

Occasional Report: Attitudes towards the tobacco industry and support for tobacco regulation in New Zealand: National survey data

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Declaration of competing interests and acknowledgements

Competing interests

Although we do not consider it a competing interest, for the sake of full transparency we note that some of the authors have undertaken work for health sector agencies working in tobacco control.

Acknowledgements

The NZ ITC Project was funded by The Health Research Council of New Zealand.

For analysis of the Australian comparison data, funding was provided by the National Cancer Institute of the United States (through RO1 CA 100362 and through the Roswell Park Transdisciplinary Use Research Centre, P50 CA111236), Robert Wood Johnson Foundation (045734), Canadian Institutes of Health Research (57897), National Health and Medical Research Council of Australia (265903), Cancer Research UK (C312/A3726), Canadian Tobacco Control Research Initiative.

The ITC Project (NZ) team thank the following for their support:

The interviewees who kindly contributed their time to answer the survey questions.

- The NZ Ministry of Health which provided a wide range of support for the Project, particularly access to the NZHS data.
- Other members of our ITC Project (NZ) Team (see: <http://www.wnmeds.ac.nz/itcproject.html>); Roy Morgan Research for conducting the interviews; the Data Management Core at the University of Waterloo, Canada; and the agencies which support the ITC Project internationally (particularly the Canadian Institutes of Health Research (#79551); the Roswell Park Transdisciplinary Tobacco Use Research Center (TTURC- P50 CA111236), funded by the US National Institutes of Health; and many other funding agencies as detailed on the ITC Project website: <http://www.igloo.org/itcproject/>).

Citation

Edward R, Wilson N, Weerasekera D, Peace J, Thomson G, Young D, Gifford H, Newcombe R. Occasional Report: Attitudes towards the tobacco industry and support for tobacco regulation in New Zealand: National survey data. Wellington, Department of Public Health, University of Otago, Wellington: 2010.

<http://www.wnmeds.ac.nz/itcproject.html>

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1. Executive summary

Introduction

Given the scale of harm from the tobacco epidemic and its impact on health inequalities, there is great interest internationally and in New Zealand in exploring new policy approaches to tobacco control. The degree of public support for new tobacco control measures is often discussed as part of the debate about whether these measures should be introduced.

Aims

We therefore aimed to describe and analyse New Zealand smoker attitudes to the tobacco industry and to a range of potential tobacco control regulatory policies. We also aimed to compare these attitudes to those of Australian smokers.

Methods

The NZ arm of the International Tobacco Control Policy Evaluation Survey (ITC Project) derives its sample from the NZ Health Survey. This is a national sample with boosted sampling of Māori, Pacific and Asian New Zealanders. From this sample we surveyed adult smokers in two survey waves ($N=1376$ and $N=923$).

We report the findings about attitudes to the tobacco industry and the prevalence of support for a range of potential tobacco control regulatory policies stratified by age, gender, and ethnicity. We also carried out a multivariate analysis to identify significant associations from a range of potential determinants (including demographics, socio-economic status, mental health and smoking related beliefs and behaviours) of support for two key outcome variables. Finally, we compared the support for regulatory policies and attitudes to the tobacco industry with those from an Australian sample of smokers in the Australian arm of the ITC project.

Results

Key findings included a high level of support by New Zealand smokers for greater regulation of the tobacco industry (65%) and more government action on tobacco (59%). There was overwhelming support for reducing the toxicity (87%) and the addictiveness of cigarettes (86%), and for the introduction of fire-safe cigarettes (84%). However, most smokers wanted less health information on cigarette packets, possibly reflecting a dislike of the pictorial health warnings (albeit a desirable response from a public health perspective). There was also majority support for a ban on point-of-sale tobacco displays (61%) and for restricting sales of cigarettes to locations not visited by children (62%). Around one-half (51%) supported restricting additives in cigarettes and 40% supported requiring plain packaging of cigarettes. Among those expressing an opinion, around one-half (46%) supported the banning of sales of cigarettes in ten years, provided effective nicotine substitutes were available. The findings confirmed the previously reported data on support for extensions to smokefree legislation in many outdoor settings (council owned playgrounds 68% and within 5m of public buildings 52%) and also in private cars where children are present (97%). Most smokers thought the current level of tobacco tax is too high (73%), but most (59%) would also support further tobacco tax increases, provided the extra revenue raise was used for health promotion and quit support purposes.

We carried out multivariate analysis for two of the key variables. Significant predictors for support of tobacco company regulation included Māori ethnicity, experience of financial stress (spending money on cigarettes which would have been better spent on household essentials within the last six months), and greater awareness about the harms of smoking. Significant predictors of support for a ban on tobacco sales in ten years time included increasing area-based deprivation level (i.e. more deprived), increasing intention-to-quit and greater concern about the health effects of smoking.

When New Zealand smokers' attitudes to tobacco regulation were compared with the attitudes of Australian smokers' (using data from the 4-country-ITC study) similarly high levels of support in both countries were found for a range of tobacco control regulations, including two-thirds of smokers in both countries favouring increased regulation of tobacco companies.

Conclusions

This nationally representative sample of New Zealand smokers generally expressed majority support for a wide range of measures to constrain tobacco industry power and to enhance tobacco control regulation. Such views are compatible with other evidence that the majority of New Zealand smokers regret starting smoking and wish to quit. The data presented in this report should facilitate necessary advances in regulatory responses to the tobacco epidemic by policy makers in both New Zealand and Australia.

2. Introduction

Tobacco smoking poses one of the biggest threats to public health in Aotearoa-New Zealand, with 4500 to 5000 deaths per year attributable to tobacco use.¹ Currently, about 23% of adults aged 15-64 years are regular smokers. The prevalence of smoking is far higher among Māori (45%) and Pacific peoples (31%). Tobacco smoking is an important cause of disparities in health, with current estimates that it contributes years to the life expectancy gap between Māori and non-Māori. It is estimated that ending all tobacco smoking by 2020 would result in gains in life expectancy for Māori of 4.7 years and for non-Māori of 2.9 years by 2040,² resulting in the life expectancy gap closing by 1.8 years. The public health case for concern and action on tobacco use in Aotearoa-New Zealand is therefore overwhelming.

The level of public support for proposed policy options is an important factor in determining the feasibility and desirability of introducing and implementing policy, and often forms a component of the justification and advocacy case in support of policy options. This is particularly true for health issues like tobacco control policies where policy introduction and implementation is often highly contested. The policies may be contested by groups with an economic self-interest. These include the tobacco industry (and associated commercial allies in the retail and marketing sectors), or other sectors who may fear being affected in the future by stronger regulatory policies to reduce harm to health (such as the alcohol and processed food sectors). Others who may contest policies include politicians, commentators and other opinion-formers who may also object on ideological grounds. Such commentators may often highlight issues around “freedom of choice” (while ignoring the additive nature of nicotine) and may cite the need to respect the views of the public, including smokers.

There has been increasing documentation of support for key proposed tobacco control policies before and after the introduction of such policies. This is perhaps best demonstrated by smokefree workplace and public places legislation. In the debate accompanying the introduction of this legislation in a range of jurisdictions, levels of public support, and support among smokers and non-smokers was frequently discussed. The general pattern has been for such legislation to have high levels of public support, which increases in the period before and after implementation.³ This pattern was demonstrated in New Zealand where a comprehensive smokefree law was implemented in December 2004. For example, in surveys carried out by the Health Sponsorship Council, support for banning smoking in restaurants increased from 73% in 2004 to 90% in 2006 (from 48% to 78% among smokers); and in bars and pubs from 61% to 82% (from 25% to 58% among smokers).⁴

As the data for public opinion on the components of the 2003 NZ Smokefree Environment Amendment Act above demonstrates, support for tobacco control policies is usually much stronger among non-smokers than among smokers. However, majority support among smokers for smokefree laws was also apparent in New Zealand. The high degree of support among even smokers for tobacco control regulations is not wholly surprising given that NZ data indicate high levels of regret among smokers about starting smoking.⁵

Levels of support among smokers are therefore key indicators to assess and monitor. If a tobacco control policy measure is supported by a majority of smokers, who may perceive that they have the most to lose from its introduction, it becomes very difficult to argue against the policy measure on the grounds of preserving individual freedom and autonomy and the need to respect the views of any minority smokers who oppose change.

