

A teal horizontal bar with a white circular icon containing a smaller teal circle.

# Measuring te reo Māori speakers

A guide to different data sources



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# 1 Purpose and summary

## Purpose

*Measuring te reo Māori speakers: A guide to different data sources* aims to increase understanding of the measurement of te reo Māori speakers in New Zealand and why the findings from different data sources may differ.

Statistics need to be well understood in order for them to be useful in making informed decisions.

Statistics New Zealand has measured speakers of te reo Māori through three different data sources. The census asks about the ability of people to hold a conversation ‘about a lot of everyday things’, while Te Kupenga (2013) asked about general and cultural well-being, with more-detailed questions on language proficiency. The 2001 Survey on the Health of the Māori Language was a more extensive study into language proficiency.

Differences in measures across these data sources have caused some confusion about what Statistics NZ data says about speaking proficiency in te reo Māori. These differences in measures can arise from the variation in scope and methodologies between data sources. The differences do not mean any particular source is wrong, but may simply reflect that they measure slightly different things. Also, the health of the Māori language should not be reduced to a single set of numbers.

This paper focuses on the statistical and methodological aspects of the different data sources. However, data users should note other factors (eg social and policy) may also impact on these data sources and time-series comparisons.

## Summary

Statistics NZ has three data sources that present statistics on te reo Māori speakers: the census, Te Kupenga (a survey carried out in 2013), and the 2001 Survey on the Health of the Māori Language. A number of methodology differences between these data sources mean the resulting statistics do not always align with each other.

In 2013, we interviewed 5,500 Māori for Te Kupenga, our first survey of Māori well-being. This survey included questions about respondents’ ability to speak, listen, read, and write in te reo Māori, and the environments in which they used the language. We advise data users that Te Kupenga is best used to give the full picture of the health of the Māori language in 2013.

Since 1996, the census has provided information about the number of people who report they can have a conversation about a lot of everyday things in Māori. As such we advise that the census is best used to give a consistent time series. However, census data lacks definition about what an everyday conversation in Māori means.

The 2001 Survey on the Health of the Māori Language and Te Kupenga should not be treated as a time series, because methodology differences make direct comparison difficult.



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## 2 Data sources for te reo Māori speakers

Statistics NZ produced three data sources that provide statistics on te reo Māori speakers. This chapter outlines these data sources and presents the objectives and scope for each, as well as briefly introducing two non-Statistics NZ data sources:

- [Data sources from Statistics NZ](#)
- [Data sources from other agencies](#)

### Data sources from Statistics NZ

#### Census

The New Zealand Census of Population and Dwellings is the official count of all people and dwellings in New Zealand. It provides a snapshot of our society at a point in time. It also tells the story of social and economic change in New Zealand. Since 1881, Statistics NZ has conducted the census every five years, with only four exceptions.

Since 1996, the census has asked New Zealanders: “In which languages could you have a conversation about a lot of everyday things?” of which Māori is one response option.

In December 2013, [2013 Census QuickStats about Māori](#) presented facts about Māori across a range of census topics, including speakers of te reo Māori.

#### Te Kupenga

In 2013, we carried out Te Kupenga, our first survey of Māori well-being. Te Kupenga collected information from 5,500 Māori on a wide range of topics to give an overall picture of the social, cultural, and economic well-being of Māori in New Zealand. The survey included questions about respondents’ ability to speak, listen, read, and write in te reo Māori and the environments in which they used the language.

We conducted Te Kupenga as a post-censal survey between June and August 2013. The target population was respondents to the 2013 Census who were aged 15 years and over (15+) and of Māori descent or who identified with the Māori ethnic group.

#### 2001 Survey on the Health of the Māori Language

The 2001 Survey on the Health of the Māori Language (HMLS) asked almost 5,000 Māori about their ability to speak, listen, read, and write in te reo Māori. The survey also asked respondents about the environments in which they used the Māori language, and participation in education and revitalisation activities.

We conducted the 2001 HMLS as a post-censal survey in May and June 2001. The target population was respondents to the 2001 Census aged 15+ who identified with the Māori ethnic group.

### Data sources from other agencies

#### 2006 Health of the Māori Language Survey

The 2006 Health of the Māori Language Survey was commissioned by Te Puni Kōkiri and undertaken by Research New Zealand. The sample frame for this survey was very different from Te Kupenga 2013 and the 2001 HMLS (both post-censal surveys), because Research NZ did not have access to 2006 Census data to draw a sample from. Te Puni Kōkiri has now advised data users to exercise caution when interpreting results from the

2006 survey, due to limitations in the survey design (Te Puni Kōkiri, 2008). As a result, we will exclude further discussion of this survey from this paper.

