

# Pacific Islands

## Families:

# The First Two Years of Life & Transition to School Studies



# "For the future of our children"

"We want healthy babies, happy children and families.

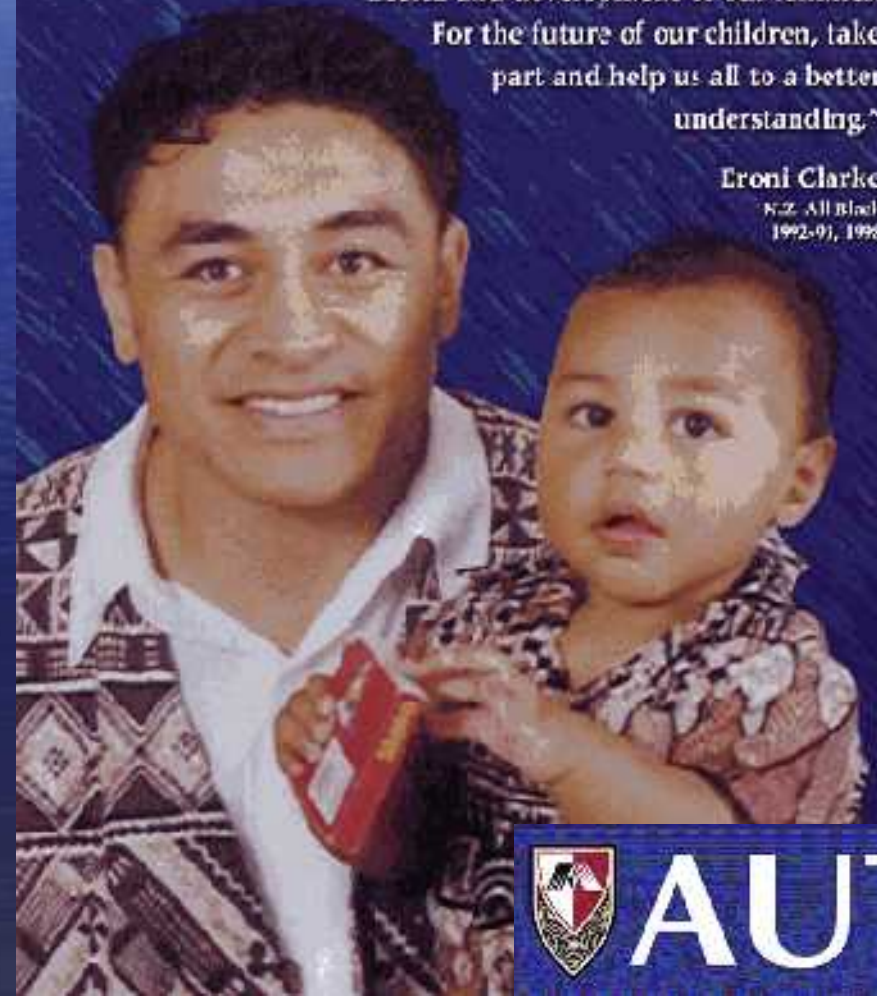
The project 'PACIFIC ISLANDS FAMILIES:

The First Two Years of Life' is about the  
health and development of our families.

For the future of our children, take  
part and help us all to a better  
understanding."