Previous published work from the NZ ITC Project includes analyses of the level of support for a range of possible tobacco control policies. These included extensions of smokefree areas,⁶⁻⁹ tobacco tax increases,^{10 11} point-of-sale tobacco display bans,¹² and fire-safe cigarettes.¹³ Additional analyses have explored in depth the characteristics associated with support for dedicated tax increases¹¹ and extensions to smokefree areas among smokers,⁹ and have assessed support for a range of tobacco control interventions among Māori and Pacific smokers.^{12 14 15}

There is also evidence internationally of strong support for policies aiming to reduce tobacco smoking and its effects. For example, a study of attitudes to tobacco regulation based on the ITC four-country study (data from Australia, Canada, UK and USA) found high levels of support for greater tobacco product and industry regulation among smokers. Across the four countries this ranged from 62% to 71% for agreement with the statement that tobacco products should be more tightly regulated, and 50-66% support for the statement that government should do more to tackle harm caused by tobacco smoking.¹⁶

The main aim of this report is to collate the key findings from the NZ ITC Project on smoker attitudes to regulation and to present additional unpublished data on this topic. To better contextualise the results we also aimed to compare the results with ITC Project survey work from Australia.

3. Methods

The ITC Project

The International Tobacco Control Policy Evaluation Survey (the ITC Project) is a multi-country study on tobacco use epidemiology and tobacco control policy evaluation. It has expanded to over 17 participating countries – including New Zealand. A full description of the ITC Project conceptual framework and methods have been published elsewhere.^{17 18}

The New Zealand arm of the ITC Project survey differs somewhat from the other ITC Project countries in that the smokers involved are respondents from the New Zealand Health Survey (NZHS) (with this survey being conducted in 2006/2007). Methods of the NZHS survey are detailed more fully in the report on the key results¹⁹ and a detailed methodology report.²⁰ Respondents were selected by a complex sample design, which included systematic boosted-sampling of the Māori, Pacific and Asian populations. Interviews were conducted face-to-face in respondents' homes by trained interviewers (on contract to the Ministry of Health) and resulted in a total of 11,924 interviews with respondents aged 18 and over. The overall response rate was 67.9%. Other issues around the NZHS response rate as it relates to the ITC project are detailed in an online *Methods Report*.²¹

Participants

From the NZHS sample we derived an additional sample of adult smokers who were 18+ years and who were willing to participate in further research when asked this at the end of the NZHS interview (this was 85.2% of the adult smokers in the NZHS). Out of 2438 potential respondents who met these criteria, a total of 1376 completed a telephone questionnaire giving a response rate of 56.4% (see an online *Methods Report*²¹ for more detail). But when considering the NZHS response rate and willingness to further participate, then the overall response rate is reduced further to 32.6% (for details see an online *Methods Report*²¹). Between-wave attrition of 32.9% occurred, resulting in 923 respondents in Wave 2.

Procedures

Data collection was carried out using a computer-assisted telephone survey between March 2007 and February 2008, usually 3-4 months after their NZHS interview. Wave 2 was conducted between March 2008 and February 2009. The study protocol was cleared by the Multi-Region Ethics Committee in NZ (MEC/06/07/071) and by the Office of Research Ethics, University of Waterloo, Canada (ORE #13547).

Measures

The particular questions relating to the tobacco industry and regulation were largely derived from Wave 4 of the four-country ITC survey. However, the New Zealand arm of the study added some additional questions in both Wave 1 and Wave 2.

Some socio-demographic questions were asked in the NZHS but most of the smoking behaviour and smoking-related belief questions were from the Wave 4 of the four-country ITC survey. We used some of the indices used elsewhere in our ITC Project analyses (e.g., in Borland et al²² and Young et al¹⁶). These are more precisely described in an online *Methods Report*.²¹ Where indices were developed we calculated scores for assessing internal consistency (Cronbach's alpha) and these indices were only used if the scores were at least 0.5.

Respondents' ethnicity was prioritised and all those with Māori, or both Māori and other ethnic affiliations were classified as Māori; all those with Pacific, or both Pacific and other ethnic affiliations were classified as Pacific (unless Māori affiliation was also reported) etc (see elsewhere for more details²¹). The European grouping includes other (non-Māori, non-Pacific and Asian) ethnic groups. In some of previous published work we analysed the Asian population separately and so this is why some of our results presented in this Report for the "European/Other" group might differ slightly from those published elsewhere.

Other measures included socio-economic status (SES) which was assessed using a small area-based SES score developed for New Zealand (NZDep). In particular, NZDep2006 measures the level of socioeconomic deprivation for each neighbourhood (meshblock) according to a combination of the following 2006 Census variables: income, benefit receipt, transport (access to car), household crowding, home ownership, employment status, qualifications, support (sole-parent families), and access to a telephone.²³ This index has been used in many published articles and reports and the predecessors of NZDep2006 (NZDep91, NZDep96 and NZDep2001) have been extensively validated.²⁴ We also used an individual level deprivation score created for the New Zealand setting (NZiDep). Although NZDep2006 and NZiDep are weakly correlated in our sample (Pearson's correlation coefficient, $r=0.26$, $p<0.001$), these are conceptually quite different measures.²⁵ We also had two measures of financial stress (unable to pay any important bills on time and not spending on household essentials) which are also correlated with each other (and the SES measures),²⁶ but involve significant conceptual differences.^{27 28} Indeed, all these variables could still be collectively included in the multivariate model without destabilizing the model with intercorrelation.

Australian comparison

To put the New Zealand results around attitudes to regulation into a wider context, we analysed comparable data from Australian smokers in Wave 6 (2007/8) of the four-Country ITC study (for methods see elsewhere^{29 18}). Australia is an English-speaking country with many similarities in levels of development, socio-demographic characteristics, and culture to New Zealand. The two countries have also historically learnt from each other in terms of tobacco control policies and campaigns.

Weighting and statistical analyses

Weighting of the results was necessary given the sampling design (e.g., boosted sampling of Māori, Pacific peoples and Asians in the NZHS) and non-response for the NZHS and ITC Project survey. A full description of the weighting process is detailed in two online reports.^{30 31}

Univariate analysis of the key socioeconomic and smoking variables was initially conducted and we also carried out a multivariate logistic regression analysis for the two key regulation measures. The latter used a conceptual framework which assumed that there would be hierarchical relationships between demographic and socio-demographic factors,³² that would dominate over smoking-related behaviours and beliefs. All models included age, gender and ethnicity and models 2-3 included key socio-demographic variables (e.g., socio-economic status and financial stress). Model 3 added in a range of variables concerning smoking-related beliefs and behaviours, and indicators of mental health and well-being. We forced these variables into the Model 3 on the theoretical grounds that they were likely to be key characteristics that acted as high-level determinants of support for regulation.

All analyses were conducted in Stata (version 10, Stata-Corp, TX) and all of the presented results were weighted and adjusted for the complex sample design of the NZHS to make the sample representative of all New Zealand smokers.

4. Results

4.1 General attitudes to the tobacco industry, tobacco industry regulation and tobacco control activities

Table 1 shows the results of the general analysis of smoker attitudes to the tobacco industry and tobacco control activities. Around seven out of ten smokers disagreed with the statements that the tobacco industry has done all they can to reduce the harm caused by smoking and that the industry should be allowed to advertise and promote cigarettes as they please. Only 20% and 25% respectively agreed with these two statements. The level of disagreement with the statements varied little by gender, ethnicity or age group, except that disagreement was less among Pacific smokers (63% for both questions) and was higher among the youngest age group for the statement that the tobacco industry has done all it can to reduce harm caused by cigarettes.

Agreement with the statement that the industry should take more responsibility for the harm caused by smoking was mixed – about one-half (46%) agreed and one-half (47%) disagreed with this statement. Agreement was strongest among men (50%), Pacific (60%) and Māori (50%) smokers.

