

# On the waning of forms - a corpus-based analysis of losers in language change

Dr. Martin Schweinberger

slides available at

[www.martinschweinberger.de](http://www.martinschweinberger.de)

R code at

[https://github.com/MartinSchweinberger/isle6\\_vrynze/tree/master](https://github.com/MartinSchweinberger/isle6_vrynze/tree/master)



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*Acquisition, Variation, and Diachronic Change in and across English Amplifier Systems* (Schweinberger fcb, 2021a, 2020b,c, fca, 2021b, 2020d,e,a).

- (1) i believe they do a **very** good job (WSC#DGB009:0505:HA)
- (2) that was **really** cheap (WSC#DPC123:1255:VV)
- (3) that's **so** bad (WSC#DPC212:0105:TM)
- (4) and a lot of them are moving into an area which <,> has been **extremely** difficult to get networked (WSC#DGZ064:0855:DA)

This talk is an elaboration of Schweinberger (2021b).

Intensification is related to the semantic category of *degree* (degree adverbs) and ranges between very low intensity (downtoning) and very high (amplifiers) (Quirk et al. 1985: 589–590).

- Amplifiers (Tagliamonte 2008)
  - Boosters, e.g. *very*
  - (Maximizers, e.g. *completely*)
- Downtoners
  - Approximators, e.g. *almost*
  - Compromisers, e.g. *more or less*
  - Diminishers, e.g. *partly*
  - Minimizers, e.g. *hardly*

# Why analyze adjective amplification?

- Amplification is major area of grammatical change  
(cf. Brinton and Arnovick 2006: 441)
- Amplification is crucial for the “social and emotional expression of speakers” (Ito and Tagliamonte 2003: 258)  
→ interesting for studies of social identity construction and identity marking
- Amplification is a linguistic subsystem which allows precise circumscription of a variable context (Labov 1972, 1966: 49)

Amplification represents an ideal case for testing mechanisms underlying language change!

## Previous Research

# Previous Research

## Amplification

- substantial amount of corpus-based research on intensification (e.g. Aijmer 2011, 2018; Fuchs 2016, 2017; Núñez Pertejo and Palacios 2014; Palacios and Núñez Pertejo 2012)  
→ but mostly either focused on individual intensifiers or without regard to the intensified adjectives
- recently amplifier-adjective bigrams have come more into focus (e.g. Schweinberger 2017; Wagner 2017a,b)
- focus on incoming variants rather than receding forms  
(notable exceptions are D'Arcy 2015; Schweinberger 2021b; Tagliamonte 2008)

# Previous Research

- Intensifying *really* replaces *very* (lexical replacement)  
(e.g. D'Arcy 2015; Ito and Tagliamonte 2003; Tagliamonte 2005, 2008)
- Previous study of intensification in NZE (D'Arcy 2015; Bauer and Bauer 2002)

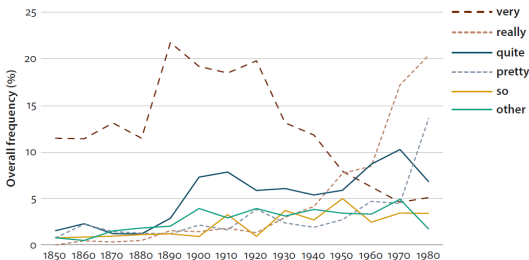


Figure 1: Adapted from D'Arcy (2015: 468)

# Previous Research

“The dramatic expansion of *very* weakened its ability to amplify an adjectival head, necessitating a new form[...]: *very* lost its pragmatic strength and *really* was recruited in its place.” D’Arcy (2015: 468)

- *really* (D’Arcy 2015: 481)

Correlated with speaker age, syntactic function, and gender among speakers born between 1932 and 1980.

→ increase accompanied by intra- and extra-linguistic stratification (ordered heterogeneity) (Weinreich et al. 1968: 100)

- *very* (D’Arcy 2015: 480)

Correlated with only adjective type (gradable vs non-gradable) and age of speakers among speakers born between 1932 and 1980.



# Research Question(s)

Does the retreat of *very* mirror the trajectory of *really*?

Does loss also proceed in a systematic and ordered manner?

