

A Sociolinguistic Analysis of Emotives in Irish English

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New Perspectives on Irish English 5

Introduction

- ▶ Communicating one's emotional state is a core element of language.
- ▶ Almost no corpus-based research on how speakers convey their emotions to others or on sociolinguistic differences in emotional language.
- ▶ Existing research on the verbalization of emotion is typically related to
 - ▶ subjectivity (Langacker 1985; Lyons 1981);
 - ▶ expression of stance (cf. e.g. Goodwin et al. 2012);
 - ▶ conceptual metaphor theory (cf. e.g. Kövecses 2003; Meier and Robinson 2005);
 - ▶ componential analysis (Wierzbicka 1992)

Introduction

- ▶ Synchronic quantitative corpus-based study of emotives in Irish English based on the Irish component of ICE Ireland 1.2.2 (Kirk and Kallen 2008).
- ▶ Emotives are words associated with one of eight core emotions (ANGER, ANTICIPATION, DISGUST, FEAR, JOY, SADNESS, SURPRISE, TRUST) (cf. Ekman 1992; Plutchik 1980) (cf. (1))
 - (1) a. SADNESS: *cry, tragedy*, etc.
b. JOY: *happy, beautiful*, etc.
c. ANGER: *fit, burst*, etc.
- ▶ The present study analyses correlations between emotive use and extra-linguistic factors.

Sentiment Analysis

- ▶ Application of a sentiment analysis to code for emotional language use of socially distinct groups
- ▶ Widely used by companies to track the public reception of products/to check for potential issues or problems
- ▶ Core technique in computational linguistics (Feldman 2013; Liu and Zhang 2012; Younis 2015)
- ▶ First core linguistic studies utilizing this method (Hoffmann 2017; Joyce and Deng 2018)
- ▶ Inter-subjective and replicable coding of emotion (advantage)

Emotions and language

- ▶ Women talk more emotional than men (Aldrich and Tenenbaum 2006; Coates 2015; Lakoff 1973; Tannen 1994; Wolf 2000)
- ▶ Women talk more about emotions (Goldshmidt and Weller 2000)
- ▶ Women report being more emotionally expressive (Bronstein et al. 1996; Brebner 2003)
- ▶ Gender specific effects
 - ▶ Women being and expressing sadness more than men (Grossman and Wood 1993)
 - ▶ Girls report more frequent sadness compared to male peers (Brody 1984; Stapley and Haviland 1989).
 - ▶ Boys express anger more readily than girls (Brody 1984).

Hypotheses

- ▶ H_A
Women show the highest frequencies of emotives compared with men (Aldrich and Tenenbaum 2006; Coates 2015)
- ▶ H_B
Women show the highest frequencies of overall and positive emotives (JOY) compared with men
- ▶ H_C
Men use higher frequencies of negative emotives (ANGER) compared with women (Brody 1984)
- ▶ H_D
Men adapt to women in mixed-gender conversations (cf. Wolf 2000)

Data (Processing)

The Irish component of the *International Corpus of English* (ICE) (Kirk and Kallen 2008)

- ▶ Split spoken dialogue data into utterances
- ▶ Removal of meta information
- ▶ Part-of-speech tagging
 - ▶ PoS-tagging via tidytext library in R
 - ▶ Problem: Accuracy of PoS-tagging not yet evaluated
- ▶ Split spoken data data into words
- ▶ Removing stop words (non-lexical function words)
- ▶ Apply Sentiment Analysis (determine emotional value of adjectives)
- ▶ Add speaker information (age, sex, etc.) (Kallen and Kirk 2008).