There was strong majority (65%) support for greater regulation of tobacco companies. Only 29% disagreed with this statement. Support was strongest among women (69%), Pacific (74%) and Māori (71%) smokers.

Finally, there was majority (59%) support for more government action to tackle the harm done by smoking, with only 32% disagreeing. The level of support for this statement was highest among men (65%), Pacific (78%) and Māori (66%) smokers and lowest among smokers aged over 55 years (49%).

Table 1: New Zealand smoker attitudes to tobacco companies and to tobacco regulation

Question asked	All*	Male	Female	European/ Other	Māori	Pacific	18-34yrs	35-55yrs	55+ yrs
“Tobacco companies have done everything they can to reduce harm caused by smoking” - % disagree out of n=1332 (95% CI)	73.6 (70.5 – 76.7) % Agree 20.0 (16.7 – 23.3)	77.0 (72.4 – 81.2)	70.0 (65.8 – 74.1)	75.5 (71.5 – 79.4)	70.8 (66.2 – 75.5)	63.4 (50.4 – 76.4)	76.1 (70.7 – 81.5)	73.9 (69.6 – 78.1)	66.6 (59.2 – 74.0)
“Tobacco companies should be allowed to advertise and promote cigarettes as they please” - % disagree out of n=1361 (95% CI)	69.0 (65.7 – 72.3) % Agree 25.2 (22.1 -28.2)	68.0 (62.9 – 73.1)	70.1 (65.9 – 74.2)	69.1 (64.9 – 73.4)	70.3 (65.5 – 75.2)	63.4 (51.6 – 75.3)	68.7 (63.0 – 74.4)	70.0 (65.4 – 74.6)	67.2 (59.8 – 74.6)
“Tobacco industry should take responsibility for the harm caused by smoking” - % agree out of n=1361 (95% CI)	45.5 (41.9 – 49.0) % Disagree 46.9 (43.3 - 50.5)	49.5 (44.1 – 55.0)	41.2 (36.7 – 45.7)	42.7 (38.1 – 47.2)	49.7 (44.4 – 55.0)	60.2 (47.3 – 73.2)	43.8 (37.6 – 50.0)	48.9 (43.7 – 53.9)	40.8 (33.3 – 48.4)
“Tobacco companies should be more tightly regulated” - % agree out of n=1352 (95% CI)	65.0 (61.6 – 68.4) % Disagree 28.6 (25.3 – 31.8)	61.5 (56.2 – 66.9)	68.6 (64.5 – 72.6)	62.3 (57.9 – 66.8)	70.5 (65.6 – 75.4)	74.0 (63.2 – 84.8)	64.5 (58.4 – 70.5)	64.9 (60.0 – 69.7)	66.5 (59.5 – 73.6)

Question asked	All*	Male	Female	European/ Other	Māori	Pacific	18-34yrs	35-55yrs	55+ yrs
“The government should do more to tackle the harm done by smoking” - % agree out of n=1363 (95% CI)	58.8 (55.3 – 62.3) % Disagree 31.8 (28.5 – 35.0)	65.0 (59.7 – 70.3)	52.3 (47.7 – 56.8)	54.6 (50.0 – 59.2)	65.9 (60.8 – 70.9)	78.2 (68.1 – 88.3)	61.0 (54.9 – 67.2)	60.6 (55.7 – 65.6)	48.6 (41.0 – 56.2)

* Percentages do not total 100% due to a proportion of respondents who answered 'neither agree nor disagreed'.

4.2 Smoker attitudes to product labelling and related regulation

Table 2 shows the results of the analysis of smoker attitudes to tobacco product labelling and other product regulatory issues. The overwhelming majority (87%), of smokers would support legislation to reduce the level of toxins in cigarettes. Similarly, the majority of smokers (86%) would support legislation to reduce their addictiveness. This level of support varied little by age, gender or ethnicity. The support for legislation to reduce the addictiveness of cigarettes was unchanged (86%) even if it made cigarettes less pleasurable to smoke. Only 13-14% of smokers did not support each of these proposals.

There was less agreement with government action to restrict additives to cigarettes such as sugar – only 51% agreed with this. However, since 12% were neutral and only 34% actually disagreed with this proposal, there was majority support among those expressing a clear opinion. There was least support for this measure among Māori (42%).

On product labelling, most smokers (62%) wanted less health information than is currently on cigarette packets. One-quarter (25%) thought it should stay about the same. Only 12% thought there should be more health information on packs. Pacific smokers (2%) were least likely to want more health information on packs. The low levels of support for more health information may have been influenced by these data coming from Wave 2 of the survey, just after the introduction of pictorial health warnings with additional information such as the national Quitline number also available on packs.³³

There was overwhelming support (84%) for legislation to make all cigarettes fire-safe. This reached 98% among Pacific smokers and 90% among 18-34 year old smokers.

Table 2: New Zealand smoker attitudes to product labelling and related regulation

Question asked	All *	Male	Female	European/ Other	Māori	Pacific	18-34	35-55	55+
“Are you in favour of laws that would reduce the toxins in cigarette smoke?” - % “Yes” out of n=1358 (95% CI)	86.7 (84.4 – 89.1) % No 13.3 (10.9 -15.6)	84.0 (80.1 – 87.9)	89.5 (87.0 – 92.0)	87.8 (84.8 – 90.9)	84.8 (81.2 – 88.3)	81.8 (72.9 – 90.6)	86.4 (82.2 – 90.7)	86.9 (83.7 – 90.1)	87.0 (82.0 – 92.0)
“Are you in favour of laws that would reduce the addictiveness of cigarettes?” -% “Yes” out of n=1359 (95% CI)	85.6 (83.1 – 88.0) % No 14.4 (12.0 -16.9)	83.5 (79.5 – 87.5)	87.7 (84.9 – 90.5)	86.1 (83.0 – 89.2)	84.4 (80.4 – 88.4)	84.0 (75.6 – 92.4)	87.6 (83.6 – 91.6)	84.6 (81.0 – 88.2)	83.3 (77.4 – 89.1)
“Would you support laws that reduce the addictiveness of cigarettes even if it made them less pleasurable to smoke?” -% “Yes” out of n=1130 (95% CI)	86.3 (83.4 – 89.1) % No 13.7 (10.9 -16.6)	86.7 (82.4 – 91.0)	85.9 (82.2 – 89.5)	86.5 (82.8 – 90.1)	85.9 (81.6 – 90.1)	85.7 (75.4 – 96.1)	83.5 (78.1 – 89.0)	88.7 (85.4 – 92.0)	87.0 (81.2 – 92.7)
“Additives like sugar are added to cigarettes to make them more attractive. Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the government restricting additives like sugar in cigarettes?” (W2**) - % agree (strongly agree or agree) out of n=915 (95% CI)	51.3 (46.9 – 55.7) % Disagree 34.4 (30.2 – 38.6)	48.5 (41.8 – 55.2)	54.0 (48.3 – 59.7)	53.7 (48.2 – 59.3)	42.4 (35.4 – 49.4)	56.5 (38.1 – 74.9)	48.6 (40.4 – 56.8)	54.8 (48.8 – 60.7)	48.8 (40.2 – 57.4)

Question asked	All *	Male	Female	European/ Other	Māori	Pacific	18-34	35-55	55+
“Do you think that cigarette packages should have more health information than they do now, less information, or about the same amount as they do now?” (W2**) - % wanting more out of n=919 (95% CI)	12.4 (9.5 – 15.3) % Less 62.7 (58.3 – 67.0) % About the same 24.9 (21.0 – 28.8)	12.6 (8.1 – 17.1)	11.4 (7.9 – 14.8)	13.7 (10.0 – 17.4)	9.5 (5.4 – 13.6)	1.8 (0.3 – 10.3)	11.2 (6.2 – 16.2)	12.3 (8.2 – 16.4)	13.1 (7.9 – 18.3)
“Would you support a law for all factory-made cigarettes to be fire safe?” (W2**) - % “Yes” out of n=916 (95% CI)	83.8 (80.5 – 87.1) %No 14.1 (11.0 – 17.2)	80.8 (75.5 – 86.2)	86.7 (82.9 – 90.5)	81.5 (77.1 – 85.9)	86.9 (82.7 – 91.2)	97.9 (89.2 – 99.6)	89.6 (84.6 – 94.5)	79.6 (74.4 – 84.9)	80.4 (73.1 – 87.7)

* Where percentages do not total 100% this is due to a proportion of respondents who answered ‘neither agree nor disagree’, or ‘can’t say’.

