

## SUPPLEMENTARY MATERIAL

### Characteristics of the sample

Supplementary Table S1: Sample characteristics and comparison with Year 10 population (% absolute difference)

		Total	Age		Sex		School Decile			Ethnicity			
			14 years	15 years	Male	Female	Low	Medium	High	NZEO	Maori	Pacific	Asian
<b>2002</b>	<b>N</b>	28088	13161	14927	13911	14177	4505	13007	10576	19395	4670	1833	2190
	<b>%</b>		47%	53%	50%	50%	16%	46%	38%	69%	17%	7%	8%
	<b>dif from pop</b>				-1%	1%	-4%	2%	4%				
<b>2003</b>	<b>N</b>	31377	14585	16792	15492	15885	5272	14274	11831	20716	5425	2174	3062
	<b>%</b>		46%	54%	49%	51%	17%	45%	38%	66%	17%	7%	10%
	<b>dif from pop</b>				-2%	2%	-3%	3%	5%				
<b>2004</b>	<b>N</b>	30807	18668	12139	14996	15811	5889	13373	11545	19888	5694	2244	2981
	<b>%</b>		61%	39%	49%	51%	19%	43%	37%	65%	18%	7%	10%
	<b>dif from pop</b>				-2%	2%	-1%	1%	4%				
<b>2005</b>	<b>N</b>	31833	15901	15932	15211	16622	4719	15374	11740	21176	5435	2172	3050
	<b>%</b>		50%	50%	48%	52%	15%	48%	37%	67%	17%	7%	10%
	<b>dif from pop</b>				-3%	3%	-3%	2%	5%				
<b>2006</b>	<b>N</b>	31690	19996	11694	15642	16048	4416	15935	11339	20161	6237	2252	3040
	<b>%</b>		63%	37%	49%	51%	14%	50%	36%	64%	20%	7%	10%
	<b>dif from</b>				-2%	2%	-4%	4%	4%	2%	-2%	-1%	1%

	<b>pop</b>												
<b>2007</b>	<b>N</b>	25109	16213	8896	11988	13121	3558	11062	10489	16187	4653	1804	2465
	<b>%</b>		65%	35%	48%	52%	14%	44%	42%	64%	19%	7%	10%
	<b>dif from pop</b>				-4%	4%	-4%	-2%	10%	5%	-3%	-2%	0%
<b>2008</b>	<b>N</b>	29682	18395	11287	14462	15220	4732	12875	12075	17913	5552	2863	3354
	<b>%</b>		62%	38%	49%	51%	16%	43%	41%	60%	19%	10%	11%
	<b>dif from pop</b>				-3%	3%	-2%	0%	3%	1%	-3%	1%	1%
<b>2009</b>	<b>N</b>	24755	15977	8778	11607	13148	3235	11029	10491	15410	4304	2211	2830
	<b>%</b>		65%	35%	47%	53%	13%	45%	42%	62%	17%	9%	11%
	<b>dif from pop</b>				-4%	4%	-5%	1%	4%	4%	-5%	0%	2%
<b>2010</b>	<b>N</b>	31696	19725	11971	16636	15060	5111	14049	12536	18806	6315	3041	3534
	<b>%</b>		62%	38%	52%	48%	16%	44%	40%	59%	20%	10%	11%
	<b>dif from pop</b>				1%	-1%	-2%	1%	2%	2%	-3%	0%	1%
<b>2011</b>	<b>N</b>	26028	21390	4638	12462	13566	3720	10843	11465	15669	4995	2453	2911
	<b>%</b>		82%	18%	48%	52%	14%	42%	44%	60%	19%	9%	11%
	<b>dif from pop</b>				-3%	3%	-4%	-1%	6%	3%	-4%	0%	0%
<b>2012</b>	<b>N</b>	30396	25098	5298	14918	15478	4982	12461	12953	17878	5800	3048	3670
	<b>%</b>		83%	17%	49%	51%	16%	41%	43%	59%	19%	10%	12%
	<b>dif from pop</b>				-2%	2%	-1%	-2%	4%	4%	-3%	1%	1%
<b>2013</b>	<b>N</b>	27014	22126	4888	13546	13468	4049	10875	12090	16146	5111	2628	3129
	<b>%</b>		82%	18%	50%	50%	15%	40%	45%	60%	19%	10%	12%
	<b>dif from pop</b>				-1%	1%	-3%	-2%	5%	3%	-4%	0%	1%
<b>2014</b>	<b>N</b>	29303	24206	5097	14164	15139	4359	12836	12108	16847	5779	2952	3725