### **Adult Literacy and Life Skills Survey**

New Zealand participated in the Adult Literacy and Life Skills Survey (ALL) in 2006. ALL measured the prose literacy, document literacy, numeracy, and problem-solving skills of a representative sample of respondents from participating countries aged 16–65 years. This included collecting data on first language learnt and still spoken, including te reo Māori. We will not include details of this survey in this paper.



## 3 Comparison of te reo Māori speaker rates

This chapter compares te reo Māori speaker rates across the 2001 and 2013 Censuses and the two post-censal surveys, Te Kupenga and the 2001 HMLS:

- [Te reo Māori speakers in 2013](#)
- [Census and post-censal surveys show different trends](#)
- [Differences between age groups](#)

### Te reo Māori speakers in 2013

#### 2013 Census

The 2013 Census found 125,352 Māori (21.3 percent of all Māori) could hold a conversation about a lot of everyday things in te reo Māori. This figure included 92,391 Māori (23.7 percent) aged 15+.

#### Te Kupenga

In 2013, Te Kupenga found that 257,500 ethnic Māori aged 15+ (55 percent) could speak more than a few words or phrases in te reo Māori. Fifty-thousand Māori (10.6 percent) could speak te reo Māori 'very well' or 'well', 56,500 (12.0 percent) could speak 'fairly well', and 151,000 (32.1 percent) spoke 'not very well'. Overall, 106,500 Māori (22.6 percent of all Māori) spoke te reo Māori 'very well', 'well', or 'fairly well'.

#### Comparison between speaker rates

Survey differences make direct comparisons difficult (see chapter 5). However, it seems likely the 2013 Census rate aligns with those in Te Kupenga who said they could speak te reo Māori very well, well, or fairly well – 106,500 Māori (22.6 percent of all Māori) in 2013. This figure is very similar to the 2013 Census figure (125,352, or 21.3 percent).

### Census and post-censal surveys show different trends

#### 2001 and 2013 Censuses

Census data shows a decline from 2001 to 2013 in the proportion of the Māori ethnic group aged 15+ with conversational ability in te reo Māori – 28.2 percent in 2001 to 23.7 percent in 2013. However, over this time period the number of those with conversational ability increased from 91,809 to 92,391.

#### 2001 Survey on the Health of the Māori Language and Te Kupenga

When compared with the 2001 HMLS, Te Kupenga shows the percentage of ethnic Māori aged 15+ who could speak te reo Māori very well, well, or fairly well had increased from 19.8 percent in 2001 to 22.6 percent in 2013. The number of Māori with this range of proficiency increased from 72,000 to 106,500 over this time period.

#### Comparison between trends

These figures highlight a contradiction between these data sources – 2013 Census data shows a decrease in the percentage of te reo Māori speakers, while comparable information in Te Kupenga shows a small increase. However, note that these results are based on measuring language proficiency in different ways.



The proportion of ethnic Māori aged 15+ who could speak only about simple things in te reo Māori increased from 22.4 percent in the 2001 HMLS to 32.1 percent in 2013 (Te Kupenga).

## Differences between age groups

### 2001 and 2013 Censuses

Between 2001 and 2013, census figures show a decrease in the proportion of Māori with conversational ability in te reo for all age groups. However the figures showed an increase in the number of those with conversational ability in the 45–54-year and 55+ age groups (table 1).

**Table 1**

#### Ability to hold a conversation about everyday things in te reo Māori, by age group

For the Māori ethnic group census usually resident population count aged 15 years and over

2001 and 2013 Censuses

Age group (years)	Number of Māori with conversational ability in te reo Māori		Māori population		Proportion of Māori population with conversational ability in te reo Māori <sup>(1)</sup> (percent)	
	2001	2013	2001	2013	2001	2013
15–24	22,164	21,039	91,623	106,998	24.5	20.0
25–34	18,300	16,011	79,413	71,394	23.4	22.7
35–44	17,595	15,849	71,181	73,545	25.0	21.8
45–54	13,407	15,495	44,568	67,878	30.4	23.2
55+	20,343	23,997	43,014	76,467	48.1	31.9
Total	91,809	92,391	329,796	396,285	28.2	23.7

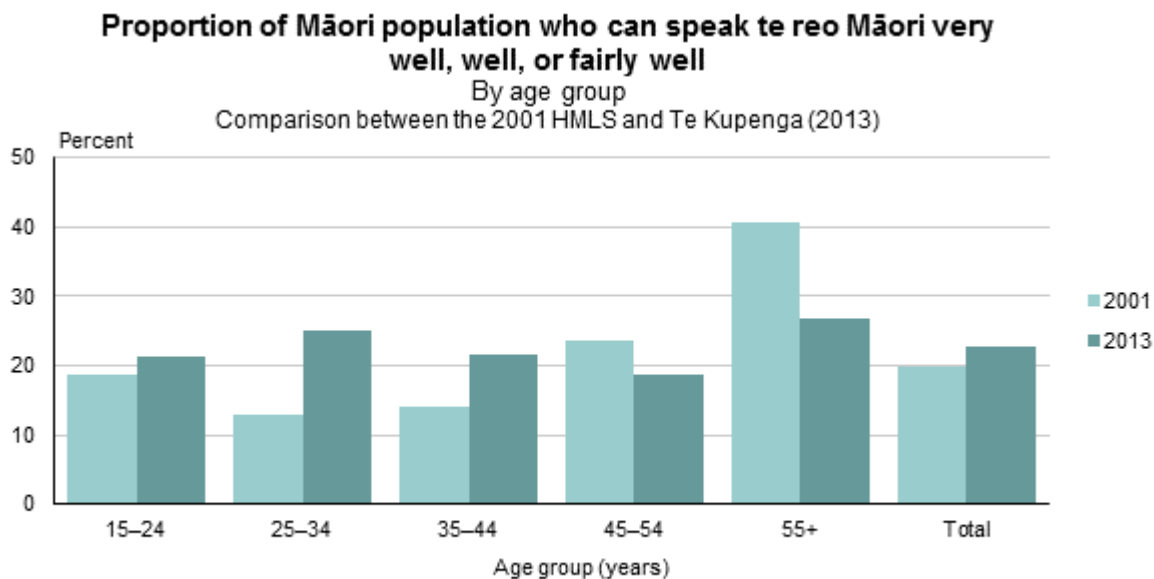
1. These proportions exclude responses that cannot be classified (eg 'not stated', 'response unidentifiable', and 'response out of scope').

Source: Statistics New Zealand

### 2001 Survey on the Health of the Māori Language and Te Kupenga

When compared with the 2001 HMLS, Te Kupenga showed an increase in the proportion of Māori in the 15–24-, 25–34-, and 35–44-year age groups who could speak te reo very well, well, or fairly well (figure 1).

**Figure 1**



Source: Statistics New Zealand

### Comparison between age groups

The increase in the ability to speak Māori very well, well, or fairly well in the post-censal surveys appears to contrast with the decline in the proportion of Māori with conversational ability for all age groups from the 2001 to the 2013 Census.

The contradiction between the 2013 Census and Te Kupenga about the trend since 2001 is also present across the majority of age groups, but particularly younger age groups. While the 2013 Census showed a decrease in the proportion of Māori in the 15-24-, 25-34- and 35-44-year age groups with conversational ability in te reo, Te Kupenga showed an increase across these age groups of those who could speak te reo very well, well, or fairly well.

## 4 Comparing methodologies

This chapter highlights methodological differences that may have had an impact on the seemingly contradictory findings between the census and post-censal surveys. However, this chapter is not a comprehensive record of the methodology of each survey:

- [How is census data different from survey data?](#)
- [Methodology used in the post-censal surveys](#)

### How is census data different from survey data?

Census data is different from survey data in a number of ways. The most important difference is that a census sets out to include information from every person in the country. Therefore, it is not subject to sampling errors that occur in a sample survey like Te Kupenga. However, all data sources are subject to non-sampling errors resulting from respondent errors, collection or processing errors, and undercounts. We strive to reduce each of these error types and provide data that is fit for use.

The census includes a broad range of topics providing good contextual information for individuals and families. Te Kupenga narrowed the focus to Māori well-being, and the 2001 HMLS narrowed the focus again to just te reo Māori. As a result, Te Kupenga and the 2001 HMLS collected information in much more detail and depth on te reo Māori than the census.

The population coverage of the census means information is available for much smaller geographic areas – down to the meshblock and area unit levels – and for small population groups; for example, small iwi groups. Surveys often struggle to provide robust statistics at this level.