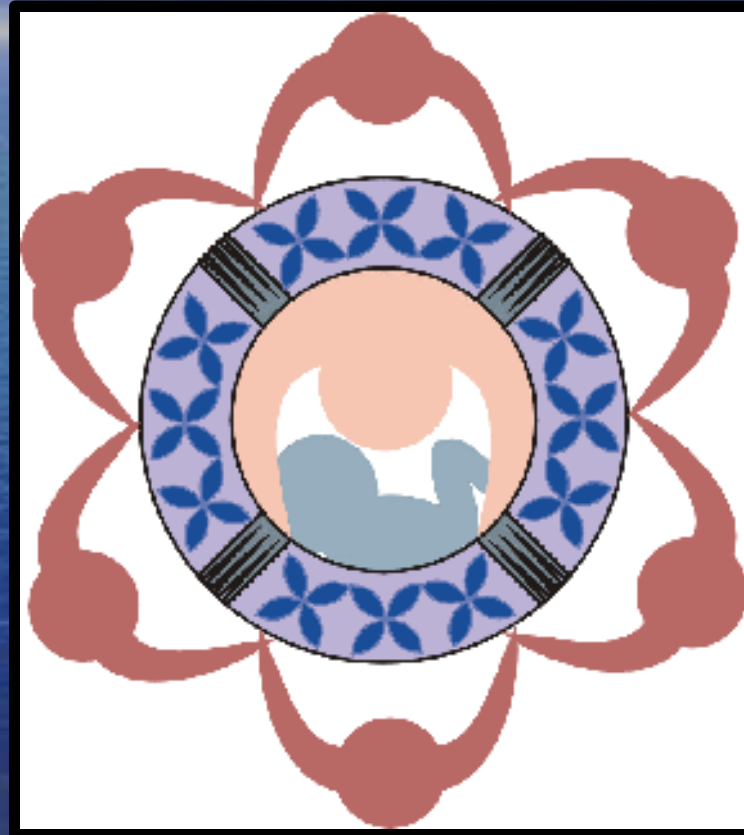
Eroni Clarke

N.Z. All Black  
1992-91, 1998

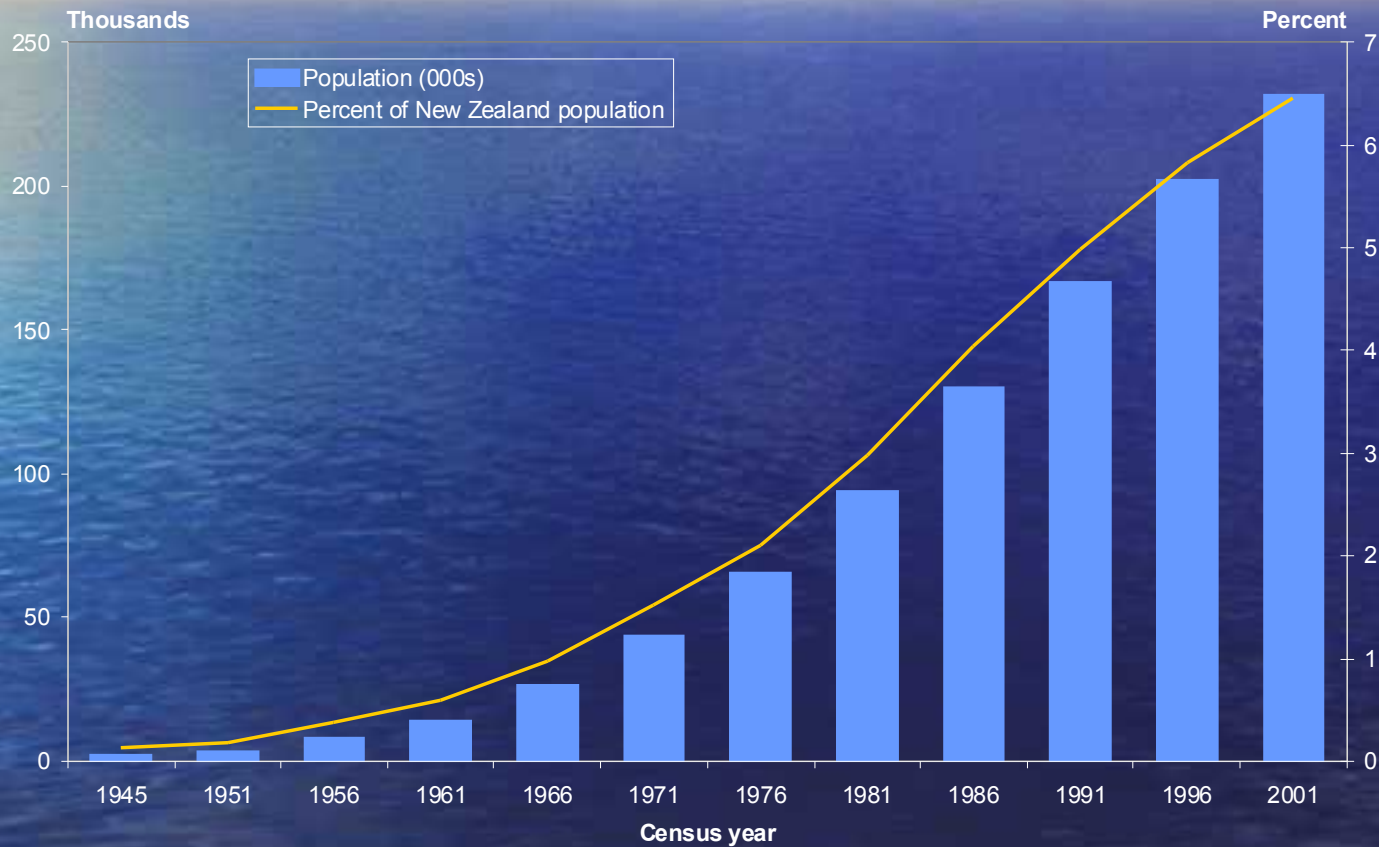


# AUT

# PIF Logo

