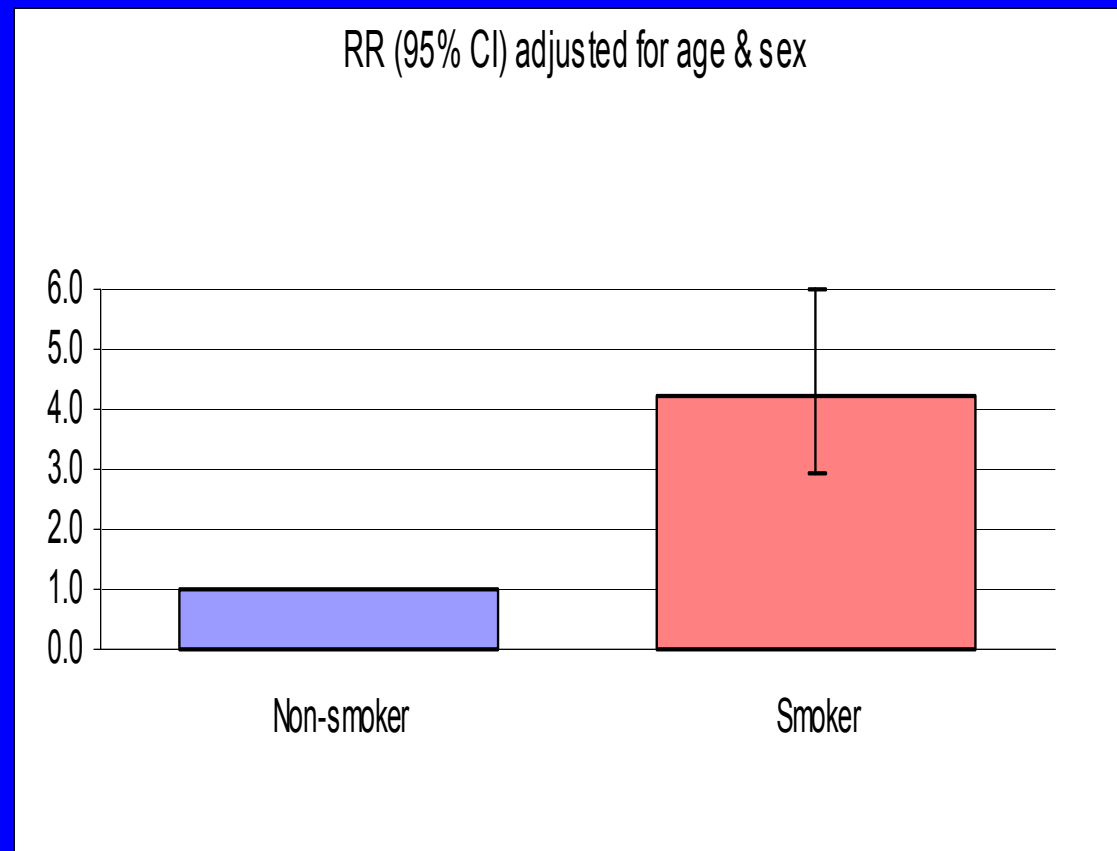
Relative risk of *weekly alcohol drinking* associated with **NZ birth**