** Question asked in Wave 2 (W2) of the survey only.

4.3 Smoker attitudes to point-of-sale tobacco display restrictions, measures to limit tobacco supply and plain packaging

Table 3 shows the results of the analysis of smoker attitudes to a range of possible legislative measures addressing the marketing and supply of tobacco products.

The proposal to introduce a ban on point-of-sale tobacco displays has been a recent area of policy debate in New Zealand. Table 3 shows that 60% of smokers support a complete ban on point-of-sale displays 'a little' or 'a lot'. Many smokers (35%) supported a ban "a lot". Support was highest among Pacific smokers (77%) and younger smokers (65%), but otherwise differed little by age, gender or ethnicity.

A large majority of smokers (83%) agreed that tobacco companies should not be allowed to promote cigarettes in any way, but only make them available to smokers who want to buy them. The level of support varied little by age, gender or ethnicity. Only 15% disagreed with this statement.

Three measures were used to find out about support for possible retail supply restriction options. A majority of smokers (62%) supported restricting sales to dedicated outlets where children are not allowed. Support was highest (83%) among Pacific smokers. Only 34% of smokers opposed this measure. Around two-thirds of smokers (62%) agreed that tobacco products should only be sold in places where quitting products are also sold. Support for this measure was again particularly high among Pacific smokers (82%). Finally, over one-half of the smokers interviewed (55%) also agreed that the number of places allowed to sell tobacco products should also be reduced gradually to make them less easy to buy.

Almost one-half of smokers (46%) supported the banning of sales of cigarettes in ten years, provided effective nicotine substitutes were available. Fewer supported plain packaging, with a majority opposing this policy.

Table 3: New Zealand smoker attitudes to point-of-sale display restrictions, measures to limit tobacco supply and plain packaging

Question asked	All *	Male	Female	European/ Other	Māori	Pacific	18-34	35-55	55+
“Do you support complete bans on displays of cigarettes inside shops and stores?” % support (“a lot” or “somewhat”) out of n=1359 (95% CI)	60.4 (56.9 – 63.9) % ‘Not at all’ 39.6 (36.1 – 43.1)	59.4 (54.0 – 64.8)	61.5 (57.1 – 65.9)	58.2 (53.6 – 62.7)	62.5 (57.3 – 67.6)	77.1 (67.4 – 86.7)	64.7 (58.7 – 70.7)	58.5 (53.5 – 63.6)	54.8 (47.3 – 62.4)
“Tobacco companies should not be allowed to promote cigarettes at all, but only make them available to adults who want to smoke them”. (W2*) - % agree out of n=921 (95% CI)	82.7 (79.3 – 86.1) % Disagree 14.6 (11.4 – 17.8)	80.8 (75.3 – 86.3)	83.4 (79.2 – 87.5)	82.0 (77.7 – 86.4)	84.7 (80.2 – 89.1)	73.3 (55.7 – 90.9)	81.6 (74.9 – 88.4)	81.7 (77.4 – 86.0)	84.1 (78.1 – 90.1)
“Tobacco companies should be required to sell cigarettes in plain packages -- that is, in packs without any brand names or fancy designs”. (W2*) - % agree out of n=922 (95% CI)	39.2 (34.8 – 43.5) % Disagree 52.9 (48.5 – 57.3)	36.6 (30.2 – 43.1)	40.7 (35.1 – 46.4)	36.8 (31.5 – 42.1)	42.3 (35.0 – 49.5)	47.0 (28.3 – 65.7)	41.4 (33.4 – 49.4)	36.7 (31.0 – 42.4)	37.3 (29.1 – 45.5)
“Tobacco products should only be sold in special places where children are not allowed to go?” - (W2) - % agree out of n=923 (95% CI)	61.9 (57.7 – 66.2) % Disagree 34.1 (29.9 – 38.3)	63.2 (56.7 – 69.6)	60.7 (55.2 – 66.3)	58.5 (53.0 – 63.9)	66.6 (60.1 – 73.1)	83.4 (70.6 – 96.2)	64.2 (56.4 – 72.1)	59.4 (53.5 – 65.2)	62.9 (54.9 – 70.8)

Question asked	All *	Male	Female	European/ Other	Māori	Pacific	18-34	35-55	55+
“Tobacco products should only be sold in special places where quitting products are also sold?” - (W2**) - % agree out of n=922 (95% CI)	61.7 (57.3 – 66.0) % Disagree 33.7 (29.5 - 37.9)	65.3 (58.9 – 71.7)	58.2 (52.5 – 64.0)	57.5 (52.0 – 63.0)	68.7 (62.2 -75.1)	82.4 (69.4 -95.4)	60.7 (52.7 – 68.7)	61.2 (55.3 – 67.2)	65.2 (57.3 – 73.2)
“The number of places allowed to sell tobacco products should be reduced gradually to make them less easy to buy?” - (W2**) - % agree out of n=922 (95% CI)	55.2 (50.8 – 59.6) % Disagree 38.8 (34.5 -43.0)	57.6 (51.0 – 64.2)	52.8 (47.1 -58.6)	51.3 (45.8 -56.9)	61.6 (55.0 – 68.2)	75.1 (60.0 -90.6)	58.1 (50.1 – 66.2)	53.0 (47.0 -59.0)	53.8 (45.3 -62.2)
“If effective nicotine substitutes that are not smoked became available, the government should then set a date to ban cigarette sales in ten years time”. (W2**) - % agree out of n=921 (95% CI)	46.0 (41.6 – 50.4) % Disagree 46.6 (42.2 – 51.0)	47.9 (41.2 – 54.6)	44.1 (38.4 – 49.8)	44.4 (38.9 – 49.9)	46.2 (39.0 – 53.4)	62.3 (44.2 – 80.4)	49.3 (41.2 – 57.4)	43.9 (37.9 – 49.9)	43.2 (34.8 – 51.7)

* Where percentages do not total 100% this is due to a proportion of respondents who answered 'neither agree nor disagree', or 'can't say'.

** Question asked in Wave 2 (W2) of the survey only.

4.4 Attitudes of smokers to tobacco tax

Most smokers (73%) thought that tobacco tax levels were too high with only 21% thinking it was “about right” and 6% stating that it was “too low” (Table 4). These percentages varied little by gender or ethnicity but younger smokers (18-34 years) were more likely than older smokers (> 55 years) to state that tobacco tax levels currently were “about right” or “too low”.

However, a much greater proportion (59%) of all smokers supported a tax increase if all the extra money was used to promote healthy lifestyles including smoking cessation. Support was greatest among Māori (65%) and Pacific smokers (66%), and also among younger smokers (61%).