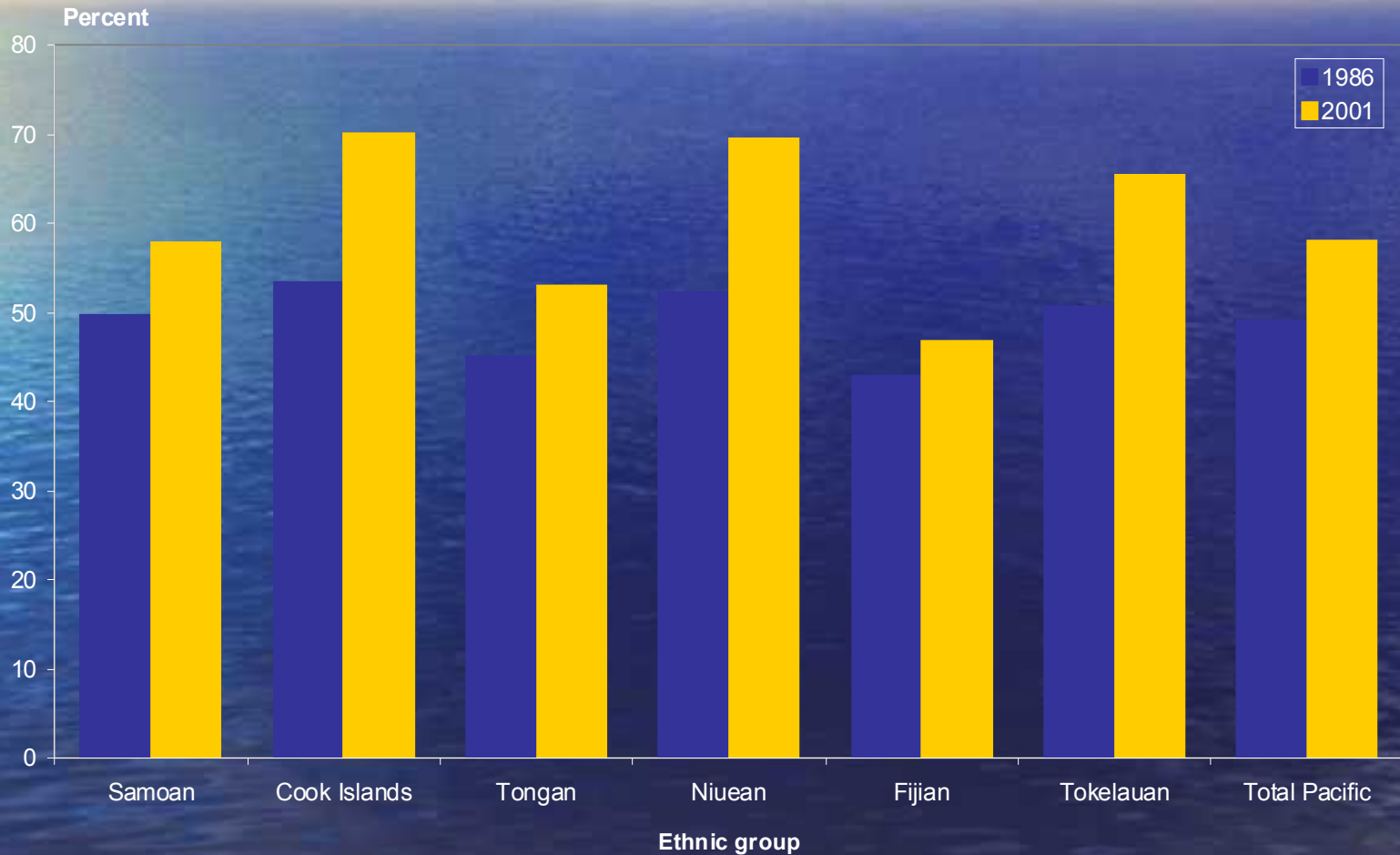


# Pacific population



# Proportion NZ born

Proportion of Pacific peoples born in New Zealand,  
by ethnic group 1986-2001.