Data

Age	Gender	Speakers	Words	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust
19-25	female	151	30,794	550	1368	431	732	1,132	736	580	1,357
19-25	male	61	9,451	169	406	130	221	325	215	196	413
26-33	female	71	13,279	212	604	184	311	488	276	225	551
26-33	male	19	4,873	138	221	68	224	134	182	89	308
34-49	female	48	8,700	138	369	103	265	341	193	165	511
34-49	male	74	14,156	328	649	183	532	399	396	238	1,031
50+	female	54	13,355	184	641	142	313	569	294	274	686
50+	male	86	16,608	427	748	236	566	425	450	271	1,056
Total		570	111,216	2,146	5,006	1,477	3,164	3,813	2,742	2,038	5,913

Statistical analysis

Mixed effects binomial logistic regression
(step-wise step-up fitted)

Independent variables (predictors)			
Random intercepts			
Variable	Scale	Levels	Description
txtspk	categorical	S1A-001A : S1B – 080P	Individual speaker
pos	categorical	adj (adjective); nnp (noun); vbf (verb); other	Part-of-speech
Fixed effects			
Variable	Scale	Levels	Description
age	categorical	19-25; 26-33; 34-49; 50+	Age of speaker
sex	nominal	female; male	Gender of speaker
smsx	nominal	same; mixed	Same- or mixed-sex conversation
pripub	nominal	private; public	Conversation setting
ints	categorical	1, 2-3, 4-5, 6+	Audience size
pos	categorical	adj (adjective); nnp (noun); vbf (verb); other	Part-of-speech

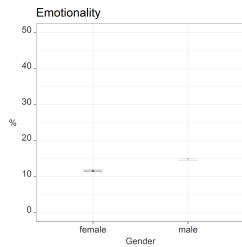
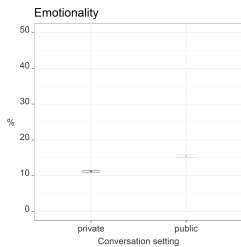
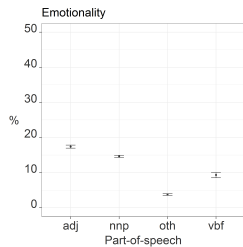
Statistical analysis

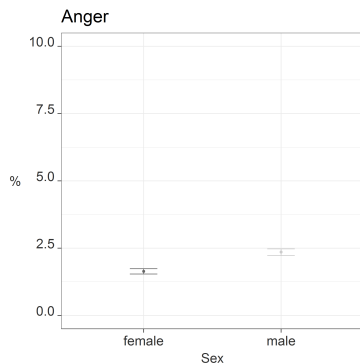
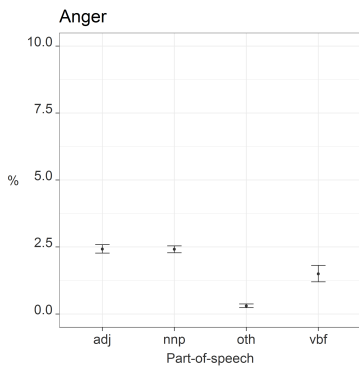
Mixed effects binomial logistic regression
(step-wise step-up fitted)

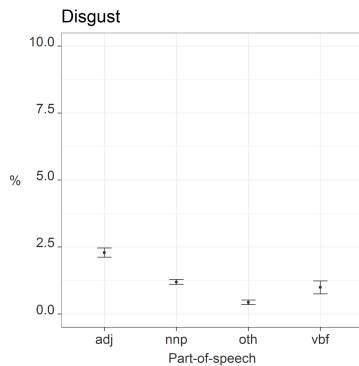
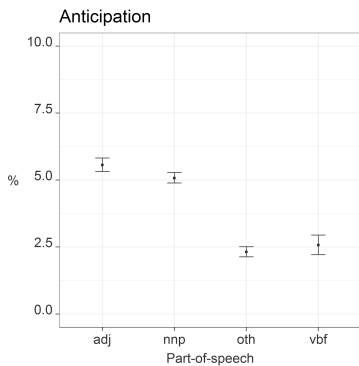
			Dependent variables
emosum	nominal	0;1	Word is associated with at least one basic emotion
anger	nominal	0;1	Word is associated with anger
anticipation	nominal	0;1	Word is associated with anticipation
disgust	nominal	0;1	Word is associated with disgust
fear	nominal	0;1	Word is associated with fear
joy	nominal	0;1	Word is associated with joy
sadness	nominal	0;1	Word is associated with sadness
surprise	nominal	0;1	Word is associated with surprise
trust	nominal	0;1	Word is associated with trust