Table 4: New Zealand smoker attitudes to tobacco tax

Question asked	All	Male	Female	European/ Other)	Māori	Pacific	18-34	35-55	55+
“What do you think about the amount of tax on tobacco products?” - % in each category out of n=1272 (95% CI)	% Too high 72.6 (69.3 – 76.0)	71.8 (66.5 – 77.0)	73.5 (69.4 – 77.7)	73.5 (69.2 – 77.8)	70.0 (64.8 – 75.2)	71.8 (59.5 – 84.1)	69.0 (62.9 – 75.1)	72.8 (68.2 – 77.5)	80.8 (74.0 – 87.5)
	% About right 21.3 (18.2 – 24.4)	21.0 (16.3 – 25.8)	21.5 (17.6 – 25.4)	20.9 (16.9 – 24.8)	23.4 (18.5 – 28.3)	18.3 (7.4 – 29.1)	24.8 (19.1 – 30.6)	20.6 (16.5 – 24.7)	14.4 (8.1 – 20.8)
	% Too low 6.1 (4.3 – 7.9)	7.2 (4.1 – 10.3)	5.0 (3.1 – 6.8)	5.6 (3.3 – 8.0)	6.6 (4.0 – 9.1)	9.9 (1.7 – 18.1)	6.1 (3.0 – 9.3)	6.6 (3.7 – 9.4)	4.8 (1.9 – 7.8)
“Would you support an increase in the tax on tobacco if all the extra money was used to promote healthy lifestyles including helping smokers wanting to quit?” - % support out of n=1376 (95% CI)	59.0 (55.5 – 62.4) % No 41.0 (37.6 – 44.5)	59.7 (54.3 – 65.0)	58.2 (53.8 – 62.6)	56.4 (51.8 – 60.9)	64.6 (59.4 – 69.9)	66.4 (54.1 – 78.7)	61.0 (54.9 – 67.1)	58.4 (53.5 – 63.4)	55.4 (47.9 – 62.9)

4.5 Attitudes of smokers to new types of smokefree environments

Smoker support for new smokefree environments varied widely (Table 5). Support for allowing smoking in cars with children in them was only 3% (i.e., 97% did not agree with this) with little variation by gender, ethnicity or age-group. Only 32% agreed with allowing smoking in children's playgrounds, with the lowest levels of support among Pacific, female and younger smokers.

Just under one-half (48%) of smokers supported allowing smoking within 5m of the entrances of public buildings, with the lowest level of support among Pacific smokers (38%). Just over one-half (55%) supported allowing smoking on lifeguard-patrolled beaches, with the lowest support among younger smokers (48% among 18-34 year olds), and highest (61%) among smokers aged over 55 years.

Most smokers (83%) agreed that smoking should be allowed in outdoor seating areas of pubs. The lowest support was among Pacific smokers (74%). For outdoor eating areas about a quarter (26%) of smokers thought that no smoking should be allowed in these areas, and half (52%) supported at least some restrictions. Support for no smoking in outdoor eating areas was greatest among Māori (30%), Pacific (31%) and older smokers (34%).

Table 5: New Zealand smoker attitudes to new types of smokefree environments*

“Which of the following places do you think that smoking should be allowed”	All	Male	Female	European/ Other	Māori	Pacific	18-34	35-55	55+
a. “Lifeguard patrolled beaches?” – % Yes out of n=1376 (95% CI) % No 45.3 (41.7 -48.8)	54.7 (51.2 – 58.3)	58.1 (52.6 – 63.5)	51.3 (46.8 – 55.8)	56.3 (51.7 – 60.9)	51.4 (46.1 – 56.7)	50.0 (37.2 – 62.8)	48.5 (42.3 – 54.7)	58.4 (53.4 – 63.4)	60.5 (53.0 – 68.0)
b. “Council owned playgrounds?” – % Yes out of n=1376 (95% CI) % No 68.1 (64.8 – 71.4)	31.9 (28.6 – 35.2)	35.9 (30.7 – 41.2)	27.7 (23.7 – 31.7)	33.4 (29.0 – 37.7)	29.3 (24.2 – 34.4)	25.3 (15.0 – 35.7)	27.1 (21.4 – 32.8)	35.6 (30.8 – 40.4)	34.1 (26.8 – 41.3)
c. “Some of the outdoor seating areas of pubs?” – % Yes out of n=1376 (95% CI) % No 17.4 (14.7- 20.2)	82.6 (79.8 – 85.3)	82.5 (78.4 – 86.5)	82.6 (78.9 – 86.4)	84.1 (80.5 – 87.7)	80.2 (76.1 – 84.4)	74.2 (63.8 – 84.7)	82.8 (77.8 – 87.8)	84.3 (80.7 – 88.0)	77.5 (71.5 – 83.6)
d. “Within 5 metres of the entrance to public buildings?” – % Yes out of n=1376 (95% CI) % No 51.8 (48.3 – 55.4)	48.2 (44.6 – 51.7)	50.5 (45.0 – 55.9)	45.8 (41.3 – 50.3)	50.2 (45.6 – 54.8)	44.8 (39.5 – 50.2)	38.4 (26.0 – 50.7)	44.3 (38.2 – 50.5)	50.5 (45.5 – 55.6)	51.5 (43.9 – 59.0)

Question	All	Male	Female	European/ Other	Māori	Pacific	18-34	35-55	55+
e. "Cars with children in them?" – % Yes out of n=1376 (95% CI)	3.0 (1.9 – 4.0) % No 97.0 (96.0 – 98.1)	2.4 (1.0 – 3.9)	3.5 (2.0 – 5.1)	2.7 (1.4 – 4.1)	3.4 (1.7 – 5.2)	4.0 (1.5 – 10.3)	3.0 (1.1 – 4.9)	3.4 (1.8 – 5.0)	2.1 (0.1 – 4.0)
"Do you think that smoking should be allowed in all outdoor eating areas, in some outdoor eating areas, or not allowed in outdoor eating areas at all?" – % some or none outdoor eating areas out of n=1376 (95%CI)	% None 25.6 (22.6 – 28.6) % Some 51.9 (48.38 – 55.4) % All 22.5 (19.6 – 25.4)	23.9 (19.5 – 28.3) 53.2 (47.8 – 58.6)	26.8 (22.9 – 30.8) 49.4 (44.9 – 53.9)	23.2 (19.4 – 26.9) 53.1 (48.5 – 57.6)	30.4 (25.8 – 35.1) 46.9 (41.6 – 52.2)	30.8 (18.3 – 43.3) 48.6 (35.8 – 61.4)	24.4 (19.2 – 29.5) 56.1 (49.9 – 62.2)	23.0 (19.0 – 26.9) 49.5 (44.4 – 54.6)	33.7 (26.4 – 40.9) 44.6 (37.1 – 52.2)

Note: *Not all of these would exactly be new smokefree areas, as a minority of local governments at the time of the survey did have smokefree park "policies" (albeit not actual by-laws).

4.6 Comparison of attitudes between New Zealand and Australian smokers

Table 6 shows that NZ and Australian smokers have similar attitudes to regulation of tobacco. In particular, about two-thirds of smokers in both countries favour increased regulation of tobacco companies, about one-half agree that tobacco companies should have to take responsibility for the harms caused by smoking, over 80% agree that tobacco companies should not be allowed to promote cigarettes at all, and around one-third agree that cigarettes should be sold in plain packaging, without any embellishment.

On the other hand, Australian smokers are more supportive toward completely banning point-of-sale tobacco displays, and restricting smoking in the outdoor areas of pubs. In-so-far as smoking in cars with children is concerned, because the questions were different, no precise comparison is possible. Nevertheless, there are very high levels of support for banning such behaviour in both countries and such laws now exist in most Australian States.

Table 6: Comparison of Common Regulation Questions: New Zealand and Australian smokers

