

# Summary of Results: Report for Participants

Perception of Quality of Life for Adults with  
Hearing Impairment in Aotearoa/NZ

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**Communication  
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## Introduction

Thank you for participating in the study, “Perception of Quality of Life for adults with hearing impairment in Aotearoa/New Zealand.” The aim of this study was to gain a better understanding of how adults with hearing impairment in NZ feel about their quality of life.

Previous studies from overseas have shown that many things can impact on a person’s perception of their quality of life, including age, gender, sexual orientation, relationship status, hearing aid use, level of education, income, and employment status. Other factors, such as degree of hearing impairment, hearing aid (and other assistive listening device) ownership, and ability to understand speech in noise are also known to impact an individual’s perception of quality of life. There has been no prior research looking specifically at how these things may impact on how adults in NZ with hearing impairment feel about their quality of life.

This document contains a summary of the results of the study. The intended audiences of this document are the participants who participated in this study by filling out and returning the questionnaires (the Hearing Handicap Inventory, the Short Form 36 Health Survey, and the demographic information sheet), and submitting a copy of their audiogram (hearing test).

## Participants

We recruited participants for this study from March to May of 2013. A total of 163 people expressed interest in participating in this study. In total, 132 people returned their questionnaires and hearing test results. Six participants had hearing within normal limits. Therefore, information from 126 participants were included in the data analysis of this study.

The responses to the demographic questions about the participants indicate that the participants in this study are similar to what would be expected based on the data from overseas studies. The participants in this study seemed to be representative of the NZ population, with the exception of income and education level (which were both higher than the national population) and ethnic ancestry (with Europeans being over-represented and Māori being under-represented). A brief overview of each of the demographic questions is provided, below.

### Age

All 126 participants reported their age. The youngest participant was 24 years of age and the oldest was 90 years of age. The average (mean) age was 63 years, and most participants (54%) were 65 years of age or older. This result was expected based on overseas studies that demonstrate that

while hearing impairment can occur at any age, the likelihood of having hearing impairment increases with age.

### **Relationship Status**

All 126 participants answered the “length of relationship” question. The shortest time reported was 0 (meaning not currently in a relationship), and the longest was 61 years (congratulations!). The average (mean) length of relationships amongst all participants was 22.92 years. This result shows that participants in this study represented a wide range of relationship lengths.

### **Hours Worked per Week**

All 126 participants answered the “hours worked per week” question. The minimum hours worked per week was 0 (meaning not currently working any hours per week), and the maximum hours worked per week was 50. Of the 65 participants who reported working, 32% worked 40 hours per week or more. This figure is in line with the 2006 NZ Census in which 35% of the workforce reported working 40 hours per week or more.

### **Income**

92 participants answered the “income” question. The minimum reported income per annum was \$10,800, and the maximum reported income per annum was \$140,000. The average of reported income amongst the 92 participants who answered this question was \$31,834 (median). This is slightly higher than the national median income reported by Statistics New Zealand (\$29,120).

### **Gender**

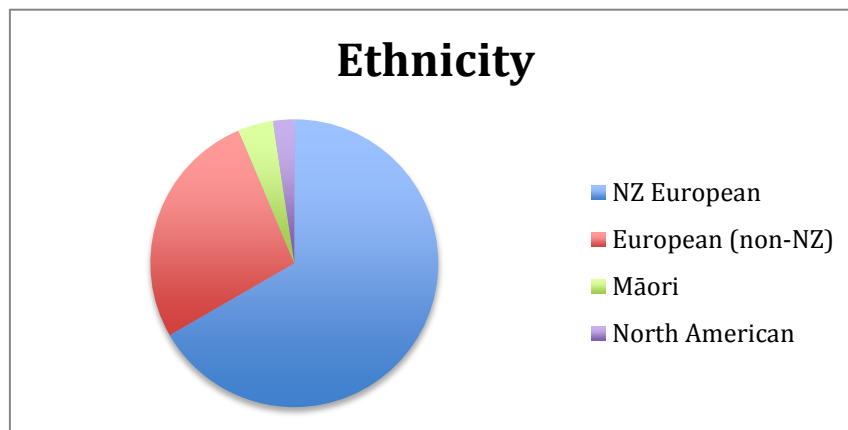
All 126 participants answered the “gender” question. 57 reported being of male gender, and 69 participants reported being female gender. One person reported a transitioned gender, having transitioned from female to male. The proportion of female to male participants in this study is in line with the sex ratio of New Zealand, given the average age of participants in this study.

