Loneliness in New Zealand:

Findings from the 2010 NZ General Social Survey

Contents

List of figures

List of figures

1 Purpose and summary

Purpose

This report uses New Zealand General Social Survey (NZGSS) information to explore patterns of loneliness in adults aged 15 years and older in New Zealand. This report discusses:

- the prevalence of loneliness among the adult population
- the relationship between loneliness and a range of key risk factors
- the relationship with age for each risk factor.

Summary of key findings

Prevalence of loneliness in New Zealand

- In 2010, one in three (1.02 million) adult New Zealanders felt lonely to some degree in the last four weeks.
- This includes 21,700 people (0.7 percent) who felt lonely all of the time, 94,500 (3.0 percent) most of the time, and 374,000 (12 percent) some of the time.
- 18 percent of young adults felt lonely all, most, or some of the time, compared with 11 percent of older people.

Factors associated with loneliness

- Overall, young adults had a greater likelihood of feeling lonely.
- The chances of feeling lonely decreased linearly with age, so that older people were the least likely to feel lonely.
- There was a strong relationship between loneliness and poor mental health that was consistent across all ages.

Factors differ by stage of life

- There was a strong relationship between a person's economic standard of living and their feelings of loneliness. This association increased for older people.
- Being a recent migrant was associated with loneliness only for people in midlife.
- Young people and people in midlife were more likely to feel lonely when they lived alone. Older people were less likely to feel lonely when they live in a two-person household than other household sizes, including large households.
- Younger and older women were more likely to feel lonely than their male counterparts.

2 Introduction to loneliness and social isolation

"The most terrible poverty is loneliness and the feeling of being unloved." – Mother Teresa.

Loneliness is becoming a social and health issue

An ageing population and an increase in people living alone has seen social isolation and loneliness fast emerging as major issues facing modern society, particularly because of their adverse effect on health and well-being. UK officials are currently attempting to measure the extent of loneliness in Britain amid concerns that 'the most isolated generation' ever will overwhelm the National Health Service (Brady, 2013).

Research has shown that social isolation and loneliness are associated with a range of health issues, including increased mortality (Cacioppo, Hawkley, Norman, & Berntson, 2011), depression (Guitzmann, 2000), high blood pressure (Hawkley, Thisted, Masi, & Cacioppo, 2010), and dementia (Holwerda et al, 2012). A recent study found that social isolation was equivalent to smoking 15 cigarettes per day and to drinking six units of alcohol a day (Holt-Lunstad, Smith, & Layton, 2010).

Brown, Woolf, and Smith (2010) used the NZGSS to show that social isolation and loneliness were negatively associated with well-being among New Zealand adults. NZGSS 2010 data show that adult New Zealanders who felt lonely all of the time in the last four weeks were less likely to be satisfied with their life overall (59 percent) than those who never felt lonely (91 percent).

The importance of addressing loneliness to improve people's well-being and health is increasingly being recognised in policy. Social isolation and loneliness are identified as targets for reduction by the Ministry of Health and District Health Boards in the Health of older people strategy. Social isolation is identified as a factor in the development of suicide behaviours in the New Zealand suicide prevention strategy 2006–2016. The New Zealand settlement strategy emphasises the importance of migrants connecting with their communities.

Social isolation and loneliness differ

While interrelated, social isolation and loneliness are different concepts, defined slightly differently across the literature. Social isolation objectively describes the absence of social contact ie contact with family or friends or community involvement. Loneliness is the difference between desired and achieved levels in the quality and quantity of social contact. Loneliness is about how individuals feel and is therefore measured subjectively. While both concepts are important to understand, the focus of this report is loneliness. There is a growing body of evidence to suggest that subjective interpretations of social relationships are key to understanding the impact of social connections on well-being (Hughes, Waite, Hawkley, & Cacioppo, 2008).

While social contact is vital, we all have different levels of need for social contact. Some people express loneliness even though they have regular contact with family and friends. This is perhaps because they consider that these relationships are not providing the emotional support that they need. Other people might have very limited contact with family and friends but are not lonely.