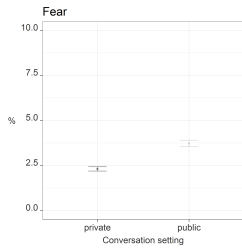
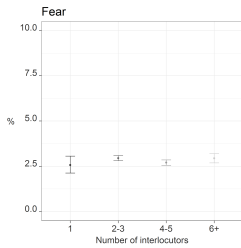
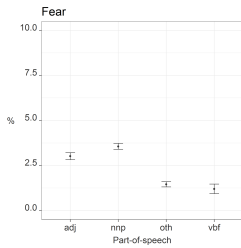
RESULTS

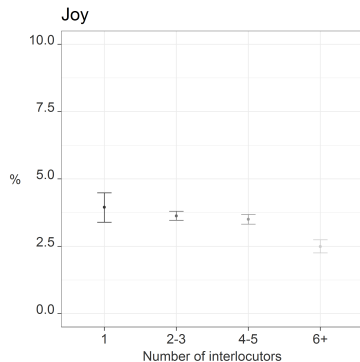
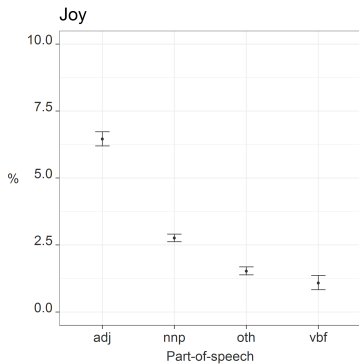
(STAT. SIG.)

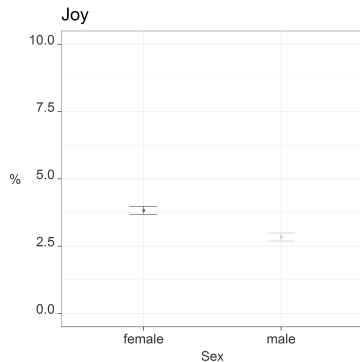
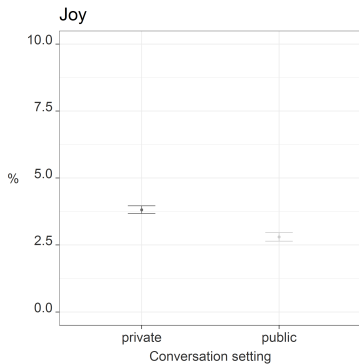


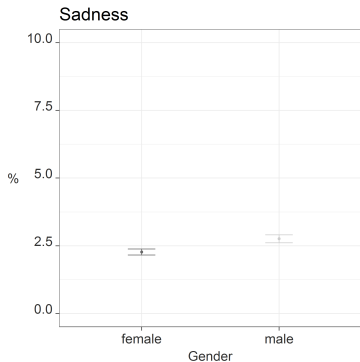
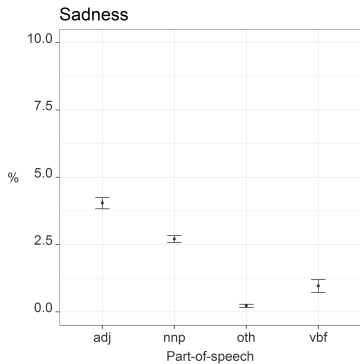


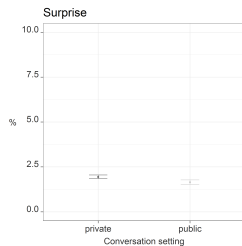
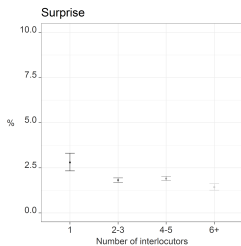
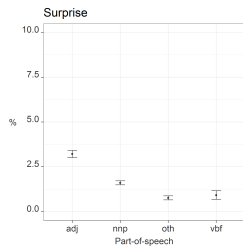