### **Sexual Orientation**

104 participants answered the “sexual orientation” question. A total of 16% of participants reported a sexual orientation other than heterosexual. The proportion of this population in New Zealand is difficult to estimate. A very conservative estimation is that 0.7% of people who completed the 2006 NZ Census reported living in a same-sex relationship. Given this is a conservative estimate, there appears to be good representation of participants with various sexual orientations in this sample.

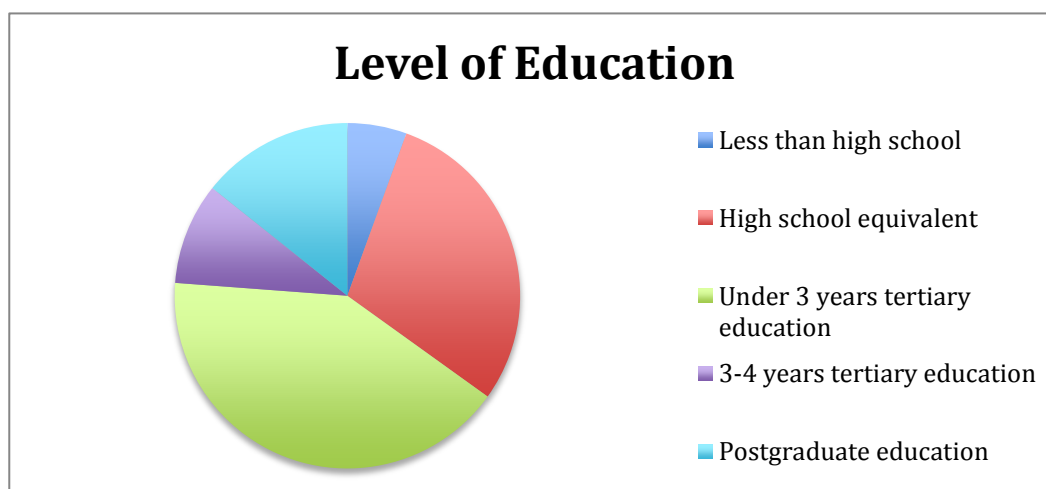
## Ancestry

All 126 participants answered the “culture/ethnicity” question. 84 participants identified as “NZ European” (including Pakeha identity), 34 identified as European (non-NZ), five identified as Māori, and three identified as North American. When considering the entire NZ population statistics or the Canterbury region statistics, it is clear that people with Māori ancestry were under-represented in this study and that people with European ancestry were over-represented.



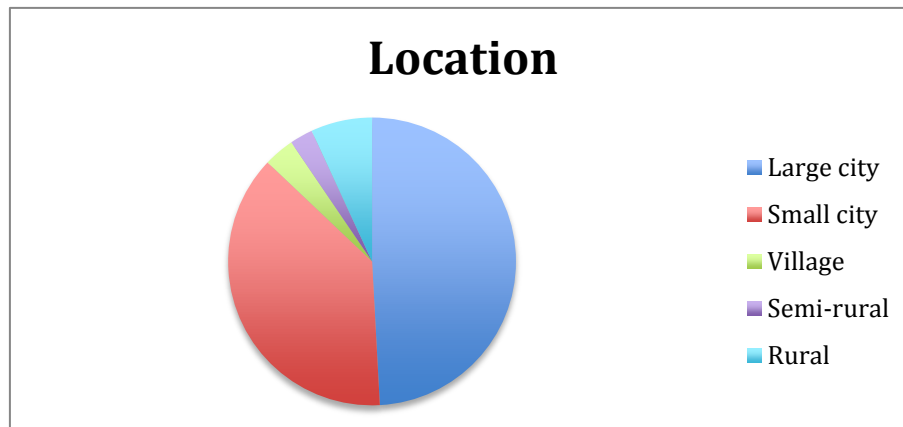
## Education Level

All 126 participants answered the “level of education” question. Seven participants had less than a high school education. 37 participants had a high school equivalent. 52 participants had less than three years of tertiary education, and 12 participants had three to four years of tertiary education. 18 participants had postgraduate education. The participants in our study generally reported higher levels of education than the NZ population. This is not uncommon in research, and studies overseas have reported the same issue.



## City Size

All 126 participants answered the “size of town/city” question. 57 participants identified as living in a large city, and 44 identified as living in a small city. Four participants live in a village and three live semi-rurally. Eight participants live rurally. These figures are in line with national statistics on where NZers live, indicating a good representation of participants with a range of city sizes.