Respondents fill in the census forms themselves. Like other self-administered questionnaires, self-assessment can lead to more-truthful responses, because the interviewer cannot influence the respondent. However, respondents might not fill in the form correctly, which may lead to issues or errors with the data (Statistics NZ, 2013).

### Different questions in the census and the post-censal surveys

The same question on te reo Māori speaking ability was used in the 2001 HMLS and Te Kupenga (2013) in order that the two data sources would be comparable. In the 2001 HMLS, we decided to use self-assessment to determine speaking proficiency. This decision followed a literature review by Te Puni Kōkiri and a series of field tests that indicated we could attach reasonable confidence to self-assessment scores (Statistics NZ, 2002).

In the 2001 HMLS, we asked respondents to place themselves into one of five categories for the following question:

How well are you able to speak Māori in day-to-day conversation?

1. very well (I can talk about almost anything in Māori)
2. well (I can talk about many things in Māori)
3. fairly well (I can talk about some things in Māori)
4. not very well (I can only talk about simple/basic things in Māori)
5. no more than a few words or phrases.

While the census similarly uses self-assessment to determine te reo Māori speaking ability, the question is very different. In fact, the census question is not specifically about te reo Māori, but about languages spoken in general. It asks respondents which languages they can have a conversation in about a lot of everyday things, of which Māori

is one response option. The question gives respondents no guidance to help them determine their proficiency level.

## Methodology used in the post-censal surveys

### Te Kupenga

The target population for Te Kupenga (2013) was the usually resident Māori population of New Zealand living in occupied dwellings on 2013 Census night and aged 15+. The Māori population included all individuals who identified with Māori ethnicity or Māori descent in the 2013 Census. We collected the data for Te Kupenga over 4 June to 25 August 2013. The questionnaire was answered by 5,549 individuals, achieving a response rate of 74 percent.

We conducted computer-assisted personal interviews, with the interview lasting an average of 40 minutes. We introduced Te Kupenga to respondents as a general well-being survey. It collected information across 13 modules. The module about te reo Māori was the 12th module, following modules on whānau and tikanga (customs and practices). The speaking proficiency question was the first question in the te reo Māori module.

Respondents could choose whether to complete the survey in te reo Māori or English – the layout of the questionnaire allowed respondents to switch between them. Just 27 out of 5,549 respondents completed their interviews in either te reo Māori or a combination of te reo Māori and English.

We recruited 11 interviewers with Māori language skills (but who were not necessarily fluent) for the collection. These 11 bilingual interviewers were located in geographic areas with a high proportion of Māori-language speakers. If a respondent asked to complete the survey in te reo Māori, a bilingual interviewer in the area closest to the respondent's location conducted the interview. At times, this required some bilingual interviewers to work outside their designated area.

See [Te Kupenga 2013](#) for more information on data quality.

### 2001 Survey on the Health of the Māori Language

The target population for the 2001 HMLS was individuals belonging to the New Zealand Māori ethnic group who lived in private households and were aged 15+. We selected 6,072 eligible people for the survey. We received 4,737 full responses – a response rate of 78 percent.

The survey was completed by personal interview over May and June 2001. Respondents could choose whether to complete the survey in te reo Māori or English – the layout of the questionnaire allowed respondents to switch between them. Some 550 respondents completed their interviews in either te reo Māori or a combination of te reo Māori and English, representing 12 percent of the total number of interviews.

Interviews in te reo Māori took an average of two hours to complete, while those in English were closer to 40 minutes. We introduced the 2001 HMLS to respondents as a 'nationwide survey to find out the number of people who speak and understand Māori'. The question about speaking te reo Māori was near the beginning of the questionnaire, straight after questions on language acquisition.

Sixty-three interviewers worked on the survey, 50 of whom were Māori. Forty-six interviewers were fluent speakers of te reo Māori, and 10 of these had recently worked as Kaitakawaenga (liaison officer) for the 2001 Census. Twelve interviewers were existing Statistics NZ interviewers. Respondents who had identified on their 2001 Census form that they could hold a conversation about everyday things in Māori were assigned a fluent

interviewer. In other cases, if a respondent chose to complete the interview in te reo Māori, we referred them to a fluent speaker.

See [Final report on the 2001 survey on the health of the Māori language](#) for more information on data quality.

