

Measuring Ethnicity in the New Zealand Population Census

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Introduction

Statistics New Zealand is conducting a review of how ethnicity is measured in official social statistics. The purposes of this paper are to summarise the results of the 2001 New Zealand Census of Population and Dwellings ethnicity question, to compare them with results from the 1991 and 1996 Censuses, and to comment on the nature and impact of changes to the question.

Ethnicity is defined in the current Statistics New Zealand standard as the ethnic group or groups that a person identifies with or feels they belong to. Ethnicity is self-perceived and people can belong to more than one ethnic group. An ethnic group is defined in the current standard as a social group whose members:

- share a sense of common origins
- claim a common and distinctive history and destiny
- possess one or more dimensions of collective cultural individuality, and
- feel a sense of unique collective solidarity.

Changes between 1991, 1996 and 2001

There have been changes to the wording of the ethnicity question in the last five population censuses. The changes to the 1996 Census question affected its comparability with the 1991 Census, as there was a large increase in multiple responses to the question. In particular, there was a greater-than-expected increase in the Māori ethnic group population and an unexpected drop in the sole Māori population. The 'other European' group also showed a big increase between 1991 and 1996.

While the concepts and definitions remained the same for the 1996 Census, the ethnic question differed from 1991 in the following ways:

- the wording of the 1996 question introduction made it more explicit that respondents could tick more than one ethnic group
- 'NZ Māori' ethnic group was moved to the top of the list of categories
- there was a new tick box category 'other European' which included six sub-groups (English, Dutch, Australian, Scottish, Irish, other)
- 'New Zealand European' was replaced by 'New Zealand European or Pākehā'.

Research carried out by Statistics New Zealand¹ has shown that differences between the wording of the census questions on ethnicity in 1991 and 1996 has led to differences in the way people answered the question. Research and evaluation showed that the 1991 question provides a better measure of ethnicity based on the current statistical standard. After extensive consultation with key stakeholders, Statistics New Zealand reverted to the 1991 question format in 2001, with one change; the words 'New Zealand' were removed from the category 'New Zealand Māori'.

In summary, the differences between the 1996 and 2001 ethnicity questions are:

- the wording of the introduction
- the order of the categories
- the use of the 'other European' category and its sub-categories in 1996 but not in 2001
- the inclusion of the term Pākehā in 1996 but not in 2001.

Appendix 1 gives the full text of the ethnicity questions used in the 1991, 1996 and 2001 Censuses.

There were also some changes to the way the 2001 question was processed compared with 1996. In 2001 a warning edit alerted operators where respondents had given a multiple response to the question, and operators checked as to whether it was a genuine multiple response. In 1996 there was no warning edit, leading to marks and crosses on the form being picked up as positive responses. In 2001, up to six ethnic responses were captured and coded, compared with a maximum of three responses in 1991 and 1996.

Key results from the 2001 Census compared with 1996

The change back to the 1991 ethnicity question wording in 2001, and the differences between the 1996 and 2001 questions have meant that 2001 Census ethnic data is more comparable to 1991 than to 1996 data. Therefore, when comparing 1996 and 2001, it is not possible to know how much of the change is due to question change and how much to real changes in the way people describe their ethnicity.

Figures that appear to be particularly affected by the change between 1996 and 2001 are:

- The Māori ethnic group count, which rose only 0.6 percent, or 2,909 responses, between 1996 and 2001.
- Counts for some of the European ethnic groups, which have dropped back to close to 1991 levels (counts rose dramatically with the introduction of six tick-boxes for other European groups in 1996).

¹ See for example, Statistics New Zealand (1999), *Measuring Māori Ethnicity in the New Zealand Census* and AC Nielsen (1999), *Evaluating Variations in the Ethnicity Questions Report*.

- Multiple responses to ethnicity in 2001. Nine percent of the population gave more than one ethnicity response in 2001, compared with 15.5 percent in 1996.

A fuller analysis of the ethnicity data from the 2001 Census that illustrates the impact of the question changes is included in Appendix 2. A summary of the findings of that analysis is given below.