## Hearing Impairment

There was a wide range of degrees of hearing impairment, from hearing within normal limits in the better hearing ear, to those with profound hearing losses. Ability to understand speech in noise ranged from no difficulty (within the normal range) to profound difficulty.

## Device Ownership

There was a wide range of responses to the questions about device ownership. 38% of participants reported owning both hearing aids and assistive listening devices (ALDs). 30% of participants reported owning neither ALDs nor hearing aids.

Two participants were recipients of cochlear implants. 65% of participants reported owning hearing aids. Only 27% of participants who owned hearing aids also owned assistive listening devices.

44% of participants reported owning assistive listening devices, such as amplified phones, FM systems, captioned television titles, headphones, and shake awake. Most (97%) participants who owned assistive listening devices also owned hearing aids.

## Quality of Life

Participants in this study completed two types of Quality of Life (QoL) questionnaires. The first was the Short Form 36 Health Survey (SF36), which is a generic measure of QoL. The SF36 aims to measure overall perception of

health related QoL. It has two parts: one that the physical aspects of quality of life (PCS), and one that measures the mental aspects of quality of life (MCS).

The second questionnaire was the Hearing Handicap Inventory (HHI). The HHI measures the impact of hearing impairment on quality of life. It also has two parts: one that measures the emotional impact of hearing loss and one that measures the social impact of hearing loss.

Perception of QoL was related to income, age, degree of hearing loss, and ability to understand speech in noise. Also, people's responses on the two questionnaires were related. These relationships are described, below.

On the HHI, it was found that people who reported greater levels of income reported less social impact of their hearing loss and better functioning in both the physical and mental aspects of quality of life. This result indicates that increased income is related to better health-related quality of life.

On the SF36, it was found that increasing age was related to decreasing physical scales. As age increased, it was also found that mental functioning increased.

Perception of QoL was related to degree of hearing loss. As hearing impairment increased, the greater the social and emotional impact on the participants. Also, as participants had more difficulty understanding speech in noise, the greater impact the physical aspects of quality of life had on them.

Finally, a higher perception of generic health related QoL was associated with less reported impact on QoL due to hearing impairment.

These results are in line with studies from overseas that show that these demographic variables are related to quality of life. Those studies also show that degree of hearing loss is related to quality of life.

## Device Ownership

The relationship between device ownership and other variables was examined. There was a relationship between owning a hearing aid and degree of hearing loss, ability to understand speech in noise, and the impact of hearing loss on quality of life. In addition to those variables, there was a relationship between owning an assistive listening device and income, education level, gender and generic quality of life. These relationships are discussed, below.

It should be noted that owning a device such as a hearing aid does not imply that device is used or worn. This section only describes the relationship between device ownership and other study variables. Also, participants who owned hearing aids and assistive devices were asked to complete the questionnaires as they function *without* their hearing aids or assistive listening devices.

As expected, hearing aid and ALD owners had more difficulty understanding speech in noise and greater hearing loss in both their better hearing ear and their worse hearing ear than participants who did not own such devices.

ALD owners reported lower income levels but higher levels of education than ALD non-owners. ALD owners were more often male than female. There were no differences between hearing aid owners and non-owners on demographic variables.

Hearing aid owners reported greater social and emotional impact of their hearing loss on their quality of life than participants who did not own hearing aids. ALD owners reported greater emotional impact of hearing loss than non-owners. In addition, ALD owners exhibited better physical functioning than non-owners.

## Conclusions

The aim of this study was to gain a better understanding of how adults with hearing impairment in NZ feel about their quality of life. Results from this study show that many factors are related to the perception of quality of life. Not surprisingly, as the degree of hearing loss increases, the greater the impact of that hearing loss on the quality of life. This result has been found overseas, but it is important that we were able to verify that degree of hearing loss has an impact on quality of life for New Zealanders.

Results from this study also show that ownership of devices such as hearing aids and amplified telephones are also related to degree of hearing loss. This indicates that degree of hearing impairment may be one of the reasons people obtain hearing devices, a notion that is supported by previous, overseas research. Finally, it is important that this study was able to establish a relationship between device ownership and perception of quality of life for New Zealanders.

## Future Studies

The findings of this study will be used to design future research. While this study provided information about the perception of quality of life for adults with hearing impairment, the perceptions of significant communication partners were not addressed. Research from overseas shows that these frequent communication partners also suffer from the burden of hearing loss. Their perceptions will be the focus of future research in New Zealand.

As stated previously, this study focused on device ownership. Future research needs to focus on how and why people choose to use/wear their hearing devices. This information can help clinicians provide better services to adults with hearing impairment.