Policy interest in loneliness

Understanding the groups most affected by loneliness, and the social factors strongly associated with loneliness, will provide an evidence base for policy makers and service providers to potentially tackle loneliness through either targeted or indirect interventions.

Within western modern societies, loneliness is seen as a problem that is particularly associated with old age. As a result there is a good deal of policy interest in the social isolation or loneliness of older people. Much less attention has been given to examining variations in loneliness across age groups. We will address this by exploring patterns of loneliness across adults aged 15 years and older in New Zealand. We will look at not only the relationship between loneliness and a range of key factors, but also the relationship with these factors for each age group.

This report will examine whether young adults experience loneliness differently to those in midlife, or older people. If this is the case, then the appropriate response to designing interventions will be different for each.

3 Loneliness in New Zealand

In 2010, one in three adult New Zealanders (aged over 15 years) felt lonely to some degree in the last four weeks. This equates to an estimated 1.02 million people.

This 1.02 million people includes 21,700 (0.7 percent) who felt lonely all of the time, 94,500 (3 percent) who felt lonely most of the time, 374,000 (12 percent) who felt lonely some of the time, and 526,000 (16 percent) who felt lonely a little of the time. These results are consistent with those from the 2008 NZGSS.

Figure 1

Felt lonely in the last four weeks
By frequency
2010
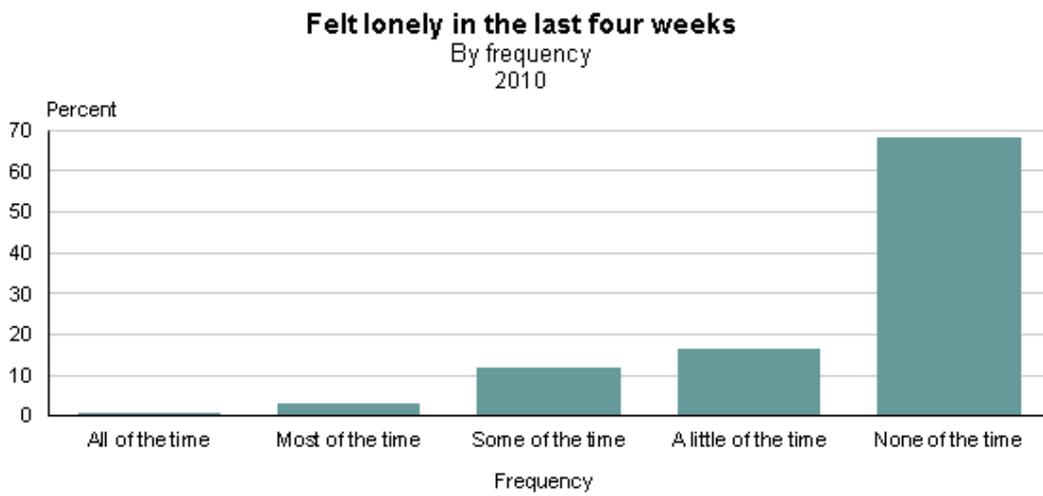
Source: Statistics New Zealand

It is difficult to compare directly the prevalence of loneliness from other research because of differing methodologies. However, the 2010 New Zealand Quality of Life survey reports less than 1 percent of adults always felt lonely over the last 12 months, 1 percent felt lonely most of the time, and 16 percent felt lonely sometimes. Using the European Social Survey (ESS) Victor and Yang (2012) found that 6 percent of UK adults were lonely almost all or most of the time, 21 percent were sometimes lonely, and 73 percent were never lonely.

Baker (2012) measured loneliness using an Index of Social Support based on responses to 10 questions about social support and friendship asked in the Household Income and Labour Dynamics in Australia (HILDA) survey. He found that the proportion of Australians experiencing loneliness in any given year was fairly consistent at around one in 10 people between 2001 and 2009.