# Data and Methodology

# Wellington Corpus of Spoken New Zealand English (WSC)

One-million-word corpus of transcribed English compiled between 1988 and 1994 (Holmes et al. 1998)

- Formal Speech/Monologue 12
- Semi-formal Speech/Elicited Monologue 13
- Informal Speech/Dialogue 75

Accompanied by metadata and biodata of speaker (relevant resource for variationist analyses)

# Data Processing

## Data processing in RStudio (Allaire 2012)

- WSC (Holmes et al. 1998)
- Part-of-speech tagged (Hornik 2019)
- Retrieved adjectives (PoS-tag JJ)
- Determined whether adjective were preceded by an amplifier (member of a predefined set of amplifiers)
- Automated spell-checking (Ooms 2020)
- Checked pos-tagging (Straka and Straková 2017)
- Implemented a Sentiment Analysis of adjective types (emotional vs non-emotional) (Silge and Robinson 2016)

# Data Processing

- Calculated logged and scaled frequency of adjectives per age group
- Determined if the same amplifier type had occurred within a span of three adjective slots previously (→ priming)
- Added gradability scores (likelihood of occurring in comparative contexts)
- Semantic classification of adjectives (Dixon 1977; D'Arcy 2015; Tagliamonte and Roberts 2005; Tagliamonte 2006, 2008)

# Data Processing

- Removed...
  - negated adjectives
  - comparative and superlative forms
  - adjectives that were not amplified by at least two different amplifier types
  - adjectives that were preceded by downtoners
  - strange forms (e.g. *much*)
- Manual cross-evaluation of automated classification
- Metadata ((Text-)Type and speaker information(age, sex))

# Variable Coding

Dependent Variable(s)			
very	nominal	yes/no occurrence of pre-adjectival	very
Independent Variable(s)			
Age	categorical	16-29   30-39   40+	extra linguistic
Ethnicity	categorical	Maori   Other   Pakeha	
Type	categorical	Formal   Private   Public	
Gender	nominal	Woman   Man	
Priming	nominal	Primed   NotPrimed	
L1	nominal	English   Other	intra linguistic
Emotionality	nominal	positive   non-emotional   negative	
Function	nominal	attributive   predicative	
SemanticCategory	categorical	semantic category of adj.	
Gradability	numeric	logged scaled probability of gradability	
Adjective	categorical	420 adj. types	intra linguistic
Frequemcy	numeric	logged + scaled frequency of adj. by age	

# Statistical Analysis

Conditional Inference Tree (Hothorn et al. 2015)

- to check which variable levels can be collapsed

Boruta (Kursa et al. 2010)

- to check which variables to include in the regression modeling

Mixed-effect binomial logistic regression (Bates et al. 2014)

- to inspect the size and direction of effects



# Results

# Data Overview

Amplification	N	%	Variants (%)
∅ Amplification	15,229	86.66	
really	851	4.84	36.31
very	647	3.68	27.60
so	277	1.58	11.82
pretty	241	1.37	10.28
real	59	0.34	2.52
totally	29	0.17	1.24
absolutely	28	0.16	1.19
bloody	22	0.13	0.94
completely	19	0.11	0.81
extremely	18	0.10	0.77
particularly	14	0.08	0.60
fucking	13	0.07	0.55
incredibly	12	0.07	0.51
others (<10)	114	0.65	4.86
<b>Total</b>	<b>17,573 (2,344)</b>	<b>100 (13.3)</b>	<b>100</b>

Table 1: Overview of amplifier frequencies and percentages in the final data set.

# Data Overview

Age	Sex	Speakers (N)	Adj. (N)	very (N)	very (%)
16-19	Man	39	116	22	18.97
16-19	Woman	50	224	14	6.25
20-29	Man	92	359	73	20.33
20-29	Woman	152	589	57	9.68
30-39	Man	50	123	38	30.89
30-39	Woman	54	197	57	28.93
40-49	Man	56	169	83	49.11
40-49	Woman	74	245	112	45.71
50-59	Man	35	104	61	58.65
50-59	Woman	33	104	68	65.38
60+	Man	16	58	37	63.79
60+	Woman	18	56	25	44.64
<b>Total</b>		669	2,344	647	36.86

Table 2: Overview of adjective and *really* frequencies and percentages by age and gender in the final data set.