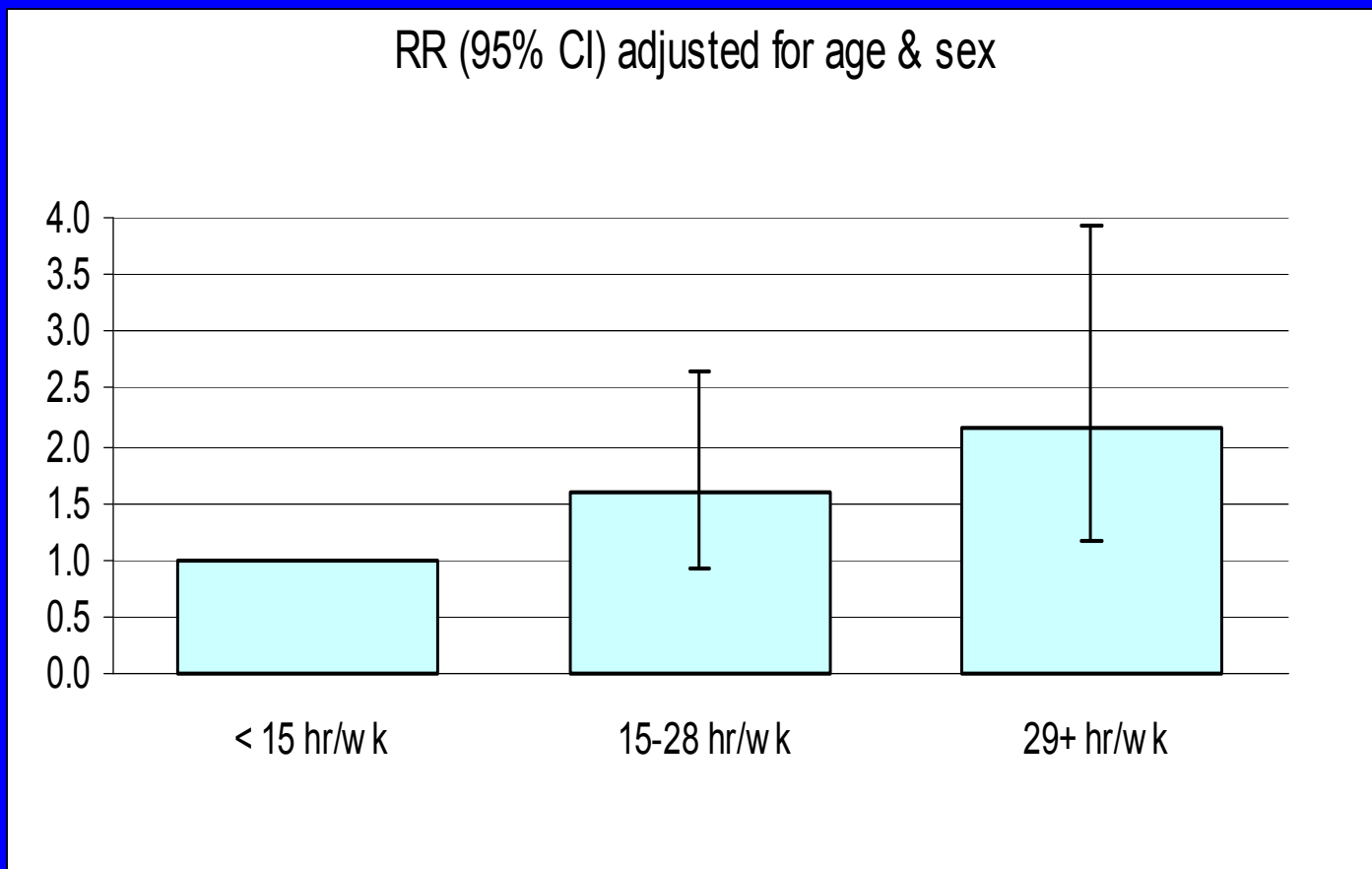
Relative risk of *weekly alcohol drinking* associated with **school SES decile**



Relative Risk of *Weekly Alcohol Drinking* associated with **cigarette smoking**



Relative risk of *weekly alcohol drinking* associated with **sun exposure**



Weekly alcohol drinking & opinion about harm

* p<0.05 v. yes

<i>Do young people risk harming themselves if they:</i>	N	Weekly drinkers (%)
Smoke cigarettes?		
◆ Yes	917	9.5
◆ Don't know	62	19.4*
◆ No	46	26.1*
Drink alcohol?		
◆ Yes	852	8.8
◆ Don't know	94	16.0*
◆ No	79	26.6*
Get in car with drinking driver?		
◆ Yes	923	11.2
◆ Don't know	45	6.7
◆ No	57	8.8

