

# Susceptibility to smoking among 14 and 15-year-olds

## Results from the 2018 Youth Insights Survey

There has been a gradual reduction in smoking rates among adolescents in New Zealand in recent years. In 2018, 23% of 14 and 15-year-olds reported having ever smoked, down from 29% in 2012 (Lucas & Gurram, 2020). Research showed that the age of smoking initiation (when a person smokes for the first time) largely occurs among older youth and young adults between 15 and 24-years-old (Edwards, Carter, Peace, & Blakely, 2013). In 2018, the mean age of smoking initiation was 15.3 years. Māori were more likely to initiate smoking at a younger age (14.1 years) than other ethnic groups (Gurram & Martin, 2019).

To prevent adolescents from becoming smokers and ensure that smoking rates among them decline further, it is essential to identify individuals who are susceptible to smoking. For this analysis, we defined smoking susceptibility as those never smokers who appeared to be less committed to remain smokefree in the future and/or when offered a cigarette by a friend. We used three standard questions developed by Pierce, Choi, Gilpin, Farkas, & Merritt (1996). For more details, see the methodology section.

This report focuses on 14 and 15-year-olds who completed the 2018 Youth Insights Survey (YIS), a paper-based survey conducted in schools. We estimate susceptibility to smoking among those who have never smoked and identify risk factors associated with susceptibility to smoking. We also examine trends in susceptibility and risk factors between 2012 and 2018.

### Key points:

- In 2018, three in ten (30%) 14 and 15-year-old students who had never smoked (never smokers) were susceptible to smoking.
- Of never smokers, both Māori and Pasifika students were more likely to be susceptible than non-Māori non-Pasifika students.
- The proportion of susceptible students increased between 2012 and 2018 (22% to 30%).
- The increase of susceptibility between 2012 and 2018 was seen for males and females, mid and high school decile groups, and Māori, Pasifika, and non-Māori non-Pasifika.
- Those more likely to be susceptible were those who:
  - had close friend(s) who smoked
  - noticed smoking in the media
  - did not have anti-smoking education at school/kura.

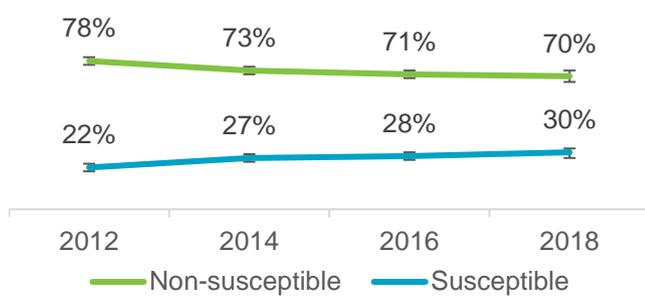
### 3 in 10 never smokers are susceptible to smoking

In 2018, three in ten (30%) 14 and 15-year-olds who had never smoked were susceptible to smoking.

Both Māori and Pasifika students were about 1.5 times more likely to be susceptible than non-Māori non-Pasifika<sup>1</sup> after controlling for gender and school decile group.

From 2012 to 2018 the proportion of susceptible students increased (from 22% to 30%; see Figure 1). The rise was observed in both males and females; in mid and high decile school groups; and in Māori, Pasifika, and non-Māori non-Pasifika students.

Figure 1: Proportion of students who never smoked by susceptibility status, 2012 to 2018



Base = 14 and 15-year-old never smokers [n=2,031 (2012); n=2,018 (2014); n=1,800 (2016); n=2,082 (2018)]

### Friends, media, and lack of anti-smoking education associated with susceptibility

Some potential risk factors for being susceptible to smoking include (U.S. Department of Health and Human Services, 2012; Veeranki, Mamudu, Anderson, & Zheng, 2014):

- having at least one close friend who smokes
- noticing people/characters smoking in the media
- smoking behaviours of parents
- expectation of parental response to their smoking
- having anti-smoking education in school.