Younger people report higher levels of loneliness

Summary statistics show that people aged 15–29 years reported higher levels of loneliness (18 percent felt lonely all, most, or some of the time), followed by those aged 30–44 years, and those aged 45–64 years (both 16 percent). People aged 65 years and over reported the lowest levels of loneliness (11 percent).

Figure 2

Felt lonely in the last four weeks
By frequency and age group
2010

Source: Statistics New Zealand
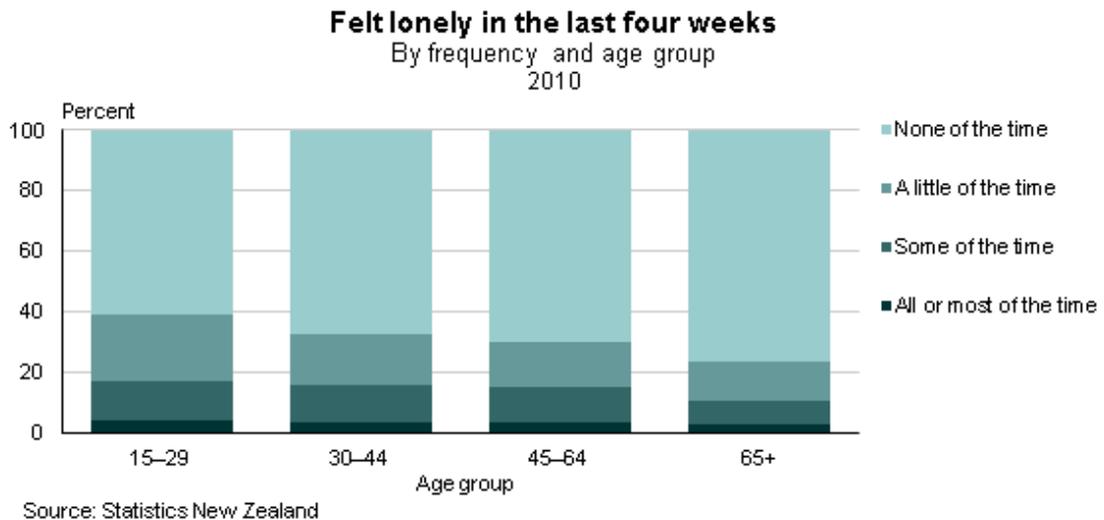
The use of logistic regression shows that there is a statistically significant association between the age of adult New Zealanders and their chances of feeling lonely in the last four weeks. Figure 3 shows that as people get older the chances of them feeling lonely decreases. The chances of feeling lonely were highest for young adults (15–29 years), when holding all other factors constant.

Young adults were more likely than those in midlife (30–64 years) or older people (65+) to feel lonely at all frequency levels, from all of the time through to a little of the time.

This result also suggests that the chances of feeling lonely decreases linearly with an increase in age. Other functions of age were tested in the models to look for polynomial and exponential relationships with feeling lonely. These functions were not statistically significant.

Figure 3
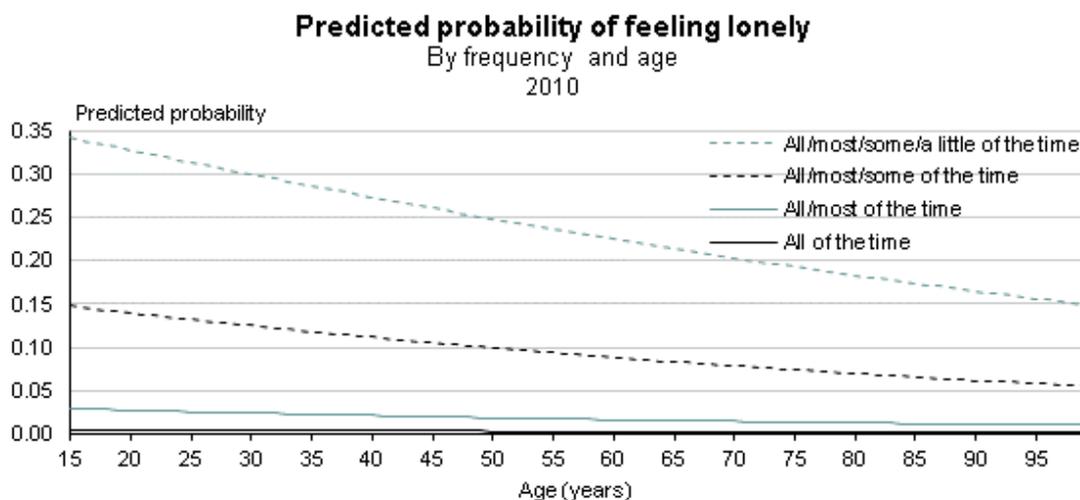
Predicted probability of feeling lonely
By frequency and age
2010