## 5 Impact of differing methodologies

This chapter describes how the differing methodologies across the three data sources may affect findings between the census and the post-censal surveys, and between the 2001 HMLS and Te Kupenga:

- [Census and the post-censal surveys](#)
- [2001 Survey on the Health of the Māori Language and Te Kupenga](#)
- [Possible impact on 2001 results](#)

### Census and the post-censal surveys

#### Question wording

The wording of a question can have a great impact on the responses to that question (Groves et al, 2009). The census question is very different from that used in the post-censal surveys, being more general in nature and more open to different interpretations. The response options are also very different, with the post-censal surveys' options offering much more information for respondents to base their answers on.

The census language question likely does not capture those who said they could speak te reo 'not very well'. This assumption is supported by the fact that 85 percent of those who said they could speak te reo Māori 'not very well' in Te Kupenga had said in the 2013 Census that they could not hold a conversation in te reo Māori. See [Appendix 1](#) for more information on the consistency in answers between the census and the post-censal surveys. These differences in the questions mean that comparisons between rates for te reo Māori speakers from census and the post-censal surveys are not exact.

All these data sources are dependent on respondents' interpretations of their own level of language proficiency. The survey delivery method, context, and the interviewers themselves may influence answers.

#### Survey delivery method

Te Kupenga and the 2001 HMLS involved face-to-face interviews, in either te reo Māori or English. The census involves people completing a questionnaire on their own, and contains a single question about language knowledge. The delivery method is likely to have some impact on te reo Māori statistics, although it would not solely explain differences. The impact is also not easy to quantify. Examples of the impact are:

- social desirability bias in face-to-face interviews, where respondents may want to say what they think will be an acceptable response (Australian Bureau of Statistics, 2002 [ABS]; Groves et al, 2009).
- less control over the response process in self-administered surveys; for example, no control over who is present while the survey form is being completed, or no opportunity to provide clarification to a question (ABS, 2002).

#### Survey objectives

The 2001 HMLS and Te Kupenga had much more specific objectives than the census. This meant they were able to delve much deeper into te reo Māori than the census did. The census has just one question on language. The post-censal surveys have a range of questions about te reo Māori specifically, including: proficiency, the use of the language inside and outside the home, language acquisition, and other language skills.

In addition, Te Kupenga was a general Māori well-being survey, which means that information on te reo Māori sits with wider information on Māori well-being. This makes

Te Kupenga a valuable data source in exploring how te reo Māori ability and use is associated with wider Māori culture.

## 2001 Survey on the Health of the Māori Language and Te Kupenga

### Context – objectives and question order

The context in which a question is asked can affect a respondent's answers (ABS, 2002). Two differences between the post-censal surveys that may change the context are the survey objectives and question order.

We introduced the 2001 HMLS as a Māori-language survey, and reminded respondents of that purpose throughout the interview to give them context in answering questions. However, we introduced Te Kupenga as a Māori well-being survey, and questions about Māori language are only introduced near the end.

Context effects may also occur when the preceding questions influence responses to subsequent questions. The questions that preceded the language questions in the post-censal surveys were quite different from each other. This difference may have affected how respondents answered the questions.

As with the effects of the delivery method, context effects are difficult to quantify.

### Proficiency of interviewers

The level of te reo Māori proficiency among interviewers and how we assigned those interviewers were very different between the 2001 HMLS and Te Kupenga. In face-to-face interviews the interviewer and the respondent interact with each other, potentially allowing the interviewers to influence the respondents. A proficient speaker of te reo Māori may influence a respondent's answers to questions on te reo Māori, more so than if a non-proficient (and non-Māori) speaker was conducting the interview.

The differences in interviewers' proficiency would likely have had an impact on te reo Māori statistics, although this impact cannot be quantified.

### Scope

The survey population for Te Kupenga was people who identify with the Māori ethnic group or have Māori descent. For the 2001 HMLS, the survey population was just those who identify with the Māori ethnic group. The reason for changing the survey population for Te Kupenga was the desire to capture the widest possible group of Māori. All comparisons between Te Kupenga and the 2001 HMLS published so far have used the Māori ethnic group only.

This methodology difference is unlikely to have any major impact on differences in figures.

### Possible impact on 2001 results

These differing methodologies appear to contribute to misalignment of the 2001 HMLS and 2001 Census figures (see [Appendix 1](#) for more information). And as a result, data users should exercise caution when comparing the 2001 HMLS with Te Kupenga.



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## 6 Choosing between data sources

This chapter explains which data source is the best to understand the health of the Māori language:

- [Te Kupenga provides the most-detailed information about te reo Māori in 2013](#)
- [The census produces the most-reliable time series.](#)

Note that data users should exercise caution when evaluating the health of the Māori language based on one data source alone.