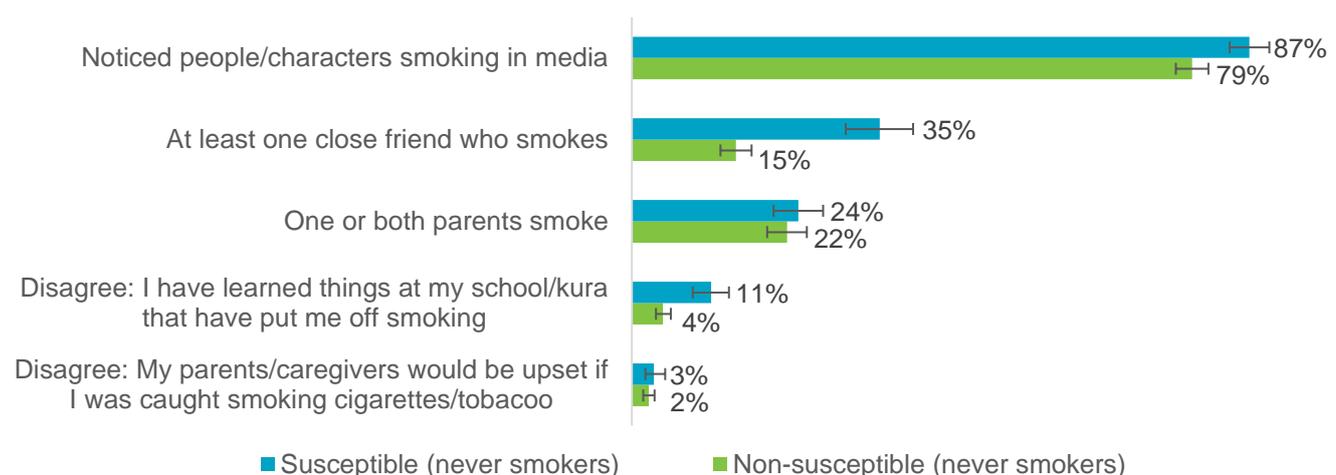
There are other risk factors, such as exposure to anti-smoking media messages, that were not explored here (Veeranki et al., 2014).

#### Close friends who smoke

One in five (21%) students who never smoked in 2018 had at least one close friend who smoked. The proportion was unchanged since 2012.

Māori and Pasifika never smokers were about three times more likely to have close friends who smoked compared to non-Māori non-Pasifika.

Figure 2: Proportion of never smokers by selected risk factors and susceptibility status, 2018



Base = 14 and 15-year-old never smokers (n=2,082)

<sup>1</sup>Māori students were compared against non-Māori non-Pasifika students. Pasifika students were compared against non-Pasifika non-Māori, see methodology for more information.

One-third (35%) of susceptible students had at least one close friend who smoked, compared to 15% of non-susceptible students (see Figure 2).

After controlling for demographics, never smokers were over two times more likely to be susceptible if they had at least one close friend who smoked compared to having no friends who smoked (see Figure 3).

### Exposure to smoking in the media

Eight in ten (81%) never smokers noticed people/characters smoking in the media including TV shows, movies, video games, music videos, and/or other media in the last month. The proportion was unchanged from 2016 when the question was first asked.

Never smokers in low and high decile schools were more likely to notice smoking in media than those in mid decile schools.

Almost 9 in 10 (87%) susceptible students noticed smoking in the media, compared to 8 in 10 (79%) non-susceptible students.

Never smokers were almost two times more likely to be susceptible if they noticed smoking in the media compared to not noticing smoking in media.

### Having parents who smoke

One in five (22%) students who never smoked had at least one parent who smoked in 2018, no change from 2012.

Never smokers who were more likely to have at least one parent who smoked were:

- Māori (2.5 times) and Pasifika (two times), compared to non-Māori non-Pasifika
- students attending low and mid decile schools (both around 1.5 times), compared to those attending high decile schools.

A quarter (24%) of susceptible students had at least one parent who smoked, similar to non-susceptible students (22%).

### Expectation of parental response to their smoking

Only about 3% of students didn't think their parents would be upset if they were caught smoking cigarettes/tobacco in 2018, an increase from 2012 (1%).

There was no difference between susceptible and non-susceptible students.

### Anti-smoking education at school

In 2018, three-quarters (75%) of never smokers agreed that they had some form of anti-smoking education in school and 16% didn't agree or disagree. In comparison, 7% reported having no anti-smoking education (disagreed), no change from 2012.

One in ten (11%) susceptible students did not have anti-smoking education at school, compared to 4% of non-susceptible students.

Never smokers were almost two times more likely to be susceptible if they have not had anti-smoking education in school, compared to those who did.

Figure 3: Adjusted risk factors associated with susceptibility to smoking



## Conclusion

Despite the decrease in smoking prevalence between 2012 and 2018, susceptibility to smoking among 14 and 15-year-olds has increased. In 2018, 3 in 10 never smokers were susceptible to smoking, with Māori and Pasifika never smokers more likely to be susceptible than non-Māori non-Pasifika.

We observed an increase of susceptibility across many different subpopulations of students, suggesting that susceptibility may be affected by other factors. Consistent with international studies, we found that close friends' smoking status, exposure

to smoking in media and lack of school anti-smoking education were associated with increased smoking susceptibility (U.S. Department of Health and Human Services, 2012; Veeranki et al., 2014). These risk factors may influence each other; this was not accounted for in the analysis.