Note: The reference group used to generate the predicted probabilites was female, non-Asian, NZ born, household of four or more people, seen family or friends in the last week, not treated unfairly in the last 12 months, and the average mental, physical health status, and economic standard of living for the adult population.

Source: Statistics New Zealand

While comparisons with other research can be difficult because of varying methods of measuring loneliness, other studies have also examined loneliness across the adult age range. The 2010 New Zealand Quality of Life survey also reports rates of loneliness are highest among adults aged 15–24 years and lowest among adults aged 65 years and over (AC Nielson, 2011). The Australian HILDA survey shows that the prevalence of loneliness is highest for those aged 15–19 years and is lowest for those aged 35–54 years, before increasing slightly for those aged 65 years and over (Flood, 2005). In the UK, Victor and Yang (2012) found a non-linear u-shaped distribution with loneliness high for those aged under 25 years and those aged 55 years and over, and lower rates for the 25–44 years age group.

We should remember there is a difference between social isolation and loneliness. It is possible that results for the objective measure of social isolation will be quite different by age group. Summary statistics from the 2010 NZGSS show that older people are more likely than younger people to have contact with non-resident family, but less likely to have contact with friends (Statistics NZ, 2011).

Mental health has a strong relationship with loneliness

There is a strong relationship between feeling lonely and a person's self-assessed mental health status. People with poor mental health were more likely than people with good mental health to feel lonely at all frequency levels. Figure 4 shows the predicted probabilities for a selected reference group (see note under figure 4) to illustrate the relationship between mental health status and loneliness, while holding all other factors constant.

This strong association held across all three age groups. The relationship between loneliness and mental health status does not change across age. It remains similar to the overall relationship shown in figure 4.

Figure 4
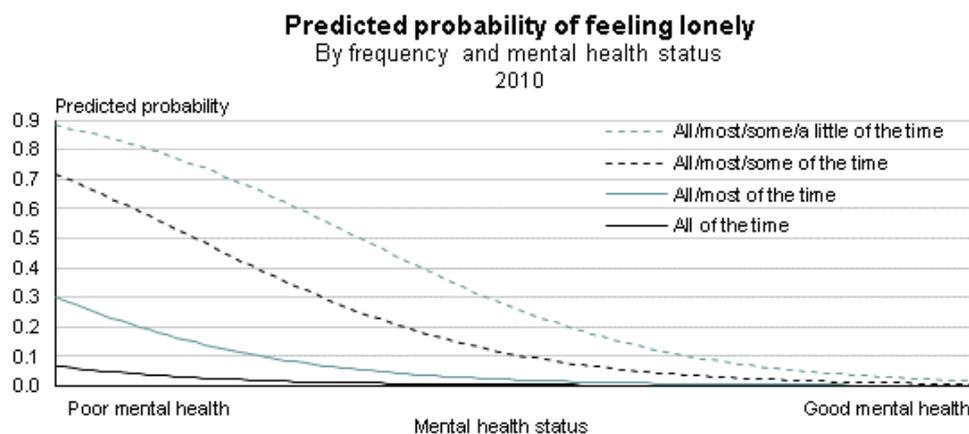
Predicted probability of feeling lonely
By frequency and mental health status
2010

Note: The reference group used to generate the predicted probabilites was female, non-Asian, NZ born, household of four or more people, seen family or friends in the last week, not treated unfairly in the last 12 months, and the average age, physical health status and economic standard of living for the adult population.