Source: Pacific Progress, Statistics New Zealand 2002.

# Background

- Pacific people are a growing sector of NZ pop<sup>n</sup> with a young age structure & high fertility rate
- Pacific children are over-represented in adverse social & health statistics
- There is little culture-specific information on which to base policy & services
- Early identification of protective & risk factors in infancy is vital

## Rationale for the study-

### How will the PIF Study benefit Pacific families?

- Provision of culture specific multidisciplinary data will enable:
  - A better understanding of the development of Pacific children in the context of their families
  - Professional agencies & policy makers to make decisions closer to the needs of communities
  - Communities to lobby for change

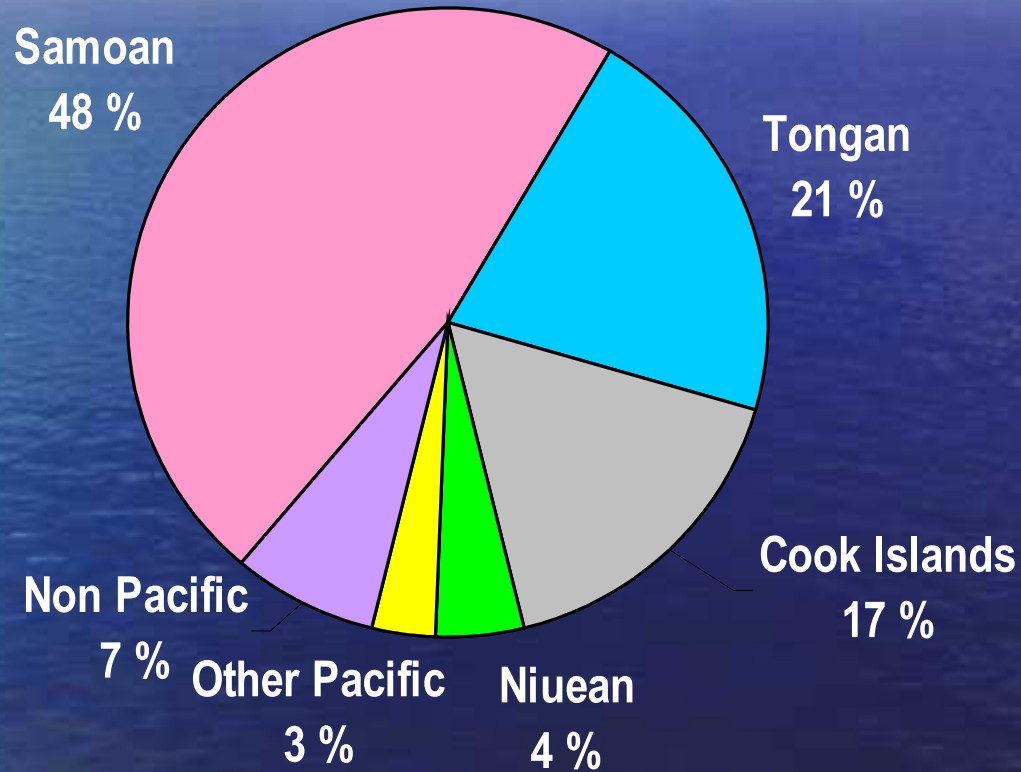
# Design

- **Prospective cohort followed over first two years of life**
- **Participants**
  - **1398 Pacific infants, mothers and fathers**
- **Data collection – questions framed**
  - **6 weeks, 12 months, 24 months, 4 years and 6 years**
  - **Individual parent & child interviews**

