# INDIVIDUAL VARIATION IN ATTITUDES TOWARDS PRODUCTIVITY/GRAMMATICAL CREATIVITY

Anouk Van den Stock
Supervisors: Timothy Colleman & Anne-Sophie Ghyselen

LinGhentian Doctorials 15/12/2021

UNIVERSITEIT
GENT

# CONTENTS

UNIVERSITEIT
GENT

# CONTENTS

## 1. PRODUCTIVITY~CREATIVITY

UNIVERSITEIT
GENT

# 1. PRODUCTIVITY~CREATIVITY

## Construction Grammar

Construction (cx) = form-meaning pairing

$\rightarrow$ e.g. the *way*-cx

| CONSTRUCTION: Messi **vocht** zich een weg naar het doel | FORM: SUBJ V REFL *een weg* PREP.PHRASE | MEANING: SUBJ creates a path and travels it while $V^{ing}$, despite obstacles |

# 1. PRODUCTIVITY~CREATIVITY

Construction Grammar

Construction (cx) = form-meaning pairing

→ e.g. the *way*-cx

→ Constructions can be **extended**

**CONVENTIONAL**
High token frequency

**UNCONVENTIONAL**
Hapax

Messi **baande/vocht/zocht** zich een weg naar het doel

Messi **vond/schoot/knokte/ drong/wurmde/dribbelde** zich een weg naar het doel

Messi **forceerde/bombardeerde/ elleboogde/stuntelde/vloekte** zich een weg naar het doel

# 1. PRODUCTIVITY~CREATIVITY

## Productivity

= "a construction's ability to attract new or existing lexical items, i.e. a construction's extensibility" (Barðdal 2008: 1)

= a constrained form of creativity (Goldberg 2019)

CREATIVITY
PRODUCTIVITY

**CONVENTIONAL**
High token frequency

**UNCONVENTIONAL**
Hapax

Messi **baande/vocht/zocht** zich een weg naar het doel

Messi **vond/schoot/knokte/ drong/wurmde/dribbelde** zich een weg naar het doel

Messi **forceerde/bombardeerde/ elleboogde/stuntelde/vloekte** zich een weg naar het doel

# CONTENTS

UNIVERSITEIT
GENT

# 2. MOTIVATION

Creativity  =    property of the speaker

　　　　　　　　NOT of the language (Zawada 2006)

→ individual variation

    – Degree of creativity: personal variables (Hoffmann 2018)

    – Usage-based linguistics: personal experience

# 2. MOTIVATION

However…

Current research into productivity: (Verhagen 2019)

- Corpus-based: language user? Individual variation?
- Experimental: individual variation?

# CONTENTS

UNIVERSITEIT
GENT

# 2. RESEARCH DESIGN

## GOAL

A) Effects of **linguistic** variables on the acceptability of

creative instances of a cx

    I.    Construction: type frequency + semantic coherence

    II.  Item: token frequency + lemma frequency + semantic compatibility

    III. External: English counterpart

RQ1:
Can we find evidence for the role of the following variables as linguistic determinants for productivity in acceptability data?

UNIVERSITEIT
GENT

# 2. RESEARCH DESIGN

GOAL

B) Effects of **user-related** variables on the acceptability of creative instances of a cx

    I.    'Prototypical' sociolinguistic variables

    II.   Personality traits

    III.  Cognitive abilities

RQ2 + RQ3:

Individual variation?

- inter-individual (between-participants)
- intra-individual (within-participants)

UNIVERSITEIT
GENT

# 2. RESEARCH DESIGN

## METHOD (general)

He has him a new car. *[test]*

○ 1 - totally unacceptable, even in informal settings
○ 2
○ 3
○ 4
○ 5 - totally acceptable

Productivity:

&mdash; Acceptability rating 7-point Likert scale

&mdash; Conventional vs. creative vs. unattested instances of different cx

Native speakers of Dutch:

&mdash; Sociobiographic questionnaire

&mdash; Personality test

&mdash; Measure cognitive skill

CREATIVITY
PRODUCTIVITY

**CONVENTIONAL**
*High token frequency*

**UNCONVENTIONAL**
*Hapax*

Messi **baande/vocht/zocht** zich een weg naar het doel

Messi **vond/schoot/knokte/ drong/wurmde/dribbelde** zich een weg naar het doel

Messi **forceerde/bombardeerde/ elleboogde/stuntelde/vloekte** zich een weg naar het doel

# 2. RESEARCH DESIGN

## METHOD (first experiment)

– Large-scale internet survey

– 2 constructions:

→ Corpus data

| CONSTRUCTION | EXAMPLE | PRODUCTIVITY | EXPRESSIVITY | ENGLISH |
|---|---|---|---|---|
| **Way-cx** | Messi dribbelde/vocht/wurmde/beukte zich een weg naar het doel. | + | + | + |
| *Krijgen*-passive | Messi kreeg de bal aangeboden/toegespeeld/toevertrouwd/voorgeschoteld. | - | - | - |