### Te Kupenga provides the most-detailed information about te reo Māori in 2013

The 2001 HMLS and Te Kupenga provide a fuller picture of Māori language proficiency among Māori adults than the census. They also use more in-depth and wide-ranging questions.

The post-censal surveys look across measures such as speaking proficiency, language use inside and outside the home, language acquisition, and other language skills, such as reading and writing.

But these surveys should not be treated as a time series. This is because methodology differences make direct comparison difficult. But also two data points should not be considered a time series or trend.

We advise that Te Kupenga is the best survey to give the full picture of the health of the Māori language in 2013.

### The census produces the most-reliable time series

The census provides information about the number of people who report they can have a conversation about everyday things in Māori.

However, the challenge with using census data is its lack of definition about what an everyday conversation in Māori means.

Even so, in terms of a time series, census data is the best source. 2013 Census data is fully comparable with 2006 and 2001 Census data. No changes in the way the data has been collected, defined, and classified have occurred over this time period. 2001 and 2013 Census data is also highly comparable with 1996 Census data, because we have made limited changes.

The population coverage of the census makes it more robust than Te Kupenga when looking at small geographic areas and for small population groups – such as smaller iwi groups.

We advise that the census is best used to give a time series about the number of speakers of day-to-day conversational Māori. However, the census is not clear what day-to-day conversational Māori means.





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## References and further reading

### References

Australian Bureau of Statistics (2002). [Information paper: Measuring crime victimisation, Australia: The impact of different collection methodologies, 2002](#). Available from [www.abs.gov.au](http://www.abs.gov.au).

Groves, RM, Fowler Jr., FJ, Couper, MP, Lepkowski, JM, Singer, E, Tourangeau, R (2009). *Survey methodology, second edition*. Hoboken, NJ: Wiley.

Statistics New Zealand (2002). [Final report on the 2001 survey on the health of the Māori language](#). Available from [www.tetaurawhiri.govt.nz](http://www.tetaurawhiri.govt.nz).

Statistics New Zealand (2013). [2013 Census data user guide](#). Available from [www.stats.govt.nz](http://www.stats.govt.nz).

### Further reading

Statistics New Zealand (2013). [2013 Census QuickStats about Māori](#). Available from [www.stats.govt.nz](http://www.stats.govt.nz).

Statistics New Zealand (2014). [Te Kupenga 2013 \(English\)](#). Available from [www.stats.govt.nz](http://www.stats.govt.nz).

Te Puni Kōkiri (2008). [The health of the Māori language in 2006](#). Available from [www.tpk.govt.nz](http://www.tpk.govt.nz).

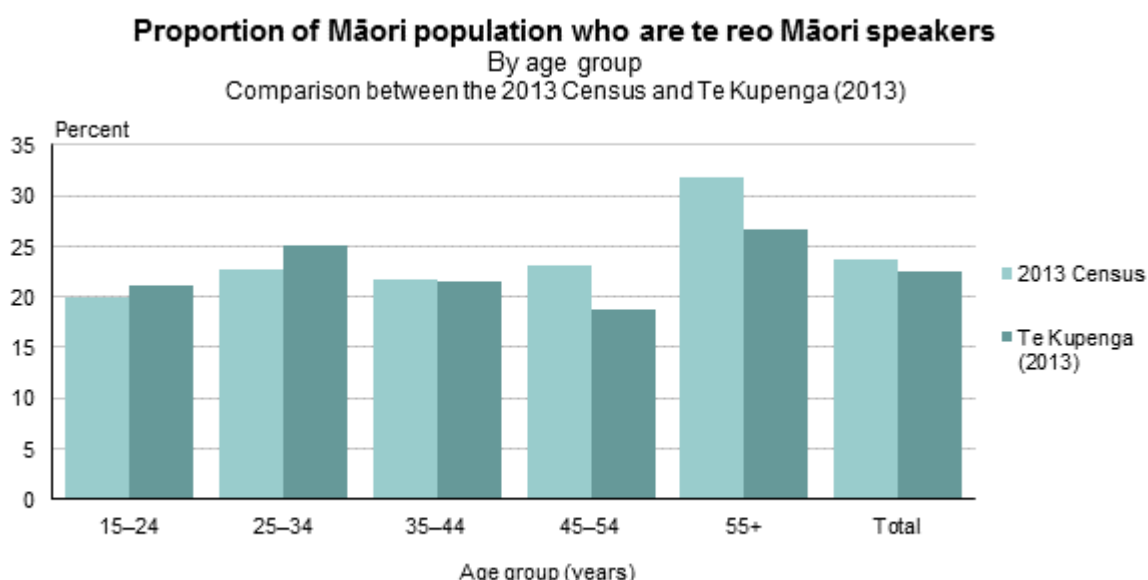
# Appendix 1: Consistency in answers on te reo Māori between the census and the post-censal surveys