	%		83%	17%	48%	52%	15%	44%	41%	57%	20%	10%	13%
	dif from pop				-3%	3%	-3%	2%	2%	2%	-4%	1%	1%
<b>2015</b>	<b>N</b>	20443	16630	3813	10155	10288	3540	10024	6879	12123	4215	1884	2221
	%		81%	19%	50%	50%	17%	49%	34%	59%	21%	9%	11%
	dif from pop				-2%	2%	-2%	5%	-2%	4%	-3%	0%	-1%

Notes: Population data is based on Ministry of Education (MoE) records which are available online at:

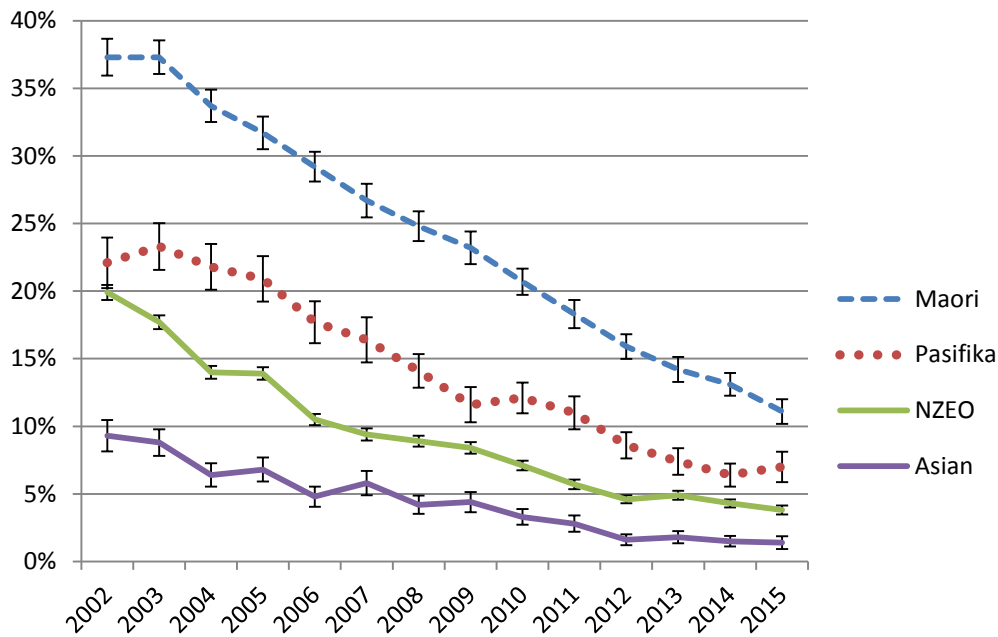
<https://www.educationcounts.govt.nz/statistics/schooling/student-numbers/6028>.

Ethnicity data is not available from MoE prior to 2006, so ethnic comparison of population and sample is not possible 2002-2005.

