# **Introduction**

## Overview of the thesis

## Theories of language comprehension

### Predictive language processing

## Speech degradation

## Comprehension of degraded speech

### Role of sentence context

### Effect of aging

## Research motivation

# **General methods**

## Stimulus sentences

## Speech processing

### Noise-vocoding

### Speech compression

## Measurement of language comprehension

# **General data collection**

* 1. Data collection in the laboratory and online data collection
  2. Experimental designs
  3. Online experiment hosting platform
  4. Recruiting participants online

# **General statistical approach**

* 1. Linear mixed effects modeling

# **Experiment 1: Predictability effects of degraded speech are reduced as a function of attention**

# **Experiment 2: Predictability facilitates comprehension of degraded speech in a graded manner**

* 1. Background
  2. Procedure
  3. Results
  4. Conclusion

# **Experiment 3: Predictability effects of degraded speech are reduced with an increase in rate of rate of flow of information**

# **Experiment 4: Predictability effects of degraded speech are reduced as a function of age**

# **Discussion**

## Attention as a prerequisite for contextual benefit

## Sensory adaptation – influence of higher level semantic feature on lower-level processing

## How to best measure language comprehension?

## Contextual facilitation: Temporal envelope cues and rate of flow of information

## Limitations

## **Conclusion and outlook**

# **References**

# **Appendices**

## Appendix A: Experimental materials

Introduction

* Xxx
* Research goals
* Contributions
* Overview
* Publications

Background

* Prediction in language comprehension
* Perception and comprehension of degraded speech
* Aging

General methods

* Experiment materials
  + Stimuli sentences
  + Speech processing
* Data collection
  + Online vs lab data collection
* General statistical approach
  + Linear mixed effects modeling

Experiment 1