Question		New Zealand *N=1376, **N=923 %(95% CI)	Australia N=2171 %(95% CI)
“Tobacco industry should take responsibility for the harm caused by smoking”	% Agree	*45.5 (41.9 - 49.0)	48.1 (46.0 - 50.2)
	% Disagree	*46.9 (43.3 - 50.5)	44.8 (42.7 - 46.9)
“Tobacco companies should be more tightly regulated”	% Agree	*65.0 (61.6 - 68.4)	66.9 (64.7 - 68.9)
	% Disagree	*28.6 (25.3 - 31.8)	25.8 (24.0 - 27.3)
“The government should do more to tackle the harm done by smoking”	% Agree	*58.8 (55.3 - 62.3)	63.2 (61.1 - 65.2)
	% Disagree	*31.8 (28.5 - 35.0)	29.2 (27.3 - 31.2)
“Tobacco companies should not be allowed to promote cigarettes at all, but only make them available to adults who want to smoke them”	% Agree	**82.7 (79.3 - 86.1)	85.6 (84.1 - 87.0)
	% Disagree	**14.6 (11.4 - 17.8)	11.5 (10.2 - 12.9)
“Do you support complete bans on displays of cigarettes inside shops and stores” - % support (a lot or a little)	% Agree	*60.4 (56.9 - 63.9)	70.6 (68.6 - 72.5)
	% Disagree	*39.6 (36.1 - 43.1)	29.4 (27.6 - 31.1)
“Tobacco companies should be required to sell cigarettes in plain packages -- that is, in packs without any brand names or fancy designs”	% Agree	**39.2 (34.8 - 43.5)	36.5 (34.5 - 38.6)
	% Disagree	**52.9 (48.5 - 57.3)	52.4 (50.3 - 54.4)
“Smoking should be allowed in some of the outdoor seating areas of pubs?”	% Agree	*82.6 (79.8 - 85.3)	54.8 (52.7 - 56.8)
	% Disagree	*17.4 (14.7 - 20.2)	9.3 (8.1 - 10.6)
NZ Question: “Smoking should be allowed in cars with children in them?” Australian Question: “Would you support a law that banned smoking in cars when children are in them”	% Agree	*3.0 (1.9 - 4.0)	83.6 (82.0 - 85.1)
	% Disagree	*97.0 (96.0 - 98.1)	16.4 (14.9 - 18.0)

* = Wave 1

** = Wave 2

4.7 Comparison of attitudes to tobacco regulation by ethnicity

Table 7 shows a comparison of support for eight key aspects of tobacco regulation by ethnicity comparing Māori and Pacific peoples with European/other (with the latter including Asian New Zealanders). For all eight questions, support was lowest among European/others and highest among Pacific smokers, though the difference was not always statistically significant, and hence may plausibly have been due to chance.

Among Pacific smokers there were particularly high levels of support for regulation and large differences (odds ratio (OR) = 2.4-3.6) compared to European/others in the proportions agreeing that “the government should do more to tackle the harm done by smoking”; “tobacco products should only be sold in special places where children are not allowed to go”; and that there should be “complete bans on displays of cigarettes inside shops and stores”.

Table 7: Selected comparisons of attitudes between Māori, Pacific Islander and European/Other smokers

Question	Māori (%)	Pacific (%)	European/ Other (includes Asian) (%)	Crude odds ratio (OR) (95% CI) for Māori agreement vs. European/Other	Crude OR (95% CI) for Pacific agreement vs. European/Other
“Tobacco companies should be more tightly regulated” - % agreeing	70.5	74.0	62.3	1.44 (p=0.017) (1.07 – 1.95)	1.72 (p=0.074) (0.95 – 3.11)
“The government should do more to tackle the harm done by smoking” - % agreeing	65.9	78.2	54.6	1.60 (p=0.001) (1.20 – 2.15)	2.98 (p=0.001) (1.60 – 5.56)
“Tobacco industry should take responsibility for the harm caused by smoking” - % agreeing	49.7	60.2	42.7	1.33 (p=0.050) (1.00 – 1.76)	2.04 (p=0.015) (1.15 – 3.61)
“Do you support complete bans on displays of cigarettes inside shops and stores?” - % a little or a lot	62.5	77.1	58.2	1.20 (p=0.223) (0.90 – 1.60)	2.42 (p=0.003) (1.36 – 4.30)
“Tobacco products should only be sold in special places where children are not allowed to go?” (W2) - % agreeing	66.6	83.4	58.5	1.42 (p=0.065) (0.98 – 2.05)	3.58 (p=0.009) (1.38 – 9.28)
“Tobacco companies should be required to sell cigarettes in plain packages” (W2) - % agreeing	42.3	47.0	36.8	1.26 (p=0.230) (0.86 – 1.83)	1.52 (p=0.293) (0.69 – 3.34)
“If effective nicotine substitutes that are not smoked became available, the government should then set a date to ban cigarette sales in ten years time”. (W2) - % agreeing	46.2	62.3	44.4	1.07 (p=0.704) (0.74 – 1.55)	2.07 (p=0.077) (0.92 – 4.62)
“Would you support an increase in the tax on tobacco if all the extra money was used to promote healthy lifestyles including helping smokers wanting to quit?” - % a little or a lot	64.6	66.4	56.4	1.42 (p=0.021) (1.05 – 1.90)	1.53 (p=0.150) (0.86 – 2.74)

Note: Bolded results are statistically significant (at the $p < 0.05$ level)

4.8 Multivariate analysis to assess possible determinants of support for tobacco company regulation

Table 8 shows the result of a logistic regression analysis to investigate possible determinants of agreeing that tobacco companies need to be more tightly regulated. In the fully adjusted model (Model 3), the following were associated with reduced likelihood of support – younger age group, greater level of self-exempting beliefs and a more positive attitude towards smoking and tobacco products. Factors associated with increased support for tobacco company regulation were Māori ethnicity, experience of financial stress (spending money on cigarettes which would have been better spent on household essentials within the last 6 months) and greater awareness about the harms of smoking.

Table 8: Logistic regression analysis for smoker agreement with the statement “tobacco companies should be more tightly regulated (all the results weighted and adjusted for the complex design)

Variables	Adjusted Odds Ratio (aOR) (95% CI) ^a		
	Model 1 (demographics)	Model 2 (+ socio-demographics)	Model 3 (+ mental health, smoking related beliefs and behaviours)
	Hosmer-Lemeshow Chi ² =7.29, df=6 (p=0.295) ^b	Hosmer-Lemeshow Chi ² =4.00, df=8 (p=0.857) ^b	Hosmer-Lemeshow Chi ² =8.85, df=8 (p=0.355) ^b
Demographic			
Age (35–49 vs. 50+)	1.00 (0.70 – 1.45)	0.97 (0.67 – 1.41)	0.66 (0.42 to 1.02)
Age (<35 vs. 50+)	0.91 (0.62 – 1.35)	0.87 (0.59 – 1.30)	0.57 (0.34 – 0.95)
Gender (women vs. men)	1.35 (1.00 – 1.82)	1.33 (0.98 – 1.80)	1.35 (0.94 – 1.95)
Māori vs. European/Other (includes Asian)	1.42 (1.04 – 1.94)	1.43 (1.03 – 1.98)	1.58 (1.08 – 2.32)
Pacific vs. European/Other (includes Asian)	1.79 (0.98 – 3.30)	1.63 (0.88 – 3.02)	2.09 (0.93 – 4.70)
Socio-economic^c			
Area deprivation quintiles (increasing deprivation)	–	0.97 (0.87 – 1.10)	1.03 (0.89 – 1.19)
Individual deprivation using NZiDep (any deprivation vs. nil)	–	1.04 (0.75 – 1.45)	1.06 (0.71 – 1.58)
Financial stress: Unable to pay any important bills on time	–	0.72 (0.39 – 1.34)	0.97 (0.46 – 2.02)
Financial stress: Not spending on household essentials	–	2.02 (1.37 – 2.98)	1.69 (1.05 – 2.72)
Mental health, smoking-related beliefs & behaviours^c			
Psychological distress Kessler 10-item scale (K10) score (continuous scale)	–	–	1.01 (0.98 – 1.05)
Heaviness of smoking index (alternate version) ^d	–	–	0.94 (0.87 – 1.02)
Awareness of smoking harm (7-item scale) (α = 0.69)			1.54 (1.02 – 2.31)
Concern around smoking impact on health and quality of life in the future (2-item scale)	–	–	1.10 (0.87 – 1.39)
Strength of intention of quitting (4-point scale) ^e	–	–	1.06 (0.59 -0.91)
Overall attitude to smoking (5-point scale, high score is more positive towards smoking)	–	–	0.73 (0.59 – 0.91)
Self-exempting beliefs (3-item scale, high score means stronger such beliefs) (α = 0.60)	–	–	0.70 (0.55 – 0.90)
Awareness of social denormalisation of smoking (3-item index) (α=0.50)	–	–	1.11 (0.99 – 1.24)

Notes:

^a The adjusted odds ratios (aORs) represent those odds for agreement with the statement “tobacco companies should be more tightly regulated” relative to other responses to this question. The aORs in models 1, 2 & 3 are adjusted for the demographic and key socio-demographic variables (e.g., deprivation), model 3 for mental health, heaviness of smoking, and quitting intentions (see the *Methods* Section).