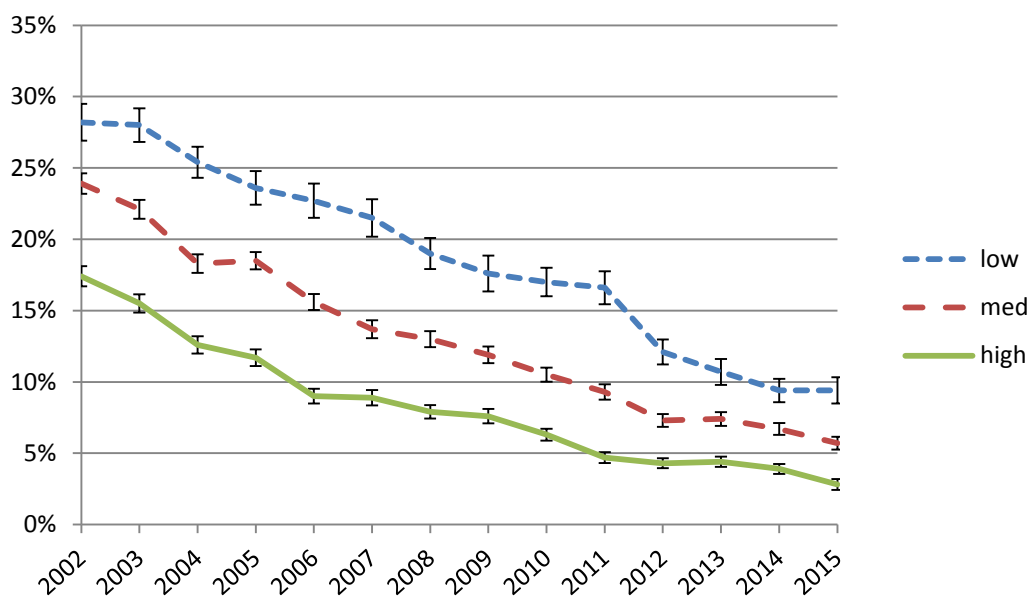
Comparison between sample and population on age of students (14 or 15 years) is not shown since MoE data is measured at the midpoint in the year, whereas survey fieldwork dates differ slightly from year to year, and as a result meaningful comparison is not possible.

## Smoking prevalence by ethnicity, school decile and gender

Supplementary Figure S1: Prevalence of regular smoking in 14-15 year olds by prioritised ethnicity, 2002 to 2015



Supplementary Figure S2: Prevalence of regular smoking in 14-15 year olds by school decile, 2002 to 2015

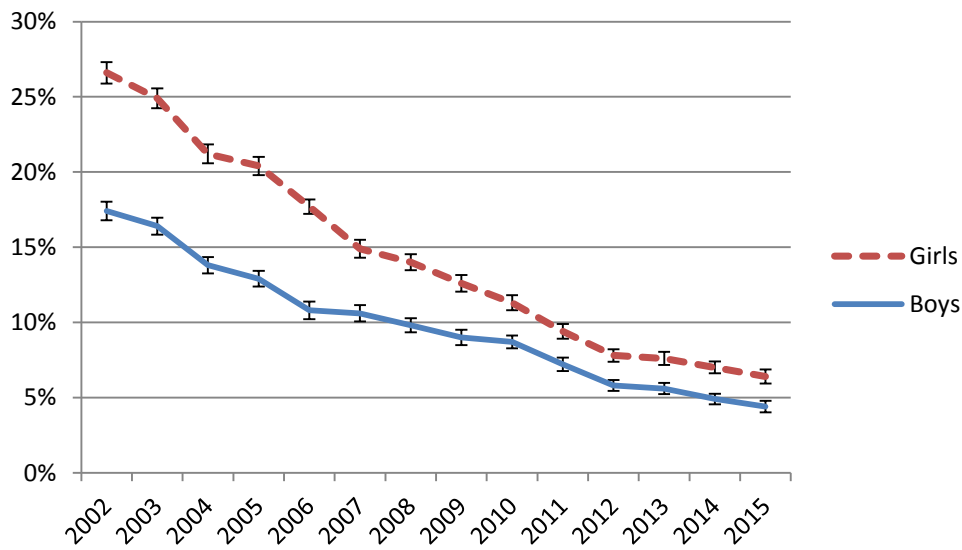


Notes: Low decile = most deprived. High decile = least deprived.