- Māori make up 14.7 percent of the specified population² in 2001, compared with 15.1 percent in 1996. The number of people who identified as Māori only (sole Māori) increased from 273,438 in 1996 to 294,726 in 2001, but is lower than in 1991 (323,493).
- The European population is down from 83.1 percent of the specified population in 1996 to 80.1 percent in 2001.
- In 2001, Asian ethnic group counts are higher than Pacific counts for the first time in recent censuses. There were 238,179 people of Asian ethnicity in 2001 (173,505 in 1996), compared with 231,798 Pacific peoples (202,233 in 1996). Asian and 'other' ethnic group populations have more than doubled over the decade.
- At Level 4 of the ethnic classification, the biggest percentage growth over the period 1991–2001 has been in the Korean, South African, Thai, Asian not further defined (nfd), Japanese, Russian, Arab, Croatian, Iraqi, African nfd, Tuvaluan and Spanish groups. On the other hand, there have been decreases in English, Australian and Scottish ethnicity counts over the decade.
- Prioritisation of 2001 ethnicity data has a greater impact on the count of Pacific peoples, which drops 13.6 percent after prioritisation; other ethnic groups are affected to a lesser extent, except Māori counts which remain the same under current prioritisation rules.
- In excess of 80,000 people identified as Kiwi, New Zealander, Pākehā or a similar type response in 2001, up from more than 55,000 in 1996.

Conclusion

Changes in the wording of the ethnicity question in each of the 1991, 1996 and 2001 Censuses have been associated with changes in the size of the main ethnic groups. However, it is not possible to determine what proportion of any change is due to the question, and what is due to real changes in people's perception of their ethnicity.

The results of the 2001 Census have confirmed that the 1996 question measured ethnicity on a different basis to the questions used in 1991 and 2001. Hence, when measuring change over time, ethnicity data from the 1991 and 2001 Censuses should be used as the 1996 data are not comparable.

² The specified population includes people who have given one or more valid responses to the ethnicity question. People who have not stated an ethnicity or have responded with an unidentifiable or out-of-scope response are not counted in the specified population.

Appendix 1 Ethnicity questions used in 2001, 1996 and 1991

2001 Census Ethnicity Question

11 Which ethnic group do you belong to?
Mark the box or boxes which apply to you.

New Zealand European

Māori

Samoan

Cook Island Maori

Tongan

Niuean

Chinese

Indian

other (SUCH AS DUTCH, JAPANESE, TOKELAUAN). Please state:

11 Ko tēhea momo tāngata e whai pānga
āu ana koe? *Tohua te katoa o raro nei e
hāngai ana ki a koe.*

Pākehā

Māori

Hāmoa

Māori Kuki Airani

Tonga

Niue

Hainamana

Īnia

tētahi atu (pērā i: *TATIMANA, HAPANĪHI
TOKELAU*). Tuhia mai.

1996 Census Ethnicity Question

10 Tick as many circles as you need to show which ethnic group(s) you belong to.

- NZ Maori
 NZ European or Pakeha
 other European → Which of these groups?
 Samoan English
 Cook Island Maori Dutch
 Tongan Australian
 Niuean Scottish
 Chinese Irish
 Indian other
 other (such as FIJIAN, KOREAN) → Print your ethnic group(s)

10 Tōhungia ngā momo tāngata e whai pānga atu ana koe.

- Māori
 Pākehā
 Pākehā → Ko tēhea o ēnei?
 Hāmoa Ingarahi
 Māori Kūki Airani Tāhīmana
 Tonga Ahitereliana
 Niue Kōlimana
 Hainamana Airihi
 Inia tētahi atu
 tētahi atu → Tēnā kōa, (azā, WHI MAREIA) tuhia mai

1991 Census Ethnicity Question

Which ethnic group do you belong to?
Tick the box or boxes which apply to you.

- € New Zealand European
- € New Zealand Māori
- € Samoan
- € Cook Island Maori
- € Tongan
- € Niuean
- € Chinese
- € Indian
- € other (such as Dutch, Japanese, Tokelauan)
Please state _____

Appendix 2 Analysis of 2001 Census ethnicity data

Multiple Ethnicity

As Table 1 shows, 91 percent of all respondents to the ethnicity question identified with only one ethnic group in 2001, compared with 84.5 percent in 1996 and 95 percent in 1991. The decrease in multiple responses since 1996 is likely to be related to the change in the question. The 1996 question encouraged respondents to "tick as many boxes" and provided a tick box list of other European categories. Relatively few people ticked three or more boxes in 2001 (42,252) compared to 1996 when 131,091 people gave three or more responses. The impact of capturing and coding up to six ethnic groups in 2001 compared with only three groups in 1996 was relatively small, as just over 10,000 people gave more than three ethnic groups in 2001.