^b Not adjusted for complex sample design.

^c See Methods and an online Methods Report,²⁶ for further details on these measures.

^d The “Heaviness of Smoking Index” (HSI) has been developed by others and we used the “alternative version” (HSI-AV) utilized by others.²² This is calculated as the square root of the daily cigarette consumption minus the natural logarithm of time to first cigarette of the day. The specific equations are detailed in an online *Methods Report*.²³

^e The “strength of intention of quitting” scale has been used in other ITC Project work.¹⁶ For more detail see an online *Methods Report*.²⁶

4.9 Multivariate analysis to assess determinants of support for a ban on tobacco sales in ten years time

Table 9 shows the results of the same analysis to identify the determinants of support for a ban on the sale of smoked tobacco products in ten years time, assuming that safer nicotine delivery products were available. Significant predictors of support in the fully adjusted model included increasing area-based deprivation level, increasing intention-to-quit and greater concern about health effects of smoking. Borderline statistically significant determinants of increased support were experience of financial stress (spending money on cigarettes which would have been better spent on household essentials within the last 6 months) and for reduced support were middle age group (35-49 years) and more negative attitudes towards smoking.

Table 9: Logistic regression analysis for agreement with the statement that “If effective nicotine substitutes that are not smoked became available, the government should then set a date to ban cigarette sales in ten years time” (All the results weighted and adjusted for the complex design).

Variables	Adjusted Odds Ratio (aOR) (95% CI) ^a		
	Model 1 (demographics)	Model 2 (+ socio-demographics)	Model 3 (+ mental health, smoking related beliefs and behaviours)
	Hosmer-Lemeshow Chi ² =4.41, df=8 (p=0.818) ^b	Hosmer-Lemeshow Chi ² =9.39, df=8 (p=0.310) ^b	Hosmer-Lemeshow Chi ² =6.49, df=8 (p=0.592) ^b
Demographic			
Age (35–49 vs. 50+)	0.83 (0.55 – 1.25)	0.79 (0.52 – 1.20)	0.62 (0.37 – 1.03)
Age (<35 vs. 50+)	1.10 (0.70 – 1.73)	1.03 (0.64 – 1.65)	0.73 (0.41 – 1.29)
Gender (women vs. men)	0.86 (0.60 – 1.23)	0.85 (0.59 – 1.23)	0.78 (0.50 – 1.23)
Māori vs. European/Other (includes Asian)	1.09 (0.74 – 1.59)	1.01 (0.68 – 1.49)	1.10 (0.71 – 1.70)
Pacific vs. European/Other (includes Asian)	2.00 (0.89 – 4.51)	1.63 (0.73 – 3.65)	2.25 (0.75 – 6.74)
Socio-demographic^c			
Area deprivation quintiles (increasing deprivation)	–	1.16 (1.00 – 1.33)	1.19 (1.00 – 1.41)
Individual deprivation using NZIDep (any deprivation vs. nil)	–	1.03 (0.70 – 1.52)	0.85 (0.53 – 1.34)
Financial stress: Unable to pay any important bills on time	–	0.80 (0.38 – 1.66)	0.60 (0.24 – 1.51)
Financial stress: Not spending on household essentials	–	1.79 (1.16 – 2.76)	1.62 (0.99 – 2.65)
Mental health, smoking-related beliefs & behaviours^c			
Psychological distress Kessler 10-item scale (K10) score (continuous scale)	–	–	0.98 (0.94 – 1.02)
Heaviness of smoking index (alternate version) ^d	–	–	0.94 (0.86 – 1.03)
Awareness of smoking harm (7-item scale) (α = 0.69)	–	–	0.79 (0.47 – 1.33)
Concern around smoking impact on health and quality of life in the future (2-item scale)	–	–	1.61 (1.23 – 2.10)
Strength of intention of quitting (4-point scale) ^e	–	–	1.36 (1.07 – 1.72)
Overall attitude to smoking (5-point scale, high score is more positive towards smoking)	–	–	0.77 (0.59 – 1.01)
Self-exempting beliefs (3-item scale, high score means stronger such beliefs) (α = 0.60)	–	–	0.85 (0.63 – 1.14)
Awareness of social denormalisation of smoking (3-item index) (α=0.50)	–	–	0.96 (0.83 – 1.10)

Notes:

^a The adjusted odds ratios (aORs) represent those odds for agreement with the statement “tobacco companies should be more tightly regulated” relative to other responses to this question. The aORs in models 1, 2 & 3 are adjusted for the demographic and key socio-demographic variables (e.g., deprivation), model 3 for mental health, heaviness of smoking, and quitting intentions (see the *Methods Section*).

^b Not adjusted for complex sample design.

^c See Methods and an online Methods Report,²⁶ for further details on these measures.

^d The “Heaviness of Smoking Index” (HSI) has been developed by others and we used the “alternative version” (HSI-AV) utilized by others.²² This is calculated as the square root of the daily cigarette consumption minus the natural logarithm of time to first cigarette of the day. The specific equations are detailed in an online *Methods Report*.²⁶

^e The “strength of intention of quitting” scale has been used in other ITC Project work.¹⁶ For more detail see an online *Methods Report*.²⁶

5. Discussion

This analysis revealed generally strong support among a representative sample of New Zealand smokers for a wide range of measures to constrain tobacco industry power and to enhance tobacco control regulation. In this section we summarise our findings and compare them with some key results from other settings. In addition, we compare our findings with those from the New Zealand Health and Lifestyles Survey (HLS).³⁴ This survey of 1608 participants, of whom 422 were current smokers, was conducted in 2008 and included questions on tobacco control that were similar to those asked in the ITC survey.

5.1 General attitudes of smokers to tobacco industry regulation

A key finding of this report was the high level of support for greater regulation of the tobacco industry and more government action on tobacco. Sixty-five percent of smokers supported greater regulation of tobacco companies and 59% of smokers agreed that the government should do more to tackle the harm done by smoking. In multivariate analyses to identify possible determinants of support for increasing regulation of the tobacco industry, markers of socioeconomic disadvantage of financial stress and a greater concern or awareness of harms of smoking were associated with increased support. Māori ethnicity was also associated with increased support for greater regulation of tobacco companies.

The findings of strong support for tobacco control measures have been replicated in other settings. In the ITC four-country study in 2004, the proportion of smokers agreeing that tobacco products should be more tightly regulated was 62% in the USA, 64% in Canada, 69% in Australia, and 71% in the UK. Similarly, the proportion who believed that the government should do more to tackle the harm caused by tobacco was 50% in the USA, 62% in Canada, 64% in Australia, and 66% in the UK.¹⁶

In the NZ HLS³⁴, six out of ten (59%) respondents overall, and four out of ten (42%) current smokers agreed that *the government should do more to reduce the harm done by smoking*.

5.2 Smoker attitudes to product labelling and related regulation

There was overwhelming support by smokers for reducing toxicity (87%) and the addictiveness of cigarettes (86%), and for the introduction of fire-safe cigarettes (84%). Around one-half of the smokers interviewed supported restricting additives in cigarettes. However, most smokers wanted less health information on cigarette packets, possibly reflecting a dislike of the newly introduced pictorial health warnings. This finding is favourable from a public health perspective since dislike of the warnings can be part of the warnings effectiveness (in deterring youth uptake and stimulating quit attempts). Indeed, there is now good evidence that pictorial health warnings are effective in stimulating quitting.^{29 35 36} Furthermore, the New Zealand data also support the effectiveness of these warnings,³⁷⁻⁴⁰ and their value in making smokers' more aware of the Quitline number on tobacco packaging.⁴¹

5.3 Smoker attitudes to point-of-sale display restrictions, measures to limit tobacco supply and plain packaging

There was also majority support (60%) for a ban on point-of-sale displays and for restricting sales of cigarettes to locations not visited by children. Forty percent supported requiring plain packaging of cigarettes.