School decile is calculated by the Ministry of Education for purposes of funding allocation, and is a school-level measure of the socioeconomic position of a school's student community. Details of how school decile is calculated are available on the Ministry of Education website:

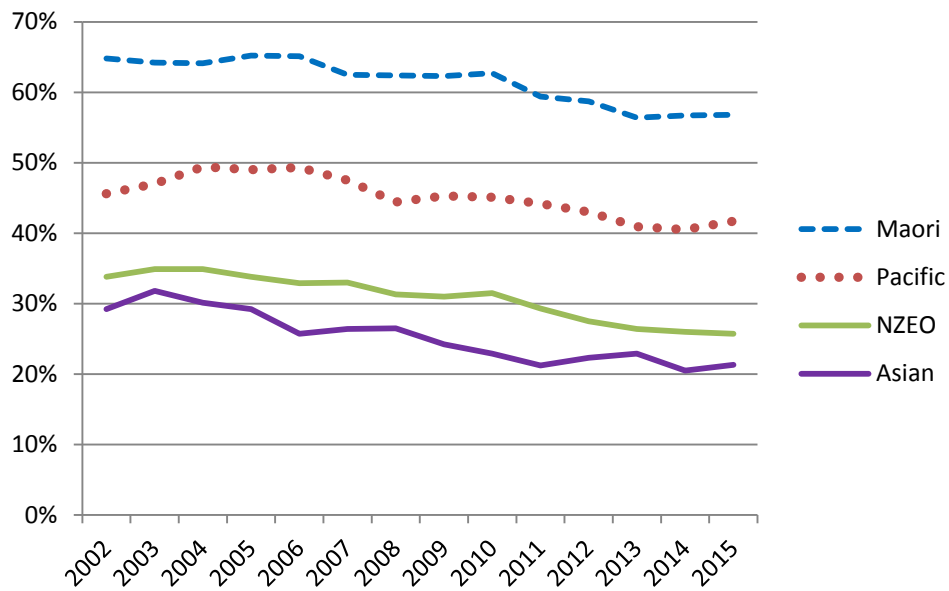
<https://www.education.govt.nz/school/running-a-school/resourcing/operational-funding/school-decile-ratings/>

*Supplementary Figure S3: Prevalence of regular smoking in 14-15 year olds by gender, 2002 to 2015*