## 2013 Census and Te Kupenga

There appears to be a good deal of agreement between the 2013 Census figure (23.7 percent) and those in Te Kupenga who said they could speak te reo Māori very well, well, or fairly well (22.6 percent). However, the gap is wider between the 2001 Census and the 2001 HMLS<sup>1</sup> (28.2 percent and 19.8 percent, respectively).

The agreement between the 2013 Census and Te Kupenga appears to continue when we look at the percentage of te reo Māori speakers by age group. Figure 2 shows that compared with the 2013 Census, Te Kupenga appears to have slightly undercounted older speakers (aged 45+), but has more similar figures for those aged 15–44 years.

Figure 2



Source: Statistics New Zealand

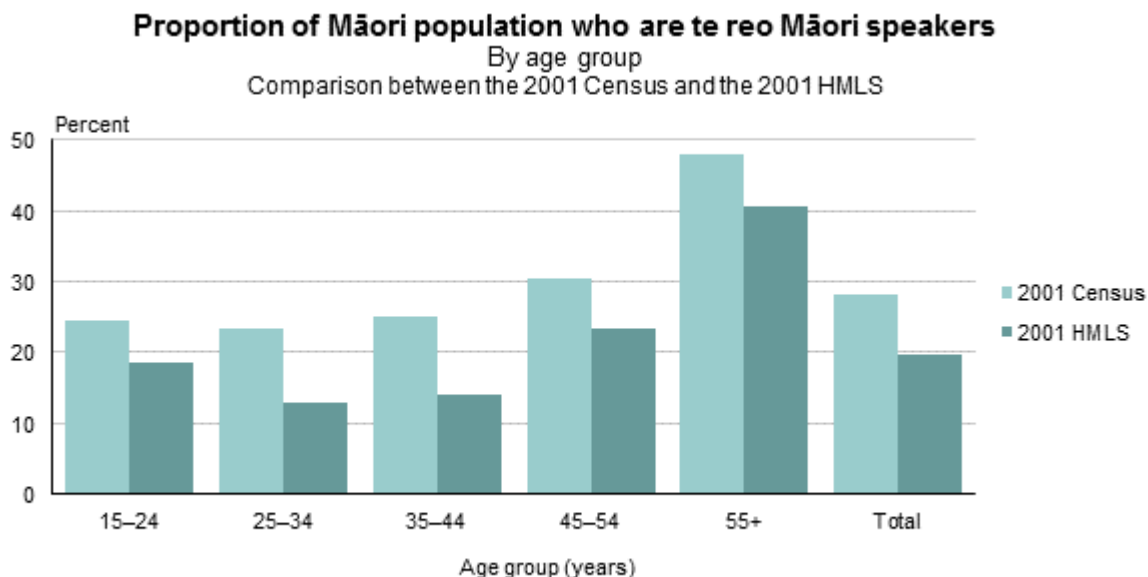
## 2001 Census and the 2001 Survey of the Health of the Māori Language

The 2001 HMLS undercounted speakers across all age groups when compared with the 2001 Census (figure 3). This undercount was largest in the 35–44-year age group, where there was a 10.8 percentage-point difference when compared with the 2001 Census. Also, the undercount for older speakers (55+) was larger in the 2001 HMLS than it was in Te Kupenga (7.6 percentage points compared with 5.2 percentage points, respectively).

We can analyse this further by looking at individual respondents' answers to the 2001 Census language question and the speaking proficiency question in the 2001 HMLS.

<sup>1</sup> The 2001 HMLS data was reweighted, to place it on the same 2006 Census-based population estimates time series as Te Kupenga.

