

Table 1: Correlations with % Smoking

	Meshblock	Census Area Unit	Local Authority
% 16-24 years	0.07	0.03	-0.08
% >60 years	-0.19**	-0.14**	-0.24*
Deprivation	0.54**	0.74**	0.82**
% Pacific Peoples	0.21**	0.24**	0.13
% Maori	0.52**	0.67**	0.80**
Male : Female ratio	0.09*	0.18*	0.16

Pearson's 'r', statistical significance: **: $p < 0.01$; *: $p < 0.05$.

Data: 1996 New Zealand Census with linked NZDep data. Analysis by authors.

Table 2: Variables for Analysis

Spatial Identifiers	Age	Sex	Ethnic Structure	Deprivation	Other
TLA CAU Meshblock	1.Youth (Under 25) 2.Elderly (Over 60)	Male- Female Ratio	1. Māori 2. Pacific Peoples	NZDep96 PCA score	Urban TLA indicator
Hypothesised association with smoking	1. positive 2, negative	positive	1. positive 2, positive	positive	positive

Table 3: Results of Multilevel Analysis

	Model A	Model B	Model C	Model D
<i>Fixed Part</i>				
Intercept	-1.166	-1.177	-1.158	-1.155
Male		0.564 (11.20)	0.552 (11.74)	0.551 (11.98)
Elders		-0.774 (38.50)	-0.774 (32.25)	-0.774 (35.32)
Youth		0.022 (0.67)	-0.016 (0.52)	0.002 (0.072)
Deprivation		0.002 (52.06)	0.002 (50.96)	0.002 (50.40)
Maori (mesh level)		1.170 (58.50)	1.499 (49.97)	1.535 (50.99)
Pacific Islander		0.235 (5.87)	0.129 (3.49)	0.078 (2.23)
Urban		-0.095 (3.17)	-0.092 (2.71)	-0.084 (2.47)
Maori (CAU level)			0.745 (12.41)	0.717 (11.71)
Maori (mesh-CAU interaction)			-2.687 (24.21)	-2.867 (23.12)
<i>Random Part</i>				
TLA level				
Intercept	0.027 (21.69)	0.014 (24.3)	0.019 (29.40)	0.020 (28.06)
CAU level				
Intercept	0.099 (589.93)	0.032 (456.4)	0.027 (402.90)	0.016 (179.02)
Māori slope				0.698 (68.77)
Māori -intercept covariance				-0.065 (73.07)
Mesh level				
Intercept	0.049 (405.85)	0.015 (69.9)	0.016 (72.56)	0.016 (70.36)
Māori slope				0.146 (27.72)
Māori -intercept covariance				-0.039 (47.66)

Figures in brackets in fixed parts are ratios of estimates to standard errors. Conventionally these are statistically different to zero ($p: 0.05$) at >2.00 .

Figures in brackets in the random parts are Chi-square tests of significance. Conventionally these are statistically different to zero ($p: 0.05$ $df = 1$) at >3.84

Table 4: Hypothetical Impact of Cross-level Interaction on Meshblock Percent Adult Smoking

Meshblock Maori Population	CAU Maori Population	Without Cross-Level Interaction	With Cross-Level Interaction
Low	High	31%	37%
Low	Low	18%	18%
High	High	65%	26%
High	Low	49%	57%