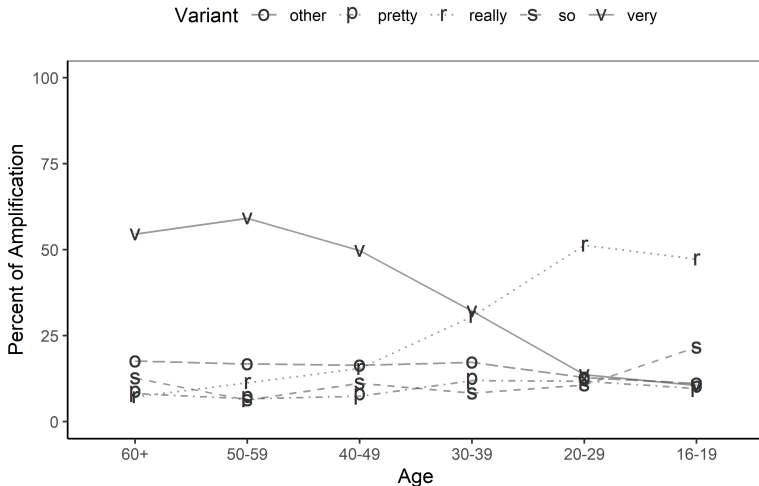


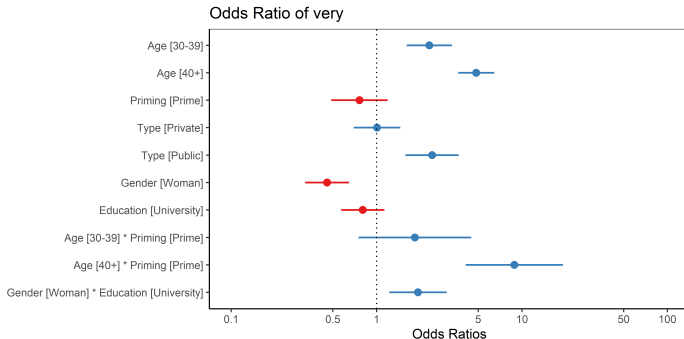
Figure 3: Percent of Amplifier Variants in Amplified Pre-Adjectival Slots across Syntactic Function.

# Mixed-Effects Binomial Logistic Regression

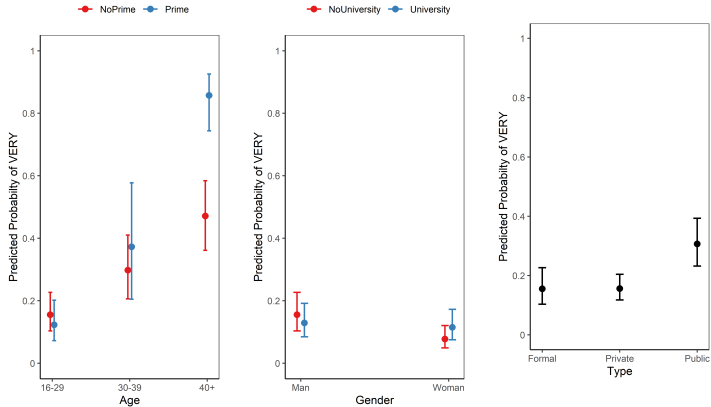
	Intercept-only Model	Age-only Model	Final Minimal Model
Predictors	Odds Ratios	Odds Ratios	Odds Ratios
(Intercept)	0.03*** (0.02 – 0.04)	0.02*** (0.01 – 0.02)	0.01*** (0.01 – 0.02)
Age30-39		1.55** (1.18 – 2.04)	1.56** (1.15 – 2.11)
Age [40+]		2.98*** (2.44 – 3.64)	2.62*** (2.07 – 3.32)
Priming:Prime			4.25*** (2.72 – 6.64)
Type:Private			1.48* (1.09 – 2.00)
Type:Public			2.05*** (1.50 – 2.81)
Gender:Woman			0.69* (0.51 – 0.92)
Education:Univ.			0.83 (0.64 – 1.08)
Age:30-39::Priming:Prime			3.02* (1.23 – 7.39)
Age:40+::Priming:Prime			23.06*** (10.25 – 51.88)
Gender:Woman::Education:Univ.			1.66** (1.15 – 2.39)
Random Effects			
$\sigma^2$	3.29	3.29	3.29
$\tau_{00}$	3.34 Adjective	3.21 Adjective	2.69 Adjective
ICC	0.50	0.49	0.45
N	472 Adjective	472 Adjective	472 Adjective
Observations	17573	17573	17573
Marginal $R^2$ , Conditional $R^2$	0.000, 0.504	0.037, 0.512	0.068, 0.487
C		0.881	0.897
$D_{xy}$		0.763	0.793
Accuracy (NIR)		0.807 (0.724)	0.797 (.724)