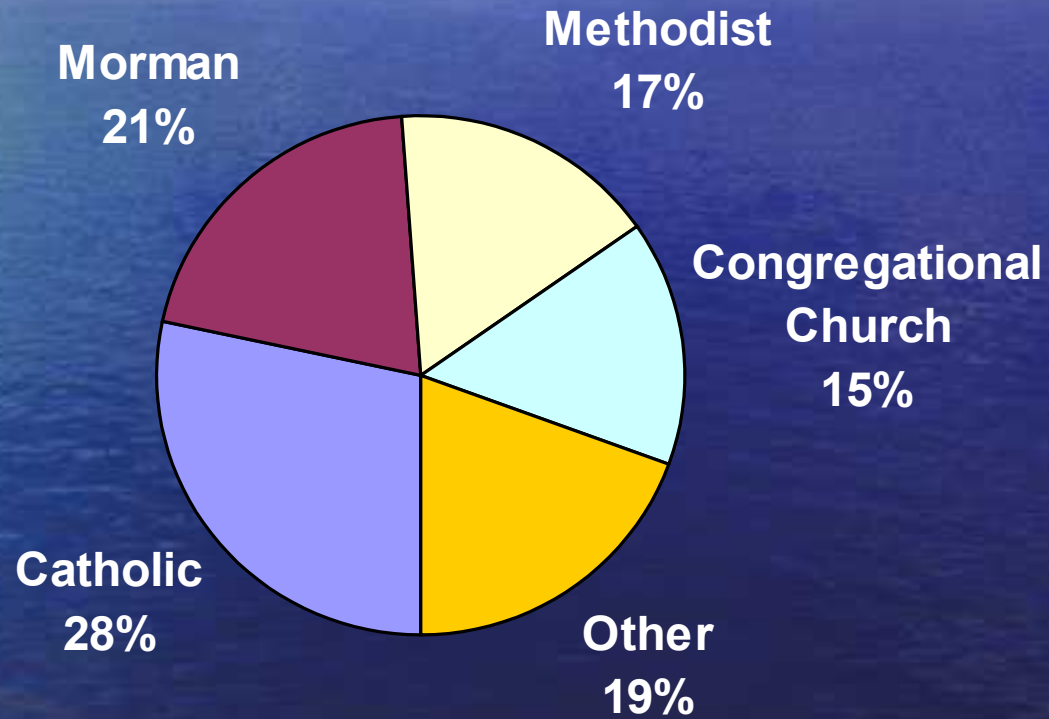
# Research perspectives

- Epidemiological
- Quantitative
- Opportunities for intensive in-depth studies
- Pacific research perspectives

# Details of cohort Mothers: Ethnicity



# Religion



# Details of cohort mothers

- New Zealand born: 33%
- Mean age: 27 years
- Married or de facto partnerships : 80.5%
- Had post school qualifications: 27.4%



## Details of cohort Mothers:

# Household Income

Mean = \$26,178



# Six week measures

- Cultural identification
- Household composition
- Family Planning
- Pregnancy & Birth Services
- Childcare practices
- Maternal childhood experiences
- Religious practices
- Traditional practices
- Child temperament
- Child health
- Immunisation
- Infant feeding & sleeping
- Parental Health
- Partner Relationships
- Family Finances
- Housing & Transport
- Leisure Activities

# Twelve months measures

## *Mother*

- Parents' demographic composition
- Household composition
- Housing
- Modes of transport
- Cultural orientation
- Child Behaviour & temperament
- Developmental milestones
- Leisure activities
- Child care arrangements
- Discipline & nurturing
- Care-giving environment
- Infant sleeping & feeding
- Lifestyle factors
- Parental health
- Immunisation & illness
- Child anthropometric assessment

# Twenty-four months measures

## *Mother*

- Parents' demographic composition
- Household composition
- Housing
- Modes of transport
- Cultural orientation
- Child Behaviour & temperament
- Developmental milestones
- Leisure activities
- Child care arrangements
- Parent relationship
- Discipline & nurturing
- Care-giving environment
- Infant sleeping & feeding
- Lifestyle factors
- Parental health
- Immunisation & illness
- Child anthropometric assessment

# Twenty-four months measures *Child*

- Child Behaviour & temperament
- Home environment
- Language development
- Hearing assessment

# Child nurturing and discipline-variables

## Socio-economic factors

- Age
- Ethnicity
- Education
- Household income
- Social marital status
- NZ born
- Years lived in NZ

- Religious affiliation
- Employment
- Family structure
- Acculturation

## Lifestyle factors

- Smoking
- Alcohol
- Gambling

\*Maternal health-postnatal depression

# Child nurturing and discipline

- Questions (Fox scale)
  - 15 items making up a modified PBC (Fox) scale
    - Ten of the items form a “nurturing” subscale
    - Five form a “discipline” subscale