Source: Statistics New Zealand

While there is a significant relationship between feeling lonely and physical health status for adult New Zealanders, the results of each age group showed little statistical significance in this association. Therefore the evidence is mixed that there is any difference in the chance of feeling lonely by physical health status.

Older people's economic standard of living has a strong association with loneliness

There is an association between lower economic standard of living and the chances of feeling lonely. As economic standard of living increases a person has less chance of feeling lonely.

Analysing each age group separately showed that the relationship between feeling lonely and economic standard of living differed by age. Older people living in economic hardship were more likely than younger age groups living in similar levels of hardship to feel lonely. An increase in economic standard of living also results in a larger decrease in the chance of feeling lonely for older people than it does for younger age groups. An example of this is shown in figure 5 for the predicted probability of people feeling lonely all, most or some of the time.

Figure 5
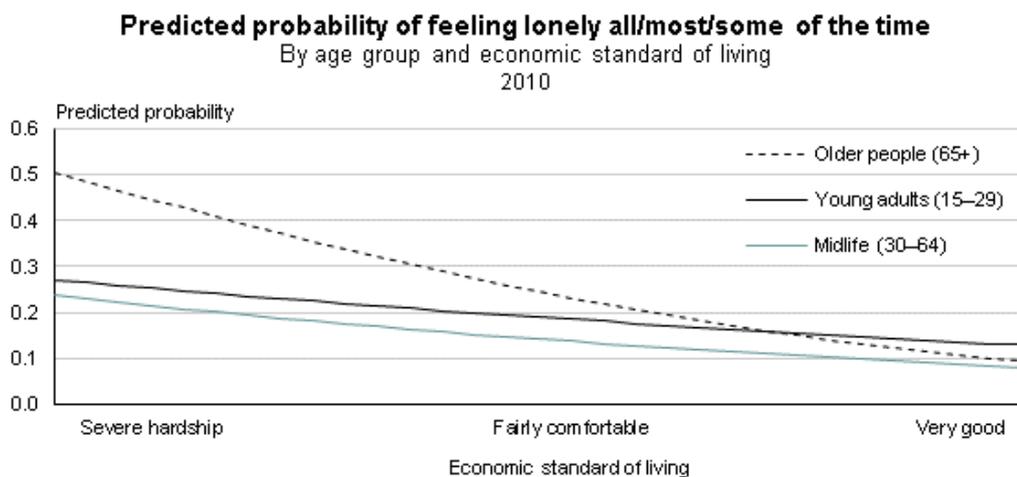
Predicted probability of feeling lonely all/most/some of the time
By age group and economic standard of living
2010

Note: The reference group used to generate the predicted probabilites was female, non-Asian, NZ born, household of four or more people, seen family or friends in the last week, not treated unfairly in the last 12 months, and the average age, and mental and physical health status for the adult population.

Source: Statistics New Zealand

Recent migrants in midlife more likely to feel lonely

People who had migrated to New Zealand in the last four years were more likely to feel lonely than those who were born in New Zealand. There were differences in this result across age groups. The likelihood of recent migrants in midlife feeling lonely was more than twice those of people of a similar age born in New Zealand. However, there was no strong association between being a recent migrant and feeling lonely for young adults and older people.

After adjusting for being a recent migrant, people who identify as Asian were still more likely to feel lonely than people who do not identify as Asian. Again there were differences across age groups, with the association only being significant for young adults. The likelihood of young Asian people feeling lonely was twice that of those young people who did not identify as Asian.

Variables for other ethnic groups were tried in the model and no significant association between feeling lonely and any other ethnic groups was found.

Other factors connected with feeling lonely

Women are more likely to feel lonely than men, holding all other factors constant. However, while being male or female was a strong factor for young adults and older people, there was no significant difference between the sexes for people in midlife.

Overall, there was a greater likelihood of people feeling lonely when they live alone, compared with people who live in households of four or more people. However among the different stages of life this holds true only for young adults and people in midlife. Among older people, those who live in a two-person household are less likely to feel lonely than other household sizes, including large households.