**Figure 3**



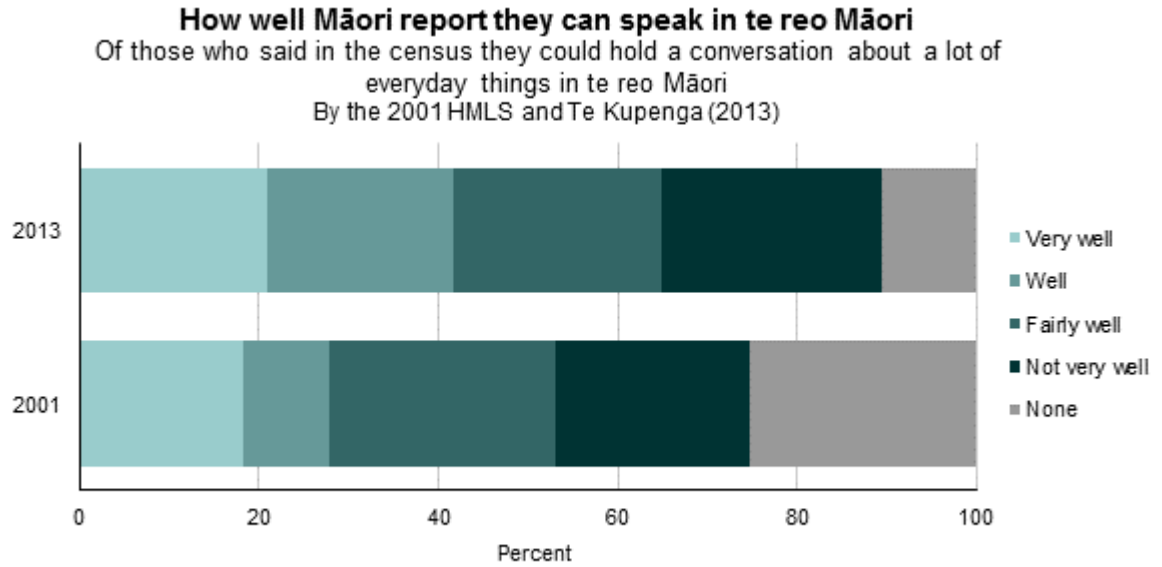
Source: Statistics New Zealand

## Respondents report different answers in different surveys

Alignment between responses from the 2013 Census and Te Kupenga, and the 2001 Census and the 2001 HMLS is not perfect. For example, 16.1 percent (4,000) of Māori who reported speaking te reo Māori very well in Te Kupenga had stated in the 2013 Census that they could not hold a conversation about a lot of everyday things in te reo Māori. At the other end of the scale, 4.1 percent (9,500) of Māori who reported speaking no more than a few words or phrases of te reo in Te Kupenga had stated in the 2013 Census that they could hold a conversation in Māori.

We would expect these differences given the discussion in this report about different methodologies. But what we do see are differences in this alignment between 2001 and 2013. In 2001, 47 percent of the 2001 HMLS respondents who stated they could hold a conversation in Māori in the census then reported they spoke no more than a few words or phrases or only basic te reo Māori in the 2001 HMLS. This compared with 35 percent in 2013.

**Figure 4**



Source: Statistics New Zealand

### False positives and false negatives

If we look at false positives and false negatives from the stance that the census has provided the ‘correct’ response, we see an interesting picture. Table 2 shows the figures shaded in green are false positives – those people who said in the census they could not hold a conversation in te reo Māori, but then reported a good level of proficiency in the post-censal survey. Those figures shaded in grey are false negatives – those people who said in the census they could hold a conversation in te reo Māori, but then reported no or low proficiency in the post-censal survey.

Table 2 shows the level of false positives was higher in 2013 than in 2001, but the level of false negatives was higher in 2001. Both these outcomes cause the rate for 2001 to be pushed down – or the 2013 result to be pushed up.

**Table 2**

**Comparison between respondents’ responses to te reo Māori questions in the 2001 Census and 2001 HMLS, and the 2013 Census and Te Kupenga (2013)**

How well Māori report they can speak te reo Māori in the 2001 HMLS and Te Kupenga (2013)	Whether Māori reported in the 2001 and 2013 Census they could hold a conversation about a lot of everyday things in te reo Māori.	
	Yes	No
Very well, well, fairly well	2001 – 14.5% 2013 – 13.0%	2001 – 5.0% 2013 – 9.7%
Not very well, none	2001 – 12.8% 2013 – 7.0%	2001 – 67.6% 2013 – 70.3%

■ False positives  
 ■ False negatives

Note: False positives are those people who said in the census they could not hold a conversation in te reo Māori, but then reported a good level of proficiency in the post-censal survey. False negatives are those people who said in the census they could hold a conversation in te reo Māori, but then reported no or low proficiency in the post-censal survey.

Source: Statistics New Zealand

Many of the factors outlined in chapter 5 may possibly be driving the higher proportion of false negatives in 2001.