# Child nurturing and discipline

- Data analyses

- The two subscales were dichotomised in terms of whether or not mothers fall in the top quartile (25%) of scores for each of the nurturance and discipline scales.
- Univariate analyses were performed to examine whether each individual factor from socio-economic, lifestyle and maternal health was related to mothers being more likely to have relatively higher nurturance and discipline scores
- Multiple Logistic regression analyses were performed to adjust confounding factors

# Child Nurturing Findings - 1

**Table 1: Numbers (row percentages) and univariate odds ratios for Modified PBC Nurturance subscale scores by selected variables**

Variable	Category	Relative score <sup>1</sup>				Univariate odds ratio (95% CI)		
		Lower		Higher		Odds ratio	95% CI	Overall P value
		n	%	n	%			
<b>Socio-economic factors</b>								
<i>Age</i>	<20	39	84.8	7	15.2	1		0.747
	20–29	507	82.8	105	17.2	1.15	(0.52, 2.65)	
	30–39	398	81.2	92	18.8	1.29	(0.56, 2.97)	
	40+	49	86.0	8	14.0	0.91	(0.30, 2.73)	
<i>Ethnicity</i>	Samoan	444	76.2	139	23.8	1.00		0.000
	Cook Island Maori	181	87.4	26	12.6	0.45	(0.29, 0.72) †	
	Niuean	52	91.2	5	8.8	0.31	(0.12, 0.78) *	
	Tongan	215	90.0	24	10.0	0.36	(0.22, 0.57) ‡	
	Other Pacific <sup>2</sup>	30	81.1	7	18.9	0.74	(0.32, 1.73)	
	Non Pacific	72	86.7	11	13.3	0.19	(0.25, 0.95) *	
<i>Education</i>	No formal	376	83	77	17	1		0.054
	Secondary school	344	85.1	60	14.9	0.85	(0.59, 1.23)	
	Post-school	274	78.5	75	21.5	1.34	(0.94, 1.90)	
<i>House income</i>	\$0 - \$20,000	327	83.8	63	16.2	1		0.579
	\$20,001 – \$40,000	512	81.1	119	18.9	1.21	(0.86, 1.69)	
	>\$40,000	120	82.8	25	17.2	1.08	(0.65, 1.80)	
	Unknown	35	87.5	5	12.5	0.74	(0.28, 1.97)	

\*P<0.05; † P<0.01; ‡ P<0.001

<sup>1</sup>Lower and higher relative scores fell within the lower three-quarters and upper quarter of the distribution respectively.

<sup>2</sup>Includes mothers identifying equally with two or more Pacific Island groups, equally with Pacific Island and non Pacific Island groups, or with Pacific Island groups other than Tongan, Samoan, Cook Island Maori or Niuean

# Child Nurturing Findings - 2

**Table 1. Continuation: Numbers (row percentages) and univariate odds ratios for Modified PBC Nurturance subscale scores by selected variables**

Variable	Category	Relative score <sup>1</sup>				Univariate odds ratio (95% CI)		
		Lower		Higher		Odds ratio	95% CI	Overall P value
		n	%	n	%			
<b>Socio-economic factors</b>								
<i>Social marital status</i>	Non Partnered	201	87.4	29	12.6	1.00		0.029
	Partnered	793	81.3	183	18.8	1.60	(1.05, 2.44) *	
<i>NZ born</i>	No	670	83.5	132	16.5	1		0.150
	Yes	324	80.2	80	19.8	1.25	(0.92, 1.71)	
<i>Years lived in NZ</i>	0--5	189	84.4	35	15.6	1		0.337
	6--10	113	85.6	19	14.4	0.91	(0.50, 1.66)	
	>10	689	81.3	158	18.7	1.24	(0.83, 1.85)	
<i>Religious affiliation</i>	No	82	90.1	9	9.9	1.00		0.049
	Yes	912	81.3	203	18.2	2.03	(1.00, 4.10) *	
<i>Employment</i>	No	723	82.6	152	17.4	1		0.758
	Yes	271	81.9	60	18.1	1.05	(0.76, 1.47)	
<i>Family structure</i>	Nuclear family	495	81.4	113	18.6	1		0.355
	Extended family	499	83.4	99	16.6	0.87	(0.65, 1.17)	
<i>Acculturation</i>	Assimilationist	320	83.8	62	16.2	1		0.006
	Segregationalist	316	80.0	79	20.0	1.29	(0.89, 1.86)	
	Integrator	160	76.9	48	23.1	1.55	(1.02, 2.36)*	
	Marginal	189	89.2	23	10.8	0.63	(0.38, 1.05)	

\*P<0.05; † P<0.01; ‡ P<0.001

<sup>1</sup>Lower and higher relative scores fell within the lower three-quarters and upper quarter of the distribution respectively.