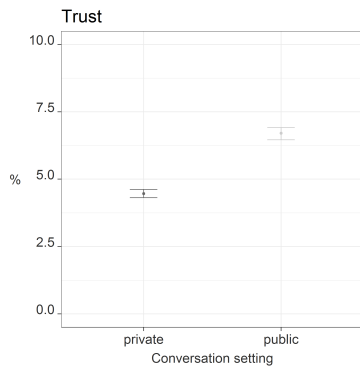
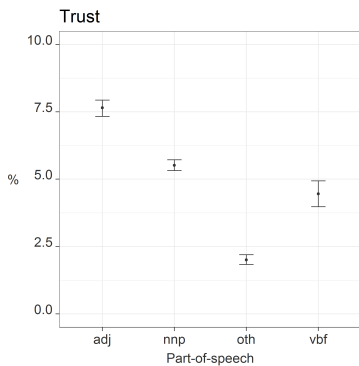


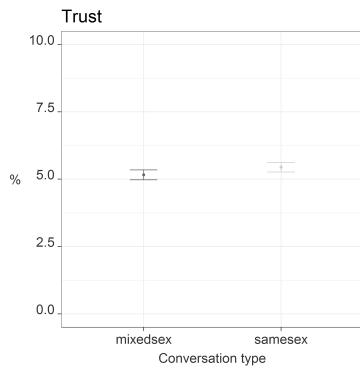
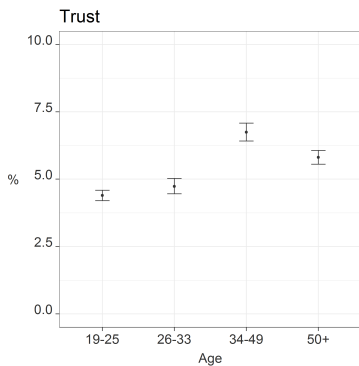












Overview

Predictor	Emosum	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust
pos	✓	✓	✓	✓	✓	✓	✓	✓	✓
pripub	✓	-	-	-	✓	✓	-	✓	✓
sex	✓	✓	-	-	-	✓	✓	-	-
ints	-	-	-	-	✓	✓	-	-	-
age	-	-	-	-	-	-	-	-	✓
smsx	-	-	-	-	-	-	-	-	(✓)
interactions	-	-	-	-	-	-	-	-	-

Findings

- ▶ Adjectives, in particular, and nouns used to express emotionality
- ▶ Men use more emotives compared with women (contrary to H_A)
- ▶ People use more emotives in public settings
- ▶ Previous research substantiated
 - ▶ Boys express anger more readily than girls (Brody 1984)
→ Men use more anger emotives (H_C substantiated)
- ▶ Findings at odds with previous research
 - ▶ Women express sadness more readily than men (Goodwin et al. 2012) → Men use more sadness emotives

Findings

- ▶ Women use more joy-emotives while men use more anger- and sadness-emotives (H_B and H_C substantiated)
- ▶ Speakers use more trust emotives in same-gender conversations regardless of sex
- ▶ The older speakers become, the more trust emotives they use
- ▶ While overall emotionality is associated with public rather than private settings, surprise emotives are used more in private settings
- ▶ No significant interactions (contrary to H_D)

Discussion

Problems

- ▶ Sentiment analysis very coarse-grained
- ▶ Focus on lexemes while ignoring/neglecting...
 - ▶ Negation
 - ▶ Context
 - ▶ Fixed expressions

Advantages

- ▶ Results and studies are replicable
- ▶ It works on large scale data sets

Still, one of the first applications of sentiment analysis to an investigation of social stratification of linguistic phenomena.

☹ Thanks ☺

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