Table 1:

Number of Ethnic Groups Specified 1991-2001 New Zealand Resident Population

	1991		1996		2001	
	Number	Percent	Number	Percent	Number	Percent
One	3,179,904	95.0	2,929,830	84.5	3,262,638	91.0
Two	150,339	4.5	405,666	11.7	281,841	7.9
Three	15,573	0.5	131,091	3.8	31,923	0.9
Four					6,891	0.2
Five					2,061	0.1
Six					1,377	0.0
Residual codes ¹	28,113		151,713		150,546	
Total Population (New Zealand Residents)	3,373,926		3,618,303		3,737,277	

¹ Residual codes refers to responses which were unidentifiable unapplicable or outside the scope of the question.

Changes in the census ethnicity question between 1991 and 1996 contributed to a decrease in the proportion of respondents identifying with one ethnic group only. The biggest implication for users of census data has been the sharp drop in the size of the sole Māori population. This has posed problems for those health researchers who use the data as the denominator for the calculation of rates for health indicators such as hospital morbidity.

It is difficult to determine the extent of question change effect on sole responses, compared with the effects of societal change and inter-ethnic unions. Prior to the 2001 Census, it was thought that the sharp drop in the proportion of people reporting one ethnic group only was a result of the change in the question wording and format. There was a corresponding

increase in the proportion of people who identified with more than one ethnic group, mainly as a result of people giving ancestry-based responses by ticking one of the other European ethnic group categories in the drop-down boxes provided in 1996.

However, the proportion of sole responses in 2001 is less than in 1991, particularly for Māori, as seen in Table 2 below. Fifty-six percent of Māori responses in 2001 were sole Māori, compared with 52 percent in 1996 and 74 percent in 1991. European and Pacific peoples are more likely to also belong to other ethnic groups than in 1991. On the other hand, Asian and 'other' ethnic groups are more likely to belong to one ethnic group only. This is probably related to the sharp increase in migrants since 1991. Recent arrivals in New Zealand from other countries are less likely to belong to multiple ethnic groups than people who have been in New Zealand for some time.

Table 2:

**Ethnic Groups (Grouped Total Responses) 1991-2001
Sole and Mixed**

1991	Single Ethnicity	Total	Percent Sole ¹
European Ethnic Groups	2,635,050	2,784,054	94.6
Māori Ethnic Group	323,493	434,847	74.4
Pacific Island Ethnic Groups	130,146	167,070	77.9
Asian Ethnic Groups	86,625	98,613	87.8
Other Ethnic Groups	4593	6,759	68.0
1996	Single Ethnicity	Total	Percent Sole ¹
European Ethnic Groups	2,381,103	2,879,085	82.7
Māori Ethnic Group	273,438	523,374	52.2
Pacific Island Ethnic Groups	124,080	202,233	61.4
Asian Ethnic Groups	141,372	173,505	81.5
Other Ethnic Groups	9,840	16,422	59.9
2001	Single Ethnicity	Total	Percent Sole ¹
European Ethnic Groups	2,582,787	2,871,432	89.9
Māori Ethnic Group	294,726	526,281	56.0
Pacific Island Ethnic Groups	156,522	231,798	67.5
Asian Ethnic Groups	209,838	238,176	88.1
Other Ethnic Groups	18,765	24,993	75.1

¹ Sole refers to respondents who only gave one response to ethnicity.

Ethnic group counts at Level 1 of the ethnicity classification

Table 3 below provides data on total responses to the ethnicity question for the main ethnic groups over the last three censuses. European responses have dropped by three percentage points since 1996 and Māori responses have dropped from 15.1 percent of the specified population in 1996 to 14.7 percent in 2001. Pacific and Asian responses have increased at each census, but Asian numbers have grown more rapidly and now exceed Pacific for the first time in recent censuses.

Table 3:

For the New Zealand Resident Population

Ethnic Group Level 1	Total responses	Percentage of specified population	Total responses	Percentage of specified population	Total responses	Percentage of specified population
	1991	1991	1996	1996	2001	2001
Total Responses						
European	2,784,054	83.2	2,879,085	83.1	2,871,432	80.1
Māori	434,847	13.0	523,371	15.1	526,281	14.7
Pacific Peoples	167,070	5.0	202,233	5.8	231,798	6.5
Asian	98,613	2.9	173,505	5.0	238,179	6.6
Other	6,759	0.2	16,422	0.5	24,993	0.7
Residual codes ¹	28,113		151,713		150,549	
Total responses ²	3,519,456		3,946,329		4,043,232	
Total Population (NZ Residents)	3,373,926		3,618,303		3,737,277	

¹ Residual codes refers to responses which were unidentifiable unapplicable or outside the scope of the question.

² Because ethnicity is a multiple response question, the number of total responses is greater than the total population.