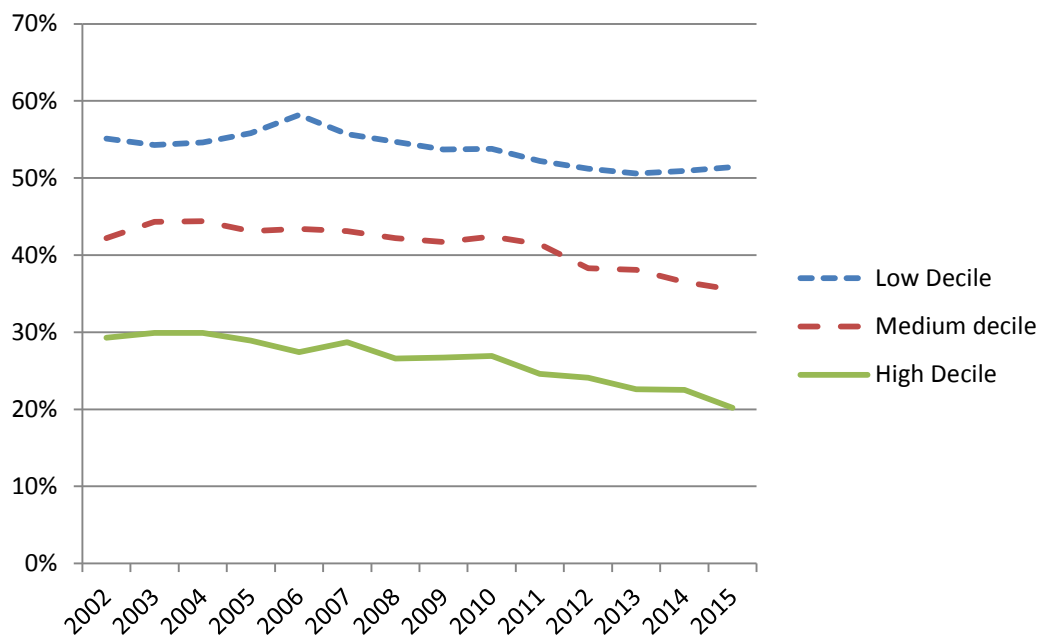


## Changes in exposure to risk factors over time, by ethnicity and school decile

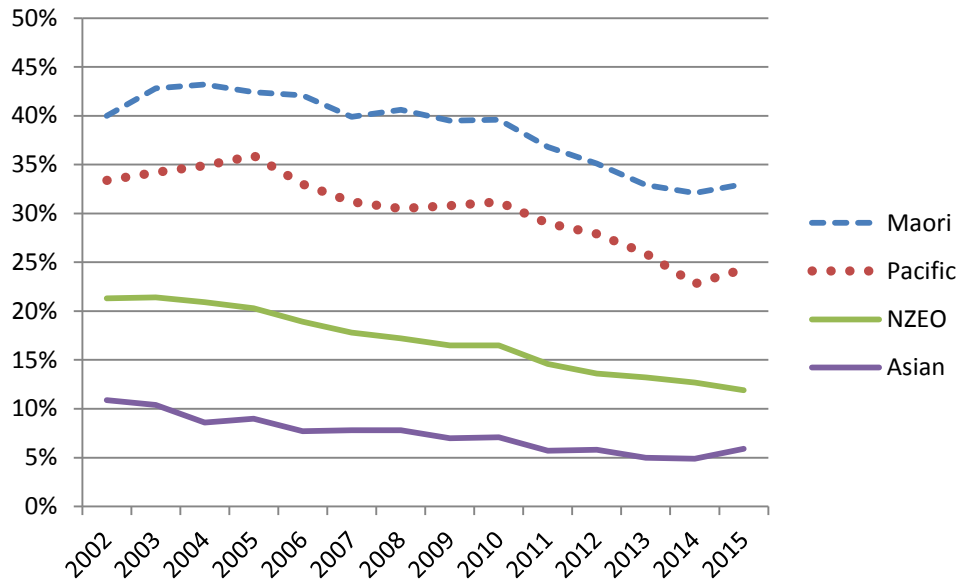
Supplementary Figure S4: Proportion reporting at least one parent smokes by ethnicity, 2002 to 2015



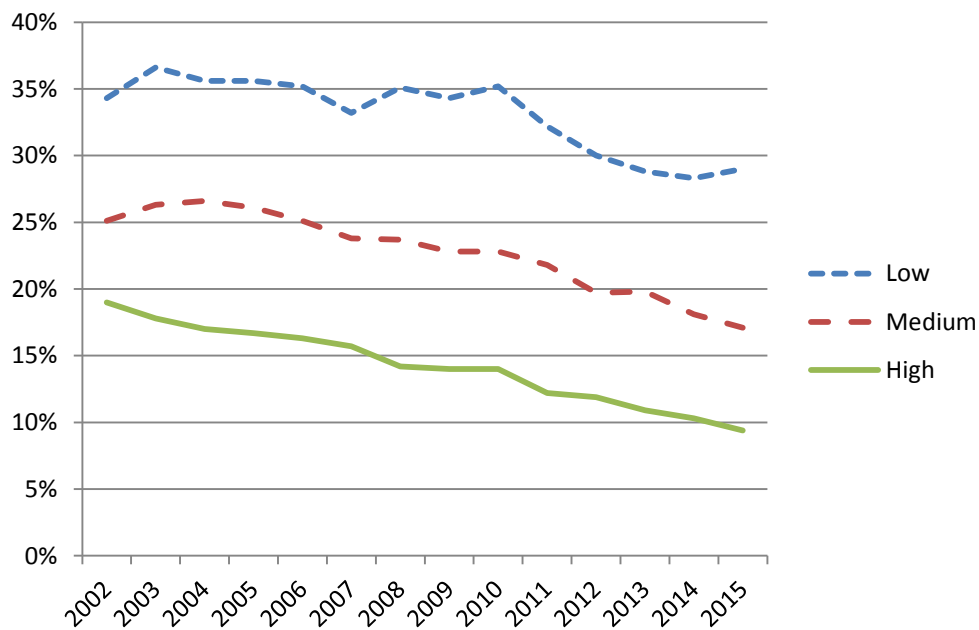
Supplementary Figure S5: Proportion reporting at least one parent smokes by school decile, 2002 to 2015