<sup>2</sup>Includes mothers identifying equally with two or more Pacific Island groups, equally with Pacific Island and non Pacific Island groups, or with Pacific Island groups other than Tongan, Samoan, Cook Island Maori or Niuean

# Child Nurturing Findings - 3

**Table 1 Continuation: Numbers (row percentages) and univariate odds ratios for Modified PBC Nurturance subscale scores by selected variables**

Variable	Category	Relative score <sup>1</sup>				Univariate odds ratio (95% CI)		
		Lower		Higher		Odds ratio	95% CI	Overall P value
		n	%	n	%			
<b>Lifestyle factors</b>								
<i>Smoking</i>	No	681	80.8	162	19.2	1		0.028
	Yes	309	86.1	50	13.9	0.68	(0.48, 0.96)*	
<i>Alcohol</i>	No	781	80	195	20	1		0.000
	Yes	212	92.6	17	17.6	0.32	(0.19, 0.54) †	
<i>Gambling</i>	No	646	77.4	189	22.6	1		0.000
	Yes	348	93.8	23	6.2	0.23	(0.14, 0.36) †	
<b>Maternal health</b>								
<i>Post natal depression</i>	No	811	80.7	194	19.3	1.00		0.001
	Yes	172	91.0	17	9.0	0.41	(0.25, 0.70) †	

\*P<0.05; † P<0.01; ‡ P<0.001

<sup>1</sup>Lower and higher relative scores fell within the lower three-quarters and upper quarter of the distribution respectively.

<sup>2</sup>Includes mothers identifying equally with two or more Pacific Island groups, equally with Pacific Island and non Pacific Island groups, or with Pacific Island groups other than Tongan, Samoan, Cook Island Maori or Niuean

# Child Discipline Findings - 1

**Table 2: Numbers (row percentages) and univariate odds ratios for Modified PBC Discipline subscale scores by selected variables**

Variable	Category	Relative score <sup>1</sup>				Univariate odds ratio (95% CI)		
		Lower		Higher		Odds ratio	95% CI	Overall P value
		n	%	n	%			
<b>Socio-economic factors</b>								
<i>Age</i>	<20	37	80.4	9	19.6	1		0.682
	20–29	453	74	159	26	1.44	(0.68, 3.06)	
	30–39	373	76.3	116	23.7	1.28	(0.60, 2.73)	
	40+	42	73.7	15	26.3	1.47	(0.58, 3.75)	
<i>Ethnicity</i>	Samoan	552	94.7	31	5.3	1.00		0.000
	Cook Island Maori	141	68.1	66	31.9	8.33	(5.24, 13.27) ‡	
	Niuean	42	73.7	15	26.3	6.36	(3.18, 12.70) ‡	
	Tongan	91	38.2	147	61.8	28.76	(18.41, 44.95) ‡	
	Other Pacific <sup>2</sup>	25	67.6	12	32.4	8.55	(3.93, 18.60) ‡	
	Non Pacific	55	66.3	28	33.7	9.07	(5.07, 16.21) ‡	
<i>Education</i>	No formal	344	76.1	108	23.9	1		0.549
	Secondary school	296	73.3	108	26.7	1.16	(0.85, 1.58)	
	Post-school	266	76.2	83	23.8	0.99	(0.72, 1.38)	
<i>House income</i>	\$0 - \$20,000	307	78.7	83	21.3	1		0.216
	\$20,001 – \$40,000	467	74.1	163	25.9	1.29	(0.96, 1.74)	
	>\$40,000	103	71	42	29	1.51	(0.98, 2.33)	
	Unknown	29	72.5	11	27.5	1.40	(0.67, 2.93)	

\*P<0.05; † P<0.01; ‡ P<0.001

<sup>1</sup>Lower and higher relative scores fell within the lower three-quarters and upper quarter of the distribution respectively.