As Table 4 shows, over the decade the Māori population grew 21 percent, but almost all of that growth took place in the 1991 -1996 period. This apparent growth was due in part to questionnaire changes between censuses. The European population dropped slightly in 2001, probably reflecting the removal of the 'other European' category. Large gains in the Asian and 'other' ethnic populations have been made over the decade, particularly in the 1991-1996 period. While some of these gains may be attributed to the question in 1996, which encouraged people to give ancestry responses to the question, there has been real change, mainly through immigration. Our ethnic profile has become more diverse, with increases in the number of migrants from less traditional countries (eg United Kingdom) than in the past. This is borne out by the 2001 Census country of birth and language data, and quarterly migration data.

Table 4:

**Ethnic Group - Grouped Total Responses (Percentage Change 1991 -2001)
For the New Zealand Resident Population**

Ethnic Group Level 1				% change	% change	% change
Total Responses	1991	1996	2001	1991-1996	1996-2001	1991-2001
European	2,784,054	2,879,085	2,871,432	3.4	-0.3	3.1
Māori	434,847	523,371	526,281	20.4	0.6	21.0
Pacific Peoples	167,070	202,233	231,798	21.0	14.6	38.7
Asian	98,613	173,502	238,179	75.9	37.3	141.5
Other	6,759	16,422	24,993	143.0	52.2	269.8
Total responses	3,491,343	3,794,613	3,892,683			
Residual Codes ¹	28,113	151,713	150,549			
Total Population (NZ Residents) ²	3,373,926	3,618,303	3,737,277	7.2	3.3	10.8

¹ Residual codes refers to responses which were unidentifiable unapplicable or outside the scope of the question.

² Because ethnicity is a multiple response question, the number of total responses is greater than the total population.

Ethnic group counts at level 4 of the ethnic classification

Ethnicity counts at the lowest level of the classification have also fluctuated across the three census years 1991–2001. Counts of 'other European' groups such as English, Irish and Scottish increased markedly in 1996 with the introduction of the tick boxes for European sub-groups, and dropped again in 2001 with the change in ethnicity question back to 1991 format. The impact of the 1996 question makes analysis of 1991 and 1996 data difficult, and a 1991–2001 comparison may be more meaningful to users. Table 5 shows that a number of ethnic groups experienced huge growth over the decade, while it also highlights the fluctuations that occurred across the three censuses for groups such as English, British and Scottish.

An example of the impact of questionnaire design can be seen in the counts of 'British'. This category dropped away to almost nil in 1996, as people ticked the other European tickboxes on the 1996 form, but the absence of these boxes in 2001 has seen this category rise again almost to its 1991 level.