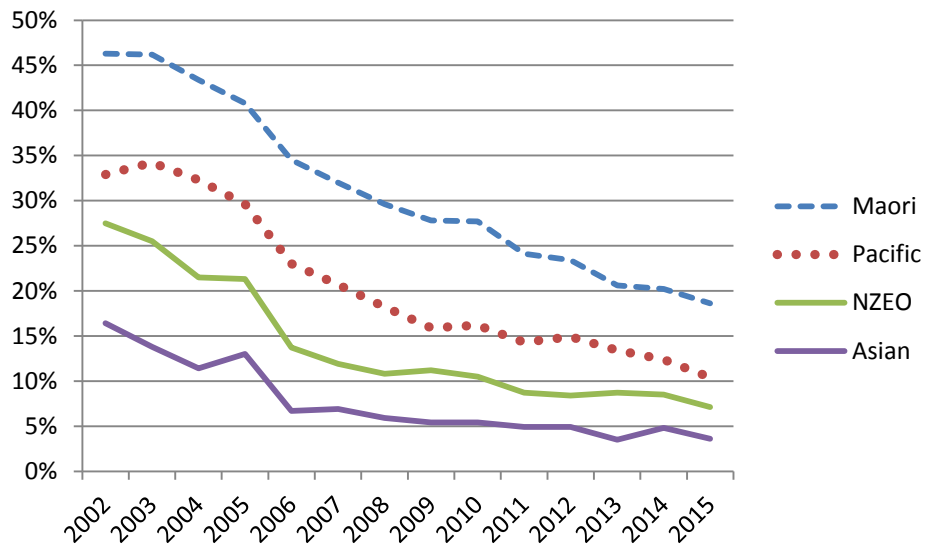
Supplementary Figure S6: Proportion reporting older sibling(s) smoke, by ethnicity, 2002 to 2015.



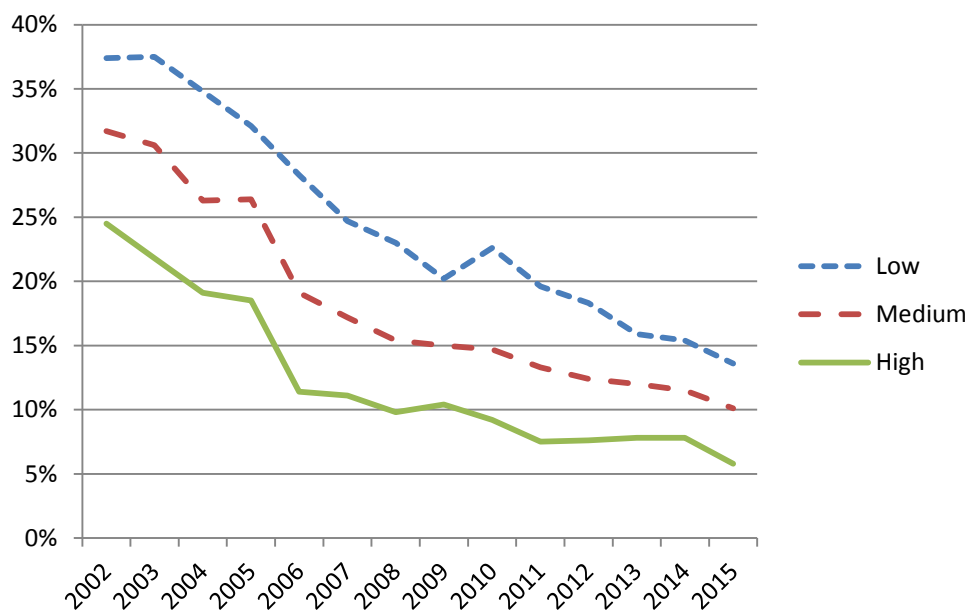
Supplementary Figure S7: Proportion reporting older sibling(s) smoke, by school decile, 2002 to 2015.



Supplementary Figure S8: Proportion reporting best friend smokes, by ethnicity, 2002 to 2015.