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# Child Discipline Findings - 2

**Table 2 Continuation: Numbers (row percentages) and univariate odds ratios for Modified PBC Discipline subscale scores by selected variables**

Variable	Category	Relative score <sup>1</sup>				Univariate odds ratio (95% CI)		
		Lower		Higher		Odds ratio	95% CI	Overall P value
		n	%	n	%			
<b>Socio-economic factors</b>								
<i>Social marital status</i>	Non Partnered	182	79.1	48	20.9	1	0.125	
	Partnered	724	74.3	251	25.7	1.32	(0.93, 1.86)	
<i>NZ born</i>	No	597	74.5	204	25.5	1		0.459
	Yes	309	76.5	95	23.5	0.9	(0.68, 1.19)	
<i>Years lived in NZ</i>	0--5	169	75.8	54	24.2	1		0.873
	6--10	97	73.5	35	26.5	1.13	(0.69, 1.85)	
	>10	639	75.4	208	24.6	1.02	(0.72, 1.44)	
<i>Religious affiliation</i>	No	63	69.2	28	30.8	1		0.173
	Yes	843	75.7	271	24.3	0.72	(0.45, 1.15)	
<i>Employment</i>	No	650	74.4	224	25.6	1		0.287
	Yes	256	77.3	75	22.7	0.85	(0.63, 1.15)	
<i>Family structure</i>	Nuclear family	457	75.3	150	24.7	1		0.934
	Extended family	449	75.1	149	24.9	1.01	(0.78, 1.31)	
<i>Acculturation</i>	Assimilationist	276	72.3	106	27.7	1		0.001
	Segregationalist	315	79.9	79	20.1	0.65	(0.47, 0.91)*	
	Integrator	166	79.8	42	20.2	0.66	(0.44, 0.99)*	
	Marginal	142	67	70	33	1.28	(0.89, 1.85)	

\*P<0.05; †P<0.01; ‡P<0.001

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# Child Discipline Findings - 3

**Table 2. Continuation: Numbers (row percentages) and univariate odds ratios for Modified PBC Discipline subscale scores by selected variables**

Variable	Category	Relative score <sup>1</sup>				Univariate odds ratio (95% CI)		
		Lower		Higher		Odds ratio	95% CI	Overall P value
		n	%	n	%			
<b>Lifestyle factors</b>								
<i>Smoking</i>	No	634	75.2	209	24.8	1		0.980
	Yes	269	75.1	89	24.9	1.0	(0.75, 1.34)	
<i>Alcohol</i>	No	742	76.1	233	23.9	1		0.121
	Yes	163	71.2	66	28.8	1.29	(0.94, 1.78)	
<i>Gambling</i>	No	650	77.9	184	22.1	1		0.001
	Yes	256	69	115	31	1.59	(1.31, 2.09) †	
<b>Maternal health</b>								
<i>Post natal depression</i>	No	790	78.7	214	21.3	1.00		0.000
	Yes	111	58.7	78	41.3	2.59	(1.87, 3.60) ‡	

\*P<0.05; † P<0.01; ‡ P<0.001

<sup>1</sup>Lower and higher relative scores fell within the lower three-quarters and upper quarter of the distribution respectively.

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# Conclusion

Factors associated with nurturing are:

- Ethnicity
- Post school qualifications
- Alcohol
- Postnatal depression

# Conclusion: Discipline

Ethnicity-significant variable

# PIF Funding

- Foundation for Research, Science and Technology
- Health Research Council of New Zealand
- Maurice and Phyllis Paykel Trust
- Auckland University of Technology

# Disseminating findings to key stakeholders

- Ministries and government agencies
- Community presentations
- Academic presentations
- Newsletters
- Radio and TV Bulletins



# Maintaining active participation with the cohort

- Promotion
  - Recruitment
    - Nurturing
      - Communicating
        - Tracking

# Building Pacific Research capacity

- Workforce development
- Mentoring
- Scholarships
- Field staff

# Future Directions

- Follow children at 6 years
- Current collaboration with Pacific Researchers in Samoa and USA and plans to expand to Pacific Rim countries.
- Parenting study in Samoa in 2006 with National University of Samoa and Samoa Family Health Association