Weekly alcohol drinking & adult behaviour

* $p < 0.05$ v. no

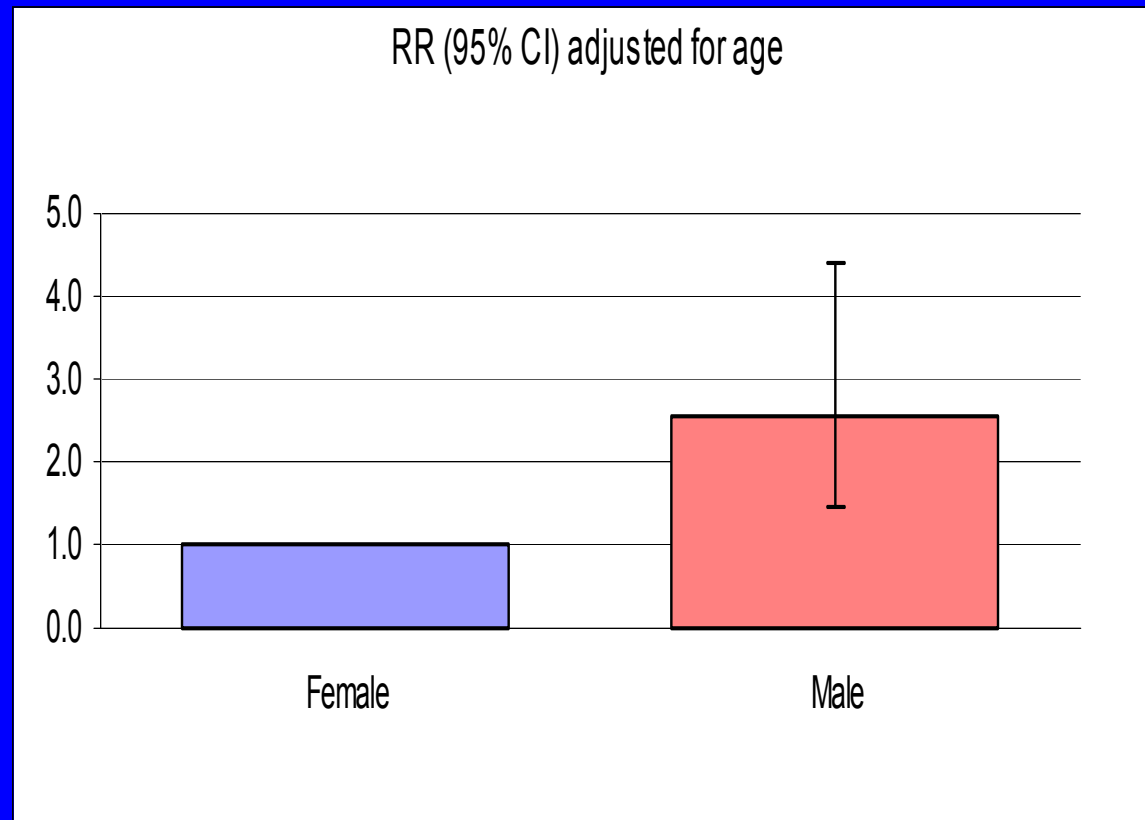
<i>Do you observe adults:</i>	N	Weekly drinkers (%)
Drink too much alcohol?		
◆ Yes	756	11.1
◆ No	269	10.0
Take illegal drugs?		
◆ Yes	535	13.1*
◆ No	490	8.4
Drink alcohol & drive?		
◆ Yes	663	12.1*
◆ No	362	8.6