The results of the analysis shows that people in midlife who felt discriminated against over the past year were more likely to feel lonely than those who had not felt discriminated against. This was not the case for young adults or older people.

Finally, the results also show people who have not had face-to-face contact with their family and friends in the last week were more likely to feel lonely, compared with people who had contact with their family and friends. This was consistent across all stages of life. This finding relates to the relationship between social isolation and loneliness. The NZGSS offers the potential to look at how people experience these two concepts differently. And while this is not the focus of this report, it is an area of potential future research.

4 Conclusion

There is a good deal of interest in the loneliness of older people in New Zealand. Much less attention has been given to examining variations in loneliness across age groups. Young adults may experience loneliness differently to those in midlife or older people, and therefore the appropriate response to designing interventions will be different for each.

This analysis shows that there is a statistically significant association between the age of adult New Zealanders and the likelihood they have felt lonely in the last four weeks. Loneliness demonstrates a linear distribution, with adults aged under 30 years experiencing the highest levels of loneliness. Older people experienced the lowest levels of loneliness.

Poor mental health is strongly associated with loneliness for all age groups. For those in later life, economic standard of living is more strongly associated with loneliness than it is for young adults or those in midlife. Being a recent migrant is associated with loneliness only for people in midlife. Living alone was associated with loneliness for young adults and those in midlife but not for older people. This indicates that different factors may contribute to vulnerability (or protect) against loneliness at different stages of life and suggests that preventative strategies or interventions that reflect these variations need to be considered.

Loneliness and social isolation are different concepts. Loneliness is a subjective measure of the difference between desired and achieved levels in the quality and quantity of social contact. Social isolation objectively describes the absence of social contact with family, friends, and the community. It should be noted that findings for social isolation could be quite different to those presented in this report. It is likely that there are reasons why some people feel lonely despite having lots of contact with family and friends, and on the other hand, reasons why some people don't feel lonely despite limited social contact. This is a possible area for further research.

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Appendix 1: Methodology

Data is from the New Zealand General Social Survey

The data for this report is sourced from the 2010 New Zealand General Social Survey (NZGSS). This survey collected well-being information from 8,500 New Zealanders aged 15 years and over between April 2010 and March 2011.

New Zealand General Social Survey has more information.

The NZGSS asked people, in the last four weeks, how often have you felt isolated from others? The response options were:

- all of the time
- most of the time
- some of the time
- a little of the time
- none of the time.

Given this is a subjective question, the resulting measure is one of loneliness rather than an objective measure of social isolation.

Logistic regression is used to model loneliness

As the five possible response options for respondents to this question have a logical order to them from 'none' to 'all the time', a cumulative multinomial logistic regression was used. The advantage of using regression analysis is that it holds other factors constant, while looking at the association between the likelihood of feeling lonely and the factor of interest.

A cumulative multinomial logistic regression describes the relationship between the lowest versus all higher categories of the lonely variable and the relationship between the next lowest category and all higher categories, etc. Because the relationship between all pairs of groups is the same, there is only one set of coefficients. Therefore, results from the model refer to the likelihood of feeling lonelier.

Interpretation of odds ratios

The results of the logistic regression analysis are presented in the form of odds ratios. An odds ratio is the odds of an event happening divided by the odds of the opposite event happening. For example, suppose that 400 females felt lonely and 200 did not. The odds of a person feeling lonely are 400/200 = 2, or 2 to 1. In other words, the chances of a female feeling lonely are reasonably good. To give another example, suppose that 500 males felt lonely and 1,000 did not. The odds of a male feeling lonely would be 500/1,000 = 0.5 or 1 to 2. The chances of their feeling lonely are therefore significantly lower than for females.

For continuous explanatory variables (age, mental health, physical health, and ELSI), an odds ratio of greater than 1 indicates a higher likelihood of feeling lonely as the value of the explanatory variable increases and an odds ratio less than 1 indicates a lower likelihood.