Table 5 : Top 50 Ethnicity Categories at Level 4 of the Classification

2001 Categories	1991	1996	2001	% change	% change	% change
				1991-1996	1996-2001	1991-2001
New Zealand European	2,618,445	2,496,552	2,696,724	-4.7	8.0	3.0
Māori	434,847	523,374	526,281	20.4	0.6	21.0
Samoan	85,743	101,757	115,017	18.7	13.0	34.1
Chinese nfd	44,136	78,663	100,680	78.2	28.0	128.1
Indian nfd	29,820	40,404	60,210	35.5	49.0	101.9
Cook Island Maori nfd	37,233	46,092	51,486	23.8	11.7	38.3
Tongan	23,175	31,392	40,719	35.5	29.7	75.7
English	53,325	281,895	35,082	428.6	-87.6	-34.2
Dutch/Netherlands	24,732	47,571	27,504	92.3	-42.2	11.2
European nfd (incl Other						
European nfd/European nec)	11,934	3,009	23,598	-74.8	-40.4	97.7
Australian	23,967	53,625	20,784	123.7	-61.2	-13.3
Niuean	14,427	18,474	20,148	28.1	9.1	39.7
Korean	930	12,753	19,026	1271.3	49.2	1945.8
British nfd	16,659	729	16,572	-95.6	2173.3	-0.5
South African	2,007	6,762	14,913	236.9	120.5	643.0
Scottish (Scots)	14,094	107,007	13,785	659.2	-87.1	-2.2
Irish	7,392	73,047	11,706	888.2	-84.0	58.4
Filipino	4,917	8,190	11,091	66.6	35.4	125.6
Japanese	2,970	7,458	10,023	151.1	34.4	237.5
German	4,611	13,410	9,057	190.8	-32.5	96.4
American (US)	6,663	7,977	8,472	19.7	6.3	27.2
Fijian (except Fiji Indian/Indo-						
Fijian)	5,100	7,695	7,041	50.9	-8.5	38.1
Tokelauan	4,146	4,917	6,204	18.6	26.2	49.6
Sri Lankan nfd	2,406	4,077	6,042	69.5	48.2	151.1
Khmer/Kampuchean /Cambodian	4,320	4,407	5,268	2.0	19.5	21.9
Thai/Tai/Siamese	1,047	2,838	4,554	171.1	60.4	335.0
Canadian	4,239	4,932	4,392	16.3	-11.0	3.6
Asian nfd	495	1,998	3,930	303.6	96.8	693.7
Taiwanese Chinese		2,721	3,768		38.6	
French	1,440	5,886	3,516	308.8	-40.3	144.1
Vietnamese	2,673	2,886	3,462	8.0	20.0	29.5
Welsh	2,781	9,963	3,414	258.3	-65.8	22.7
Russian	480	2,190	3,141	356.3	43.6	554.6
Italian	1,542	4,914	2,955	218.7	-39.9	91.6
Arab	177	1,725	2,859	874.6	65.6	1514.1
Croat/Croatian	171	3,897	2,505	2178.9	-35.7	1366.1
Swiss	1,671	3,747	2,346	124.2	-37.3	40.5
Greek(incl Greek Cypriot)	2,100	3,564	2,283	69.7	-36.0	8.6
Iranian/Persian	984	1,650	2,160	67.7	30.9	119.5
Iraqi	246	966	2,145	292.7	122.4	772.4
Indonesian (incl Javanese						
/Sundanese/Sumatran)	861	1,662	2,073	93.0	24.9	140.9
Malay	1,383	2,937	2,052	112.4	-30.1	48.4
African nfd	429	741	2,013	72.7	172.0	369.2
Danish	1,404	3,507	1,995	149.8	-43.1	42.1
Fijian Indian/Indo-Fijian	783	2,970	1,983	279.3	-33.2	153.3
Somali			1,971			
Tuvalu Islander/Ellice Islander	429	879	1,965	104.9	123.7	358.3
Polish	1,671	3,756	1,956	124.8	-48.0	17.0
Other African nec	273	1,689	1,902	518.7	12.5	597.1
Spanish	543	2772	1,731	410.5	-37.5	218.8

Another example of the impact of questionnaire change is the count of Malaysians in the 2001 Census, which decreased by 30 percent between 1996 and 2001. The majority of Malaysian-born people living in New Zealand identify as ethnic Chinese. A comparison of 1996 and 2001 ethnic responses shows that the number of people who identified as both Chinese and Malaysian dropped markedly in 2001. This is likely to be related to the 2001 question layout and wording which does not encourage multiple responses. A 33 percent decrease in the Fijian-Indian counts since 1996 may also be attributable to questionnaire changes. In 1996, there were 1,224 people who identified both as Indian (not further defined) and Fijian-Indian, but this dropped to 354 in 2001. In other words, it appears that Fijian-Indians were less likely to give a written ethnic response of Fijian-Indian in 2001; the majority have just ticked the Indian category.

Prioritised Ethnicity

Prioritised ethnicity output allocates each respondent to a single ethnic group using the priority recording system. Each respondent appears only once in the data, and the numbers in the tables sum to the total population. This form of output does not necessarily give a total count of people in a particular ethnic group.

The effect of prioritisation of ethnicity responses on Level 1 ethnic counts, using current Statistics New Zealand rules, is shown in the tables below. The Pacific peoples ethnic group is most affected, dropping 13.6 percent after prioritisation, while the European group loses 9.1 percent, Asian 4.9 percent and other ethnic groups 7.2 percent.

Table 6:

Counts of Level One Ethnic Groups - Prioritised and Non-Prioritised**Prioritised Ethnicity**

	1996	2001
European	2,594,688	2,610,408
NZ Māori	523,374	526,281
Pacific	173,178	200,253
Asian	160,680	226,589
Other	14,667	23,201
Not Specified	151,713	150,546
Total Population	3,618,303	3,737,278

Non-Prioritised Ethnicity

	1996	2001
European	2,879,085	2,871,432
NZ Māori	523,374	526,281
Pacific	202,233	231,798
Asian	173,505	238,179
Other	16,422	24,993

New Zealander /Kiwi Responses

In the 2001 Census, in excess of 80,000 written-in responses were classified under the subcategory of New Zealander (for example, responses such as New Zealand, New Zealand Pākehā, White New Zealander etc). In 1996 the corresponding figure was in excess of 55,000. New Zealander and Kiwi responses are currently counted as New Zealand European at all levels of the ethnicity classification.