Weekly alcohol drinking & student feelings

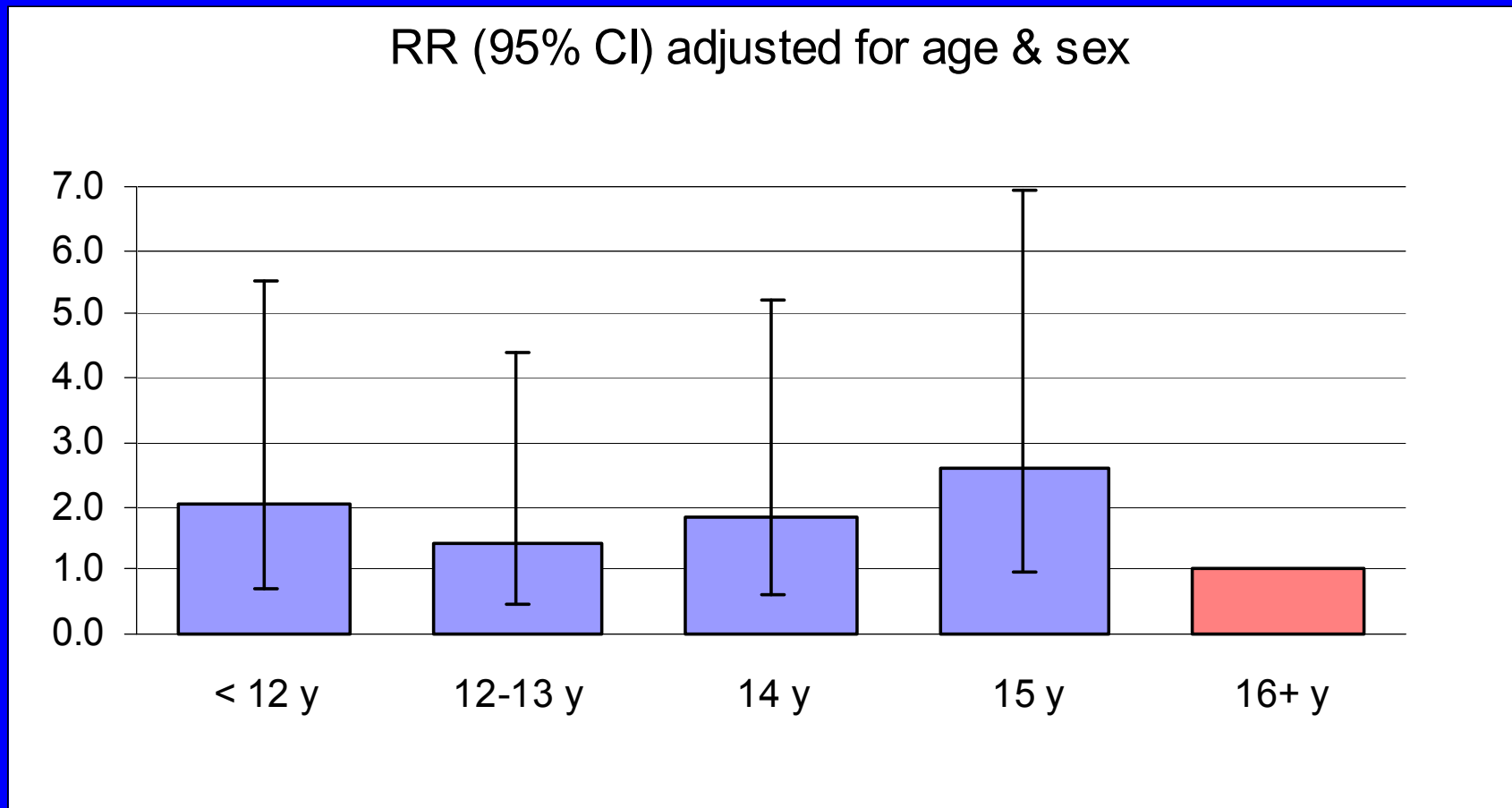
* $p < 0.05$ v. little or none

<i>How much of the time have you:</i>	N	Weekly drinkers (%)
Felt down?		
◆ All or most	87	14.9*
◆ Some	299	11.4
◆ Little or none	639	10.0
Felt calm & peaceful?		
◆ All or most	544	8.6*
◆ Some	367	12.0
◆ Little or none	114	17.5
Been happy?		
◆ All or most	733	9.4*
◆ Some	245	13.5
◆ Little or none	47	19.2