UNIVERSITEIT GENT

# 2. RESEARCH DESIGN

| Werkwoord | Frequentie | | | | |
|-----------|-----------|-----------|---|-----------|---|
| Banen | 1178 | Dringen | 4 | Achtbanen | 1 |
| Zoeken | 135 | Eten | 4 | Antwoorden | 1 |
| Vechten | 69 | Schoppen | 4 | Beledigen | 1 |
| Vreten | 33 | Slingeren | 4 | Blauwbekken | 1 |
| Boren | 14 | Wringen | 4 | Bombarderen | 1 |
| Schieten | 14 | Beuken | 3 | Bouwen | 1 |
| Hakken | 13 | Bijten | 3 | Breken | 1 |
| Knokken | 12 | Brullen | 3 | Brommen | 1 |
| Graven | 10 | Knagen | 3 | Cijferen | 1 |
| Vinden | 8 | Ploeteren | 3 | Claxonneren | 1 |
| Worstelen | 8 | Schreeuwen | 3 | Combineren | 1 |
| Wurmen | 8 | Slalommen | 3 | Drinken | 1 |
| Dribbelen | 7 | Springen | 3 | Drukken | 1 |
| Kappen | 7 | Verschaffen | 3 | Drummen | 1 |
| Klikken | 6 | Werken | 3 | Ellebogen | 1 |
| Kronkelen | 6 | Wroeten | 3 | Fietsen | 1 |
| Ploegen | 6 | Zingen | 3 | Forceren | 1 |
| Slaan | 6 | Bikkelen | 2 | Fouilleren | 1 |
| Bluffen | 5 | Blunderen | 2 | Gokken | 1 |
| Branden | 5 | Boksen | 2 | Grommen | 1 |
| Dansen | 5 | Duwen | 2 | Hacken | 1 |
| | | Flirten | 2 | Hameren | 1 |
| | | Knippen | 2 | Hoesten | 1 |

| Werkwoord | Frequentie |
|---|---|
| **Banen** | **1178** |
| Zoeken | 135 |
| Vechten | 69 |
| Vreten | 33 |
| Boren | 14 |
| Schieten | 14 |
| Hakken | 13 |
| Knokken | 12 |
| Graven | 10 |
| Vinden | 8 |
| Worstelen | 8 |
| Wurmen | 8 |
| Dribbelen | 7 |
| Kappen | 7 |
| Klikken | 6 |
| Kronkelen | 6 |
| Ploegen | 6 |
| Slaan | 6 |
| Bluffen | 5 |
| Branden | 5 |
| Dansen | 5 |

| | |
|---|---|
| Dringen | 4 |
| Eten | 4 |
| Schoppen | 4 |
| Slingeren | 4 |
| Wringen | 4 |
| Beuken | 3 |
| Bijten | 3 |
| Brullen | 3 |
| Knagen | 3 |
| Ploeteren | 3 |
| Schreeuwen | 3 |
| Slalommen | 3 |
| Springen | 3 |
| Verschaffen | 3 |
| Werken | 3 |
| Wroeten | 3 |
| Zingen | 3 |
| Bikkelen | 2 |
| Blunderen | 2 |
| Boksen | 2 |
| Duwen | 2 |
| Flirten | 2 |
| Knippen | 2 |

| | |
|---|---|
| Achtbanen | 1 |
| Antwoorden | 1 |
| Beledigen | 1 |
| Blauwbekken | 1 |
| Bombarderen | 1 |
| Bouwen | 1 |
| Breken | 1 |
| Brommen | 1 |
| Cijferen | 1 |
| Claxonneren | 1 |
| Combineren | 1 |
| Drinken | 1 |
| Drukken | 1 |
| Drummen | 1 |
| Ellebogen | 1 |
| Fietsen | 1 |
| Forceren | 1 |
| Fouilleren | 1 |
| Gokken | 1 |
| Grommen | 1 |
| Hacken | 1 |
| Hameren | 1 |
| Hoesten | 1 |

# 2. RESEARCH DESIGN

| Werkwoord | Frequentie | | | | |
|---|---|---|---|---|---|
| Banen | 1178 | Dringen | 4 | Achtbanen | 1 |
| Zoeken | 135 | Eten | 4 | Antwoorden | 1 |
| Vechten | 69 | Schoppen | 4 | Beledigen | 1 |
| Vreten | 33 | Slingeren | 4 | Blauwbekken | 1 |
| Boren | 14 | Wringen | 4 | Bombarderen | 1 |
| Schieten | 14 | Beuken | 3 | Bouwen | 1 |
| Hakken | 13 | Bijten | 3 | Breken | 1 |
| Knokken | 12 | Brullen | 3 | Brommen | 1 |
| Graven | 10 | Knagen | 3 | Cijferen | 1 |
| Vinden | 8 | Ploeteren | 3 | Claxonneren | 1 |
| Worstelen | 8 | Schreeuwen | 3 | Combineren | 1 |
| Wurmen | 8 | Slalommen | 3 | Drinken | 1 |
| Dribbelen | 7 | Springen | 3 | Drukken | 1 |
| Kappen | 7 | Verschaffen | 3 | Drummen | 1 |
| