Appendix 2
CONSENT FORM

The development and evaluation of a speech in noise test for a New Zealand population

Part A: Determining the performance intensity function
Part B: Establishing sentence equivalence
Part C: Establishing equivalent lists

DECLARATION

I ___________________________(the participant) have read and understood the description and requirements of the above-named study, as outlined in the attached information sheet. Any questions I have asked have been answered to my satisfaction. On this basis, I agree to participate in this study, realising that I may withdraw at any time without prejudice.

I understand that all information provided is strictly confidential and will not be released by the investigator unless required to do so by law.

I agree that research data gathered in this study may be published. I provide consent for this publication with the understanding that anonymity will be preserved, and my name and any other identifying information will not be used.

I note that this proposal has been reviewed and approved by the Department of Communication Disorders, University of Canterbury.

__________________________________________  _________________________
Participant                                      Date
College of Science

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PROJECT INFORMATION

You are invited to participate as a subject in the research project 'The development and evaluation of a speech in noise test for a New Zealand population'. Speech in noise testing gives valuable information about a person’s abilities to understand speech in the presence of background noise. It can give an indication of the benefit they may receive from hearing aids and other technology, such as personal FM systems. Speech in noise tests have been developed in the United States and many other parts of the world, but none as yet for a New Zealand population. The purpose of this study is to develop and test speech materials that use vocabulary appropriate for speakers of New Zealand English and are recorded by a native New Zealander.

Part A: Determining the performance intensity function

The purpose of this specific phase of the study is to find out how altering the signal to noise ratio (SNR) affects the intelligibility of sentences when presented to normal hearing listeners. We can estimate this relationship by defining a performance intensity function, which plots how performance changes with intensity.

Your involvement in this project will consist of one testing session, which will last approximately one hour. At the beginning of the session, your hearing will be assessed. The task that you will be required to perform will involve listening to a number of short sentences which are made harder to understand by adding background noise. There will be three sets of sentences, presented at different levels relative to the background noise. You will be asked to repeat out loud as much of each sentence as you can.

These tests are perfectly safe and will in no way cause you any discomfort or harm. However, you may end the tests at any time and are free to discontinue participation in this study, including withdrawal of any information you have provided. There is the possible risk that the preliminary hearing assessment may reveal that you have a hearing loss. If this occurs, you will be entitled to a free diagnostic hearing test at the UC Speech and Hearing clinic.

The project is being carried out as a requirement for the Masters of Audiology degree by Ruth Hope, under the supervision of Margaret Maclagan, who can be contacted on the telephone number at the top of the page. She will be pleased to discuss any concerns you may have about participation in the project.

Thank you for choosing to take part in this study. Your participation is greatly appreciated.

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Part B: Equalizing sentence intelligibility

The purpose of this specific phase of the study is to ensure that the sentence materials that we want to use in this test are of equivalent difficulty when presented to normal hearing listeners. To determine that all sentences are equally intelligible, we need to test your performance on these materials.

You will be required to attend one testing session, which will last approximately one hour and twenty minutes. At the beginning of the session, your hearing will be assessed. The task that you will be required to perform will involve listening to a number of short sentences which are made harder to understand by adding background noise. You will be asked to repeat out loud as much of the sentence as you can.

These tests are perfectly safe and will in no way cause you any discomfort or harm. However, you may end the tests at any time and are free to discontinue participation in this study, including withdrawal of any information you have provided. There is the possible risk that the preliminary hearing assessment may reveal that you have a hearing loss. If this occurs, you will be entitled to a free diagnostic hearing test at the UC Speech and Hearing clinic.

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Part C: Forming sentence lists

The purpose of this specific phase of the study is to ensure that the lists of sentences that we want to use in this test are of equivalent difficulty when presented to normal hearing listeners. In order to form lists that will be equally intelligible, we need to test your performance on these materials.

You will be required to attend one testing session, which will last approximately one hour. At the beginning of the session, your hearing will be assessed. The task that you will be required to perform will involve listening to a number of short sentences which are made harder to understand by adding background noise. After listening to each sentence, you will be asked to repeat out loud as much of the sentence as you can. The level of the sentences will vary in relation to the noise.

These tests are perfectly safe and will in no way cause you any discomfort or harm. However, you may end the tests at any time and are free to discontinue participation in this study, including withdrawal of any information you have provided. There is the possible risk that the preliminary hearing assessment may reveal that you have a hearing loss. If this occurs, you will be entitled to a free diagnostic hearing test at the UC Speech and Hearing clinic.

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Participant questionnaire

Date of test: 

Name: 

What is your native language(s)?
- New Zealand English
- Other

What was the language in your household when you were a child?
- Native speakers of New Zealand English only
- One or more non-native speakers of New Zealand English
- Multilingual, including New Zealand English

What was the language in which you were educated?
- New Zealand English
- New Zealand English and Other
- Other

What is your highest level of education?
- Secondary
- Tertiary
- Postgraduate

Do you have difficulty understanding speech in noisy environments?
- Yes
- No

If you answered yes, please rate the difficulty on a scale of 1 to 7, where 1 = mild difficulty and 7 = severe difficulty.

Rating: 

Audiogram

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</tr>
</tbody>
</table>
Appendix 3
She waited at the back door
The woman dropped her keys
They all had to leave
We made a fire out of sticks
The waves crashed on the beach
Everyone sat on the bed
They swam in the river
The ducklings walked in a line
He looked at the rainbow
The boy slept in the warm sun
She tripped over her shoelaces
She tells me bedtime stories
We had lunch on the lawn
They drank the hot tea
The park was full of leaves
The moon shone brightly
We'll think of something
He looked but didn't speak
She screwed up her eyes
She wore a long brown dress
Her cheeks were bright red with cold
His mother wore a green scarf
The big man's shoes hurt him
Suddenly there was the sea
They caught five little fish
The family stopped to rest
Mum taught me to swim
The boy burst out laughing
The game finished early
Most of the logs were rotten
He called out to his daughter
His father hoped they would win
They waded out to the raft
The farmer yelled at the dogs
The slippers had holes in them
The spider made a web
A few cars went down the road
The man was very strong
The teacher sat in her chair
The kitten played with the string
The player lost his shoe
She forgot about the cake
The children laughed at the show
She's out walking the dog
They're not going anywhere
The boy played in the snow
She sat down on a rock
He's coming back for tea
Dad forgot to get the milk
My brother talks too much
She's thinking about Christmas
He found an old skipping rope
They heard the tui in the bush
We picked some daisies
She planted some seeds
The sun came out today
Class ran later than usual
It was time to get up
A book case crashed down
We took the long way home
Our old wooden house was small
The sun was getting hotter
The cleaner swept the floor
The girls stood to one side
We had to empty our plates
She's finishing her drink
He doesn't smile much
The children walked to school
She started her homework
They searched for the bag
The farmer cleaned his shoes
He's walking down to the shop
They ran back and forth
The smoke made him cough
Something landed in his lap
She'll get wet if she slips
She's going to catch him
You'll miss the show
The news came yesterday
The children stamped their feet
She climbed out of the hay
They had a lovely day
The knife cut the string
The bush rang with birdsong
She brushed the insects away
She stared across the garden
A seagull flew overhead
The grass is still damp
Grandad made him work hard
The grass is still damp
It's eating all the food
We can't pay our bill this month
The woman fell heavily
The doctor has a big bag
We don't know what to do
The clothes hang in the wardrobe
The breeze moved the curtains
The soldiers got off the train
The old man counted his coins
He found work on a boat
The boy drew a picture
She walked to the bus stop
She slipped on the path
The runner turned the corner
The guitar is out of tune
The fence was newly painted
He was too clever for them
He took off his hat
They chased the other children
She hurt her shoulder
She has to do the milking
The apples had black spots
The water is in the teapot
He wore his new pyjamas
The truck made a loud noise
There was no room for him
We hid behind the couch
She missed two days of school
The drive didn't take long
The dogs were in the paddock
They climbed the steep mountain
He kept the old lady talking

Sunshine came through the window
The waves lifted the boat
She pointed to the house
She could see the whales
People hurried down to the sea
The ferns were bright green
The rocks cut her feet
She had a handful of stones
They knew the place very well
After lunch they went walking
They washed their hands in the stream
She was allowed into the room
He wanted to stay longer
She brushed her hair quickly
The boat came close to the shore
She read five chapters
The chicken soup was hot
The woman boiled on the stove
Her uncle waved from the car
The tins were stacked high
The chickens were noisy
On Sunday morning it rained
They gathered around the fire
He's good at athletics
She asks hard questions
The woman read the paper
They learned two easy songs
She's upstairs in bed
The notice was worn away
Mum's ready for work now
They slept through the earthquake
The man saw lights on the lake
We'll set a good example
A lantern hangs on the porch
They filled three buckets
We're sorting out the dresses
The dog was whining
They all got out safely
The mist cleared for a moment
The others ate the soup
We'll take care of each other
They're a close family
The raft held together
There are no wrong answers
His foot was trapped in the hole
She ignored the alarm
They got a warm welcome
The little girl likes baking
He got punched in the face
He began to think clearly
Many people were missing
She moved on quickly
Someone came to the door
The volcano roared
The woman raised her voice
The washing dried in the sun
We could get a drink
They shared out the food
The hens scratched in the dirt
They found the girl inside
Mum was yawning and nodding
We had been awake for hours
It didn't surprise me at all
They drove inside the gate
Sheets hang on the washing line
Something hit me in the eye
They packed up the tent
They recorded her height
She looked down the hill
The train woke her up
The shop was empty
She tripped on the carpet
They cooked pikelets for tea
The cupboard was dusty
Her handbag was heavy
They listened to the news
The new teacher looks nervous
She cut up the broccoli
We don't have much time
She's too little for swimming
You're not supposed to be here
The hot soup burned her tongue
It's busy at the airport
You're not supposed to be here
She's too little for swimming
We don't have much time
She cut up the broccoli
The new teacher looks nervous
They listened to the news
Her handbag was heavy
They cooked pikelets for tea
The cupboard was dusty
They packed up the tent
Something hit me in the eye
Sheets hang on the washing line
They drove inside the gate
It didn't surprise me at all
We've both got the same shoes
We had been awake for hours
Mum was yawning and nodding
These people are very nice

We have to find a boat

My sister did the dishes

We should have cleaned it up

They won't be hard to find

He's not supposed to be here

They won't he hard to find

We should have cleaned it up

My sister did the dishes

We have to find a boat

These people are very nice
He headed further downstream

They held onto the rope

They watched the news on tv

There was just one problem
Appendix 4