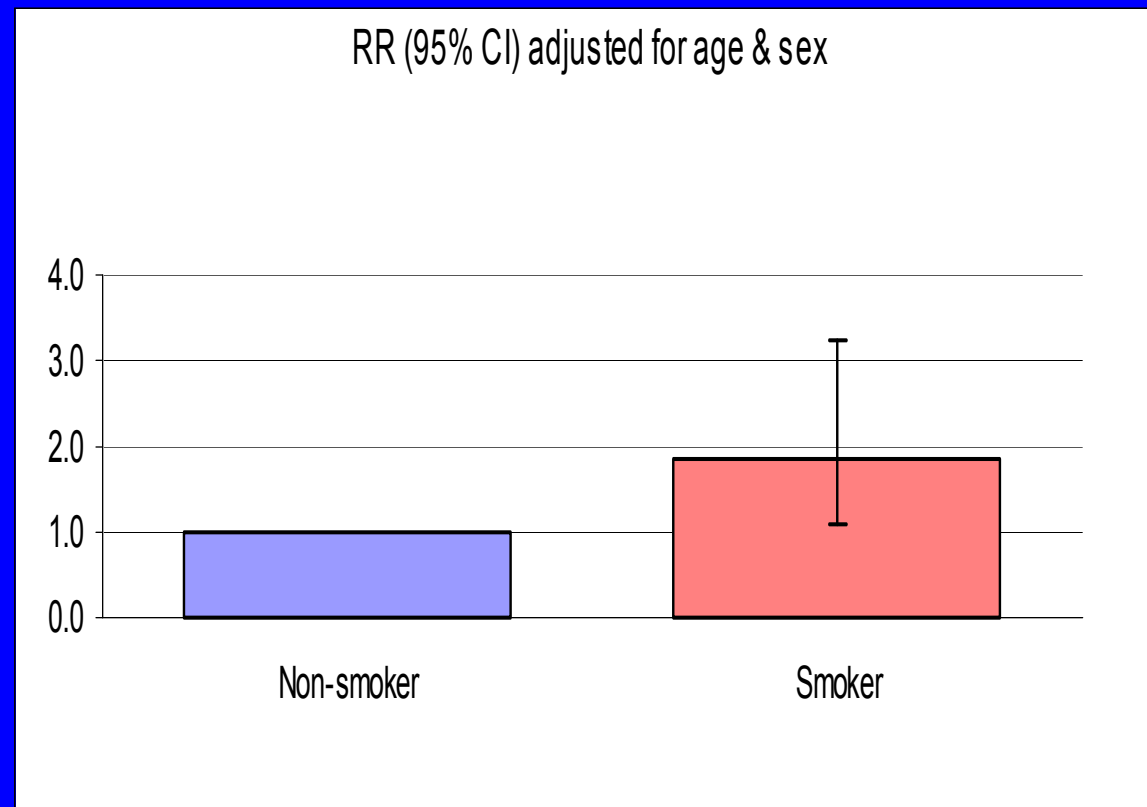
Relative Risk of *regular binge drinking*
(4 times in last 4 weeks) associated with **gender**



Relative Risk of *regular binge drinking*
(4 times in last 4 weeks) associated with **age of 1st drink**



Relative Risk of *regular binge drinking*
(4 times in last 4 weeks) associated with **cigarette smoking**



Relative Risk of
regular binge drinking (4 times in last 4 weeks)
associated with **frequency of usual alcohol drinking**

Frequency of usual alcohol intake	N	4+ alcohol binges (%)	RR (95% CI)
◆ < weekly	252	2.8	1.00
◆ weekly	71	38.0	12.1 (5.0, 28.9)
◆ > weekly	39	64.1	23.0 (10.0, 52.8)

Objective 4

Alcohol Burden

- a) contribution lifestyle makes to alcohol intake
- b) contribution alcohol makes to health outcomes

Burden – contribution to *weekly alcohol intake*

Risk Factor	Exposure	Attributable Risk
Lifestyle:		
◆ Cigarette smoking	Smoker	44%
◆ Sun exposure	> 14 hrs / week	35%
Opinion: risk harm if:		
◆ smoke cigarettes	No / don't know	13%
◆ drink alcohol	No / don't know	19%
◆ become depressed	No / don't know	16%
Observe adults:		
◆ take illegal drugs	Yes	21%
◆ drink alcohol & drive	Yes	21%
Feelings - less important		4 - 10%

Burden – contribution to *regular binge drinking*

Lifestyle Risk Factor	Exposure	Attributable Risk
◆ Usual alcohol intake	Weekly or more often	83%
◆ Age started drinking alcohol	< 16 years	38%
◆ Cigarette smoking	Smoker	27%