The findings from this report shows a further need for research into why susceptibility is increasing and other associated risk factors. The findings from this study point out the need for proactive measures to reduce smoking initiation among New Zealand adolescents, with particular attention toward factors associated with susceptibility to smoking.

## References

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## Methodology

The YIS is a nationwide paper-based survey conducted in schools every two years, and is part of the New Zealand Youth Tobacco Monitor (NZYTM), a collaborative effort by Te Hiringa Hauora/Health Promotion Agency and Action Smokefree 2025 (ASH). The 2018 YIS was conducted with a sample of 2,689 Year 10 students aged 14 and 15-years-old. For the 2018 YIS methodology report, questionnaire and further YIS publications, please visit <https://www.hpa.org.nz/our-work/research/publications>

The Pierce Susceptibility Scale was used to measure susceptibility to smoking. The scale is a four-item instrument that is used to determine the prevalence of susceptibility to smoking among never smokers. Only the original three-items are included in the 2018 YIS. Item responses are on a 4-point Likert scale (definitely yes, probably yes, probably not, definitely not) and include 'refused' and 'don't know' options (Pierce, Choi, Gilpin, Farkas, & Merritt, 1996). It was determined by answers to the questions 'Do you think you will try a cigarette soon?' 'If one of your best friends offered you a cigarette, would you smoke it?' and 'At any time during the next year (12 months) do you think you will smoke a cigarette?' See Table 1 for 2018 YIS sample characteristics by susceptibility status.

- Non-susceptible never smokers answered '*definitely not*' to all three questions. Those who did not respond to one question but responded '*definitely not*' to the other two were also non-susceptible.
- Susceptible never smokers answered anything except '*definitely not*' to at least one of the three questions-including non-response.
- Students who did not respond to any of the three questions were not assigned a susceptibility status (non-response).

Table 1 YIS sample characteristics of 14 and 15-year-olds by susceptibility status, 2018

	<i>n</i>	Percentage (unweighted)	Percentage (weighted)
<b>Total</b>	<b>2,689</b>	<b>100</b>	<b>100</b>
Ever smoked	579	21.5	22.4
Susceptible never smoker	618	23.0	22.9
Non-susceptible never smoker	1,457	54.2	53.3
No response	35	1.3	1.3

Risk factors were measured using the following questions:

1. Those who had **close friend(s) who smoked** chose a number from zero to five in relation to the question '*How many of your closest friends smoke?*' For analysis, those who chose a number one to five were compared against everyone else (i.e. those who chose zero and those with non-response).
2. Those who had **at least one parent who smoked** chose '*Father*' and/or '*Mother*' from the question '*Which of the following people smoke?*'
3. Those who **noticed people/characters smoking in the media** responded to '*During the past 30 days, have you noticed people or characters smoking in...*' by saying 'Yes' to TV shows, movies, video games, music videos, and/or other media.
4. **Expectation of parental response to their smoking** was measured by asking whether they '*Agree*', '*Disagree*', or '*Don't know*' with the statement '*My parents or caregivers would be upset if I was caught smoking cigarettes/tobacco.*' Those who disagreed were compared against everyone else.
5. **Having anti-smoking education in school** was measured by asking whether they '*Strongly agree*', '*Agree*', '*Neither*', '*Disagree*', or '*Strongly disagree*' with the statement '*I have learned things at my school/kura that have put me off smoking.*' For analysis, those who disagreed or strongly disagreed were compared against everyone else.

Susceptibility and the selected risk factors were analysed by ethnicity, gender, and school decile group. This report examined responses using equity ethnic groups. Equity ethnic groups involve each participant being assigned to an ethnic group in a prioritised order for strength based comparisons. Māori equity is created by assigning in the order of Māori, non-Māori Pasifika and then everyone else (non-Māori non-Pasifika). Pasifika equity assigns Pasifika, non-Pasifika Māori and then everyone else. All ethnic comparisons reported in the report used non-Māori non-Pasifika as the reference group.

Proportions are unadjusted and analysis included the non-response group in the denominator. Generalised linear models were used to compare responses between groups and over time. Prioritised ethnicity, gender, and school decile group were controlled as these have been found to have an impact on susceptibility and risk factors. Prioritised ethnic groups involves each participant being assigned to a single ethnic group they identified with, in the prioritised order of Māori, Pasifika, Asian and NZ European/Other. Only significant differences ( $p < 0.05$ ) between groups are reported.

For more information,  
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