For categorical explanatory variables, the odds ratio compares the likelihood of feeling lonely compared with the reference category. An odds ratio greater than 1 indicates a higher likelihood of feeling lonely compared with the reference group, while an odds ratio of less than 1 indicates a lower likelihood.

Variables included in the logistic regression model

Age

As the main variable of interest, a person's age is included as a continuous explanatory variable in the model.

Discrimination

The NZGSS asks respondents whether they have been treated unfairly or had something nasty done to them because of the group they belong to or seem to belong to in the last 12 months. This is a measure of discrimination. For more information on this measure refer to Statistics New Zealand (2012). Responses to this question are included in the model to test for an association with feeling lonely. The reference category is those who have not been discriminated against.

Economic standard of living

Economic standard of living is included as a continuous variable in the model. Economic standard of living is measured by the Economic Standard of Living Index Short Form (ELSI$_{SF}$). Economic standard of living refers to the material aspect of well-being that is reflected in a person's consumption and personal possessions – their household durables, clothing, recreations, access to medical services, and so on (Jensen, Spittal & Krishnan, 2005).

Economic standard of living is a more robust measure of material well-being than household income for older people. This is because they often have lower income because of retirement, but reduced expenses, such as no home loan repayments. Given the focus of this analysis is to look at loneliness across the life stage and specifically look at loneliness for older people, it made sense to include ELSI$_{SF}$ in the model over household income.

Ethnicity

Whether a person identifies as Asian or not is included in the model as a categorical explanatory variable. The reference category is those who do not identify as Asian. Variables for other ethnic groups were tried in the models but none of them showed a significant association with feeling lonely.

Household size

How many people live in a person's household is included as an explanatory variable in the model. The reference category is four or more people.

Mental and physical health

Mental and physical health are measured by the short-form health questionnaire (SF-12), which is designed to self-assess symptoms and limitations in everyday activity due to mental and physical health over the previous four weeks. Responses to the SF-12 are summarised in two weighted summary scales – the physical component score (PCS) and the mental component score (MCS). These scores range from 0 to 100, where a 0 score indicates the lowest level of health and 100 indicates the highest level of health.

Migrant status

A person's migrant status is included as an explanatory variable with multiple categories in the regression model. A person is categorised as a recent migrant when they have arrived in New Zealand within the last four years. The reference category is people born in New Zealand.

Seen family and friends

This variable is derived from responses to questions in NZGSS. It measures whether a person has had face-to-face contact with family or friends who live outside their household in the last week. The reference category is those who have had contact.

Sex

Also included in the regression model is the sex of people. The reference category is females.

Appendix 2: Logistic regression results

The results of our logistic regressions are presented in the table below. Firstly, the factors associated with the chance of feeling lonely for all adult New Zealanders are analysed. Then the factors associated with the chance of feeling lonely for three different age groups are analysed.

Table 1
Likelihood of feeling lonely in the last four weeks
2010

Characteristic	Category (where applicable)	All	Aged 15–29	Aged 30–64	Aged 65 +s
		Odds ratios			
Age		0.987**	n/a	n/a	n/a
Sex	Male	0.840**	0.721**	0.916	0.785*
	Female	Reference category			
Asian	Yes	1.357**	2.046**	1.200	0.895
	No	Reference category			
Migrant status	Recent migrant	1.609**	0.972	2.294**	0.098*
	Long-term migrant	1.034	0.715	1.133**	1.046*
	NZ-born	Reference category			
Mental health		0.941**	0.930**	0.945**	0.932**
Physical health		0.990**	0.979	0.992*	0.993
ELSI		0.962**	0.970**	0.959**	0.927**
Household size	One person	1.746**	1.803*	1.548**	1.076
	Two people	1.078	1.209	1.057	0.537**
	Three people	1.080	1.079	1.035	0.903
	Four or more people	Reference category			
Seen family and friends	Yes	Reference category			
	No	1.342**	1.602*	1.246**	1.486*
Discrimination	Yes	1.519**	1.107	1.766**	1.555
	No	Reference category			

Source: Statistics New Zealand