Burden – contribution of alcohol to *adverse health outcomes*

Alcohol exposure (in last 4 weeks)	Outcome	Attributable Risk
<i>Weekly alcohol intake</i>	<ul style="list-style-type: none">◆ Health is fair or poor◆ Health worse than 1 yr ago	11% 14%
<i>Alcohol binges</i> 4 or more	I am not as healthy as anybody I know	4%

Burden –

association of *regular alcohol intake*
with **fitness** (physical work capacity)

Alcohol exposure (in last 4 weeks)	Fitness - work capacity Mean (se)	P-value
Never	1.86 (0.03)	-
0	1.95 (0.03)	<0.05
< weekly	2.04 (0.03)	<0.001
Weekly or more often	2.10 (0.05)	<0.001

Conclusions – objectives 1 & 2

Objective 1:

- ◆ Drinking patterns of Pacific Youth compared favourably with those of Maori and Palagi youth, but less favourably when compared with Asians

Objective 2:

- ◆ Cook Islands youth had the least favourable drinking pattern among Pacific youth, followed by Niuean. Samoans of both sexes and Tongan females had the most favourable

Conclusions – Objective 3 (i)

Risk factors for increased *usual alcohol intake*:

- ◆ *Demographic variables*
male gender, Cook Island ethnicity, New Zealand birth, increased socioeconomic status
- ◆ *Lifestyle* - cigarette smoking, increased sun exposure
- ◆ *Incorrect opinions* about the harm from smoking cigarettes & drinking alcohol
- ◆ *Observing adults* engage in risk taking behaviour with illegal drugs & drinking alcohol while driving
- ◆ *Feeling down and unhappy*, not calm and peaceful

Conclusions – *Objective 3 (ii)*

Risk factors for *binge drinking*:

- Demographic – male gender
- Lifestyle –
 - Frequency of usual alcohol intake,
 - early age of starting alcohol drinking
 - cigarette smoking

Conclusions – objective 4 (i)

Modifiable factors that explained *usual alcohol intake*, in order of importance, were:

- ◆ cigarette smoking and sun exposure
- ◆ observing adults engage in risk taking behaviour with illegal drugs and drink driving
- ◆ incorrect opinions about harm from smoking cigarettes and drinking alcohol

Conclusions – objective 4 (ii)

Modifiable factors that explained *binge drinking*, in order of importance, were the lifestyle behaviours:

- ◆ usual alcohol intake
- ◆ early age of starting alcohol drinking
- ◆ cigarette smoking.

Alcohol had only a limited effect on the *health outcomes* measured in this study.

Recommendations for Policy

- ◆ Regulations and laws surrounding young people's access to alcohol are enforced and monitored carefully Objective 2: Comparison of alcohol drinking patterns in Pacific youth (i.e. *Samoan, Tongan, Cook Islands, and Niuean* ethnicities)
- ◆ Surveillance and monitoring of youth drinking in public places is recommended, laws and regulations concerning this practice should be enforced

Recommendations for Health Education and Promotion

- ◆ Monitoring of youth drinking in public places, and laws and regulations enforced
- ◆ Interventions be targeted specifically at the Pacific male population
- ◆ Ethnic-specific interventions & health promotion targeted at Pacific populations most at risk i.e. Cook Islands and Niuean population
- ◆ Educating youth who are drinking, to drink safely and responsibly

Recommendations for Health Education and Promotion *cont*

- ◆ Health education programmes and effective interventions should be holistic and should consider the 'whole' person, and include risk-taking behaviour and emotional well-being
- ◆ Health promotion and education campaigns should target caregivers and parents (permissiveness)
- ◆ The link between discretionary income and higher alcohol consumption is communicated back to parents and caregivers via health promotion programmes focusing on the safe use of alcohol

Recommendations for Further Research

- ◆ Exploring reasons why adolescent drinking varies between Pacific cultures
- ◆ Further research on *protective* risk factors of Pacific populations
- ◆ Understand the role of sun-exposure, including association with aerobic capacity
- ◆ Relationship between sports culture and alcohol consumption in the Pacific youth population
- ◆ Link between sun-exposure, Pacific family/home environment policies and practice surrounding alcohol consumption and outdoor drinking
- ◆ Understanding acculturation factors causing increased drinking