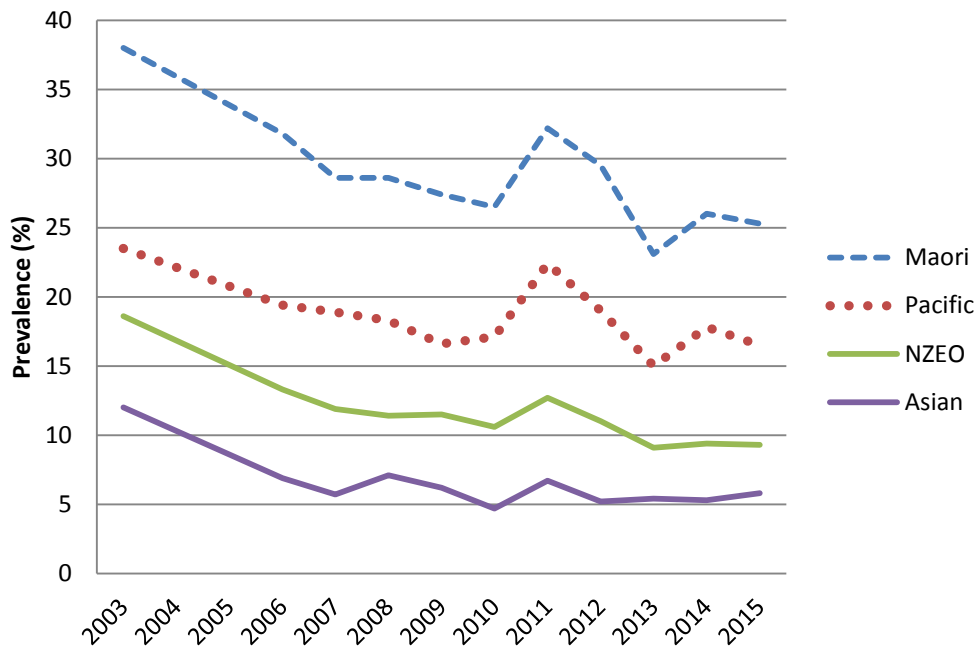


Supplementary Figure S9: Proportion reporting best friend smokes, by school decile, 2002 to 2015.

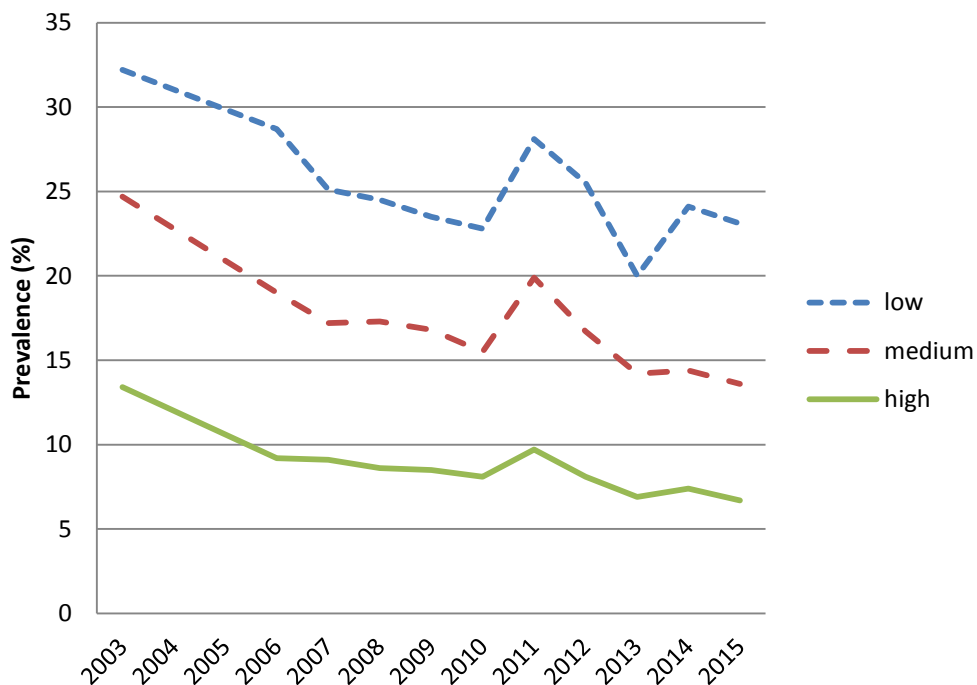




Supplementary Figure S10: Proportion reporting daily exposure to smoking in the home, by ethnicity, 2002 to 2015.