Among those expressing an opinion, around one-half supported the banning of sales of cigarettes in ten years, provided effective nicotine substitutes were available. In the multivariate analysis to identify determinants of support for the endgame scenario of a ban on cigarette sales in ten years time, significant predictors of support included increased area-based deprivation level, an increasing intention to quit and greater concerns about the health effects of smoking.

A similar question was asked in the NZ HLS survey,³⁴ but it was not linked with the proviso that nicotine substitutes would be made available. In this survey, one-half (50%) of respondents overall (smokers and non-smokers) agreed that *cigarettes and tobacco should not be sold in New Zealand in 10 years time*. Support was highest among Pacific peoples.⁴² A fifth of respondents (20%) neither agreed nor disagreed with this statement. One-quarter (26%) of current smokers in the sample agreed with this statement, and around one-fifth (18%) neither agreed nor disagreed.

5.4 Attitudes of smokers to tobacco tax

Our findings in this survey around smoker support for increased dedicated taxes are consistent with other literature and with evidence that most smokers regret starting to smoke and want to quit (as we have discussed elsewhere¹¹). This other published work also includes multivariate analyses on smoker support for increased dedicated taxes.⁴³ We have also published elsewhere on support among these respondents for dedicated taxes by the level of individual deprivation.¹⁰ Related work includes how some of these respondents report using roll-your-own tobacco because it is cheaper than factory-made cigarettes.^{44 45}

The NZ HLS used somewhat different wording and found that only 30% of smokers agreed that *tax on cigarettes should be increased and all the extra money used to help smokers quit*.^{34 42} However, overall support (smokers and non-smokers) was 64%.

5.5 Attitudes of smokers to new types of smoke-free environments

The findings indicated majority smoker support for a range of new smokefree areas – but not for all (e.g., 83% supported smoking being allowed in at least some of the outdoor area of pubs). We have discussed some of the results elsewhere,^{8 9} including the results of a multivariate analysis around support for such new smokefree areas.⁹ Other more focused publications have considered our results around smokefree cars,^{6 7} and smokefree playgrounds.⁴⁶

Results from the NZ HLS were similar. Nine out of ten (91%) respondents overall and eight out of ten (82%) current smokers agreed that *smoking should be banned in cars with children under the age of 14 in them*. Eight out of ten (82%) respondents overall and

around two-thirds (65.7%) of current smokers agreed that *smoking should be banned within 5 m of the entrance to all buildings used by the public, like shops, office buildings and libraries*. Eighty-three percent of all respondents stated that it was “not at all” acceptable to smoke at an outdoor children’s playground and four out of ten (40%) respondents stated that it was “not at all” acceptable to smoke at beaches.^{34 42}

5.6 Comparison of smoker attitudes in NZ and Australia

We found similarly high levels of support among smokers in both countries for stronger government action on a range of tobacco control interventions. Higher levels of support in Australia for the complete banning of point-of-sale displays might be partly attributable to such bans already being in place in most Australia states (at the time of the survey). Furthermore, previous research has shown that increased tobacco control regulation leads to increased support for regulation in the tobacco market.¹⁶

5.7 Contextual factors

It is important to note that the context in which these surveys were carried out during the period March 2007 to February 2009. Firstly, this was during the period in the run up to and in the immediate aftermath of the November 2008 General election. One of the themes of the political discourse during this period was criticism of the Labour Government (which was in power until the 2008 election) as being too ‘nanny state’. That is that the government was ‘interfering’ too much in the lives of New Zealanders and in business activity through excessive policy and regulation.⁴⁷⁻⁵¹ Secondly, there had been little or no public debate or many of the interventions and policy options included in the survey. Some such as point of sale display bans, tobacco tax increases and smoke free cars, parks and playgrounds had been the subject of advocacy efforts and local research reports, so had been debated to some degree. Others such as plain packaging, restrictions on retail supply, product regulation and fire-safe cigarettes had received virtually no attention. In addition the tobacco industry has generally had a very low profile in New Zealand in recent years.

Given this context, the level of support found among smokers for greater regulation of the tobacco industry and for many of the specific interventions discussed is much higher than might be expected. The evidence from experience with the smokefree legislation in New Zealand and elsewhere suggests that support for tobacco control interventions grows further during open public debate and after implementation.^{3 52 53}

5.8 Strengths and weaknesses of this study

The ITC New Zealand surveys appear to have the most detailed and wide range of questions about a range of regulatory options, and one of the largest samples of smokers for these types of questions. In addition, many of the questions have been used previously in other ITC studies, allowing comparisons with data from the other ITC countries.

The sample was drawn from a nationally representative sample and included a large proportion of Māori and Pacific smokers.

A possible weakness with this study is that the respondents might have displayed some “social desirability bias” in their responses and been more likely to have articulated pro-tobacco control views. This is possible because smoking is becoming increasingly

denormalised in New Zealand (along with many other countries). For example, there have been reductions in socially-cued smoking following the recent expansion of indoor smokefree environment laws in this country.⁵² This social desirability bias may act both as a confounder but also as a source of measurement error (i.e., both correlated and dependent measurement error). Nevertheless, we feel it is unlikely to have been substantial given the nuanced and varying responses to the different questions (e.g., the wide range of responses to different types of new smokefree areas – with a large majority smokers supporting smoking in outdoor hospitality settings). This suggests that most respondents were not simply defaulting to the most pro-tobacco control answers.

Elsewhere, in regard to the relatively low response rate with this survey, we have noted that:

“selection bias is also likely, given the non-response to the NZHS and then for those who declined to participate in the subsequent ITC Project survey. That said, in the logistic regression modelling we would presume that by adjusting for socio-demographic characteristics we are also adjusting for those variables that predict participation, and within these strata the associations of our independent and dependent variables will be more likely to represent that in the total eligible population – but this is not guaranteed. Beyond statistical imprecision, selection bias and measurement error, it is possible that we have not fully adjusted for all confounders. However, we believe this is unlikely as our ITC Project study includes good data on socio-demographics, and is restricted to smokers.”

We have also attempted to quantify how such bias may impact on our results and suggest it is unlikely to be substantial.⁹

The other main weakness (which can be remedied) is the restriction of the survey cohort to two survey waves. Future surveys could be funded to get a larger cohort, which even after several waves would have sufficient power for detailed analysis.

The repetition of surveys with the questions reported on in this report could give some indication of changes in attitudes. For example, the level of support for tobacco-free retail displays and for smokefree outdoor pub areas could change as New Zealand smokers become more aware of the Australian experience in this area.

6. Conclusions

In conclusion, this research found strong majority support for a range of established and proposed tobacco control interventions, as well as for more radical 'endgame' approaches to tobacco control even among smokers. This support was found across both genders and all age groups and ethnicities, though support was often greatest among Pacific (and sometimes Māori) smokers. As was seen in the results from the New Zealand Health and Lifestyle Survey, where smokers were analysed separately from all respondents, levels of support among non-smokers will almost certainly be even higher still.

Although a large range of questions were asked to investigate attitudes to tobacco control interventions and tobacco product regulation, there are many other facets and proposed interventions that could be investigated further. For example, the levels of support for different levels of increase in taxation on tobacco products, a range of options to restrict the supply of tobacco products, and different proposed 'endgame' solutions including structural reforms to the market, distribution systems and regulatory apparatus.

The major policy implications of this research are that New Zealand smokers would support much more vigorous tobacco control efforts and regulatory approaches. The findings of this report suggests that government perceptions of public and smoker opposition to tobacco policy change are not supported by survey evidence. Introducing such measures may have political positives. Indeed, the tobacco tax increase in April 2010⁵⁴ appeared to be relatively well accepted by the public and in media discourse and seemed to show the politicians involved positively and in a clear leadership role. Strong and radical policy-based approaches are increasingly frequently advocated in tobacco control, notably through the Tupeka Kore 2020 vision⁵⁵ and most recently in the 2010 Māori Affairs Select Committee report.⁵⁶ Such regulatory tobacco control measures will greatly improve and protect the health of New Zealanders and provide a path to reduce health inequalities.²

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