$p < .05^*$ ,  $< .01^{**}$ ,  $< .001^{***}$  (Lüdtke 2021)

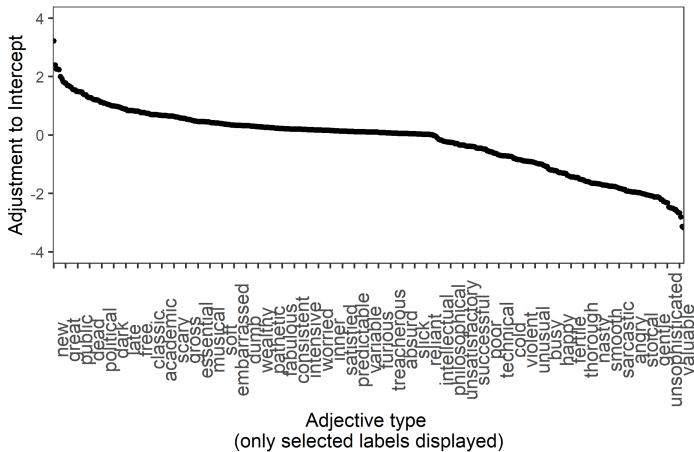
# Random-Effects



# Fixed-Effects

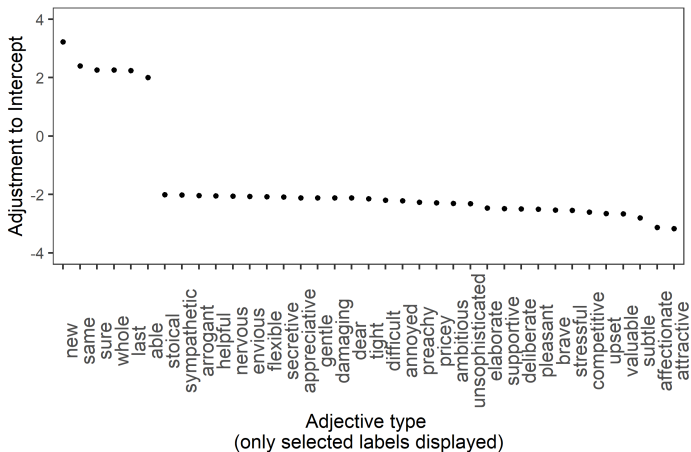


# Varying Intercepts





# Varying Intercepts



## Discussion & Outlook

# Summary

Analysis shows that *very* is

- used predominantly by older speakers and in public discourse
- rejected by younger speakers and in private as well as in formal contexts.

The use of *very* collocates with several extra-linguistic factors but the impact of these factors is limited.

# Discussion

## Waning of *very*: ***ruins of stratification***

- no intra-linguistic variability weak social stratification (the obvious exception is age).
- motivated by functional factors (lack of expressivity).
- selected adjectives prefer *very* as their default amplifier (see pos. adjustments to intercepts).
- Effect of genre (Type): while loosing ground to rival variants - *very* more stable in certain registers (public discourse) → lack of social meaning.

## **Waning not symmetric to waxing (accompanied by substantive social and linguistic stratification)**

# Things to be noted

## A few words on effect size

- Discussion between Adam Kilgarriff and Stefan Gries (Kilgarriff 2005; Gries 2005): with large N everything becomes significant (check effect size!)

Checking effect size does not really help in the present case because when dealing with low probabilities, Odds Ratios can become large very easily: 1/100,000 to 10/100,000 would have and OddsRatio of 10! (although the effect is still super weak)

# Outlook

Questions we may want to discuss. . .

How weak do effects have to be to be meaningless?

Do we have a problem with overpowered studies?

Cut-off for effect size? Rather not. . .

Thank you so, really, very much!

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