Supplementary Figure S10: Proportion reporting daily exposure to smoking in the home, by school decile, 2002 to 2015.



## Trend analysis for regular smoking in Māori adolescents

To test whether trend analysis results for Māori (indigenous) adolescents differed from those for the adolescent population as a whole, we stratified the sample by ethnicity (Māori/non-Māori) and re-ran our trend analyses on the Māori sub-sample. Table S2 shows ORs for each survey year relative to 2003 (baseline), adjusted for age, gender, and decile (Model 1); then for each named risk factor separately, and finally adjusted for all risk factors together. The final row shows the results for all years combined, with year entered in the model as a continuous variable.

Supplementary Table S2: Trend analyses for Māori sub-sample

Year	Model 1 OR for Year, Partially adjusted	Model 1 + Best Friend	Model 1 + smoke in home	Model 1 + smoke parent <sup>4</sup>	Model 1 + smoke Sibling	Model 1 + all risk factors
2003	1					
2006	0.73 (0.67, 0.79)	0.89* (0.81, 0.97)	0.68 (0.62, 0.74)	0.70 (0.65, 0.77)	0.72 (0.66, 0.78)	0.80 (0.73, 0.88)
2007	0.64 (0.58, 0.70)	0.78* (0.71, 0.87)	0.61 (0.55, 0.67)	0.62 (0.57, 0.69)	0.63 (0.58, 0.70)	0.73 (0.66, 0.81)
2008	0.57 (0.52, 0.62)	0.75* (0.68, 0.82)	0.55 (0.49, 0.60)	0.56 (0.51, 0.61)	0.56 (0.51, 0.62)	0.69* (0.62, 0.76)
2009	0.52 (0.48, 0.58)	0.70* (0.63, 0.78)	0.50 (0.46, 0.56)	0.51 (0.46, 0.56)	0.52 (0.47, 0.57)	0.65* (0.58, 0.72)
2010	0.46 (0.42, 0.50)	0.59* (0.54, 0.65)	0.45 (0.41, 0.49)	0.45 (0.41, 0.49)	0.45 (0.41, 0.49)	0.55* (0.50, 0.61)
2011	0.42 (0.38, 0.46)	0.58* (0.52, 0.64)	0.38 (0.34, 0.41)	0.42 (0.38, 0.46)	0.42 (0.38, 0.46)	0.51* (0.45, 0.56)
2012	0.34 (0.31, 0.38)	0.47* (0.42, 0.52)	0.31 (0.28, 0.34)	0.34 (0.31, 0.38)	0.35 (0.31, 0.38)	0.42* (0.37, 0.46)
2013	0.31 (0.28, 0.34)	0.44* (0.40, 0.49)	0.31 (0.28, 0.34)	0.31 (0.28, 0.34)	0.31 (0.28, 0.35)	0.42* (0.38, 0.47)
2014	0.28 (0.26, 0.31)	0.40* (0.36, 0.45)	0.27 (0.24, 0.30)	0.29 (0.26, 0.32)	0.29 (0.26, 0.32)	0.37* (0.33, 0.42)
2015	0.23 (0.21, 0.26)	0.34* (0.34, 0.39)	0.22 (0.19, 0.25)	0.23 (0.21, 0.26)	0.24 (0.21, 0.27)	0.32* (0.28, 0.36)
Linear trend 2003- 2015	0.89 (0.88, 0.89)	0.92* (0.91, 0.92)	0.89 (0.88, 0.89)	0.89 (0.88, 0.90)	0.89 (0.89, 90)	0.91* (0.90, 0.92)

\*OR > Model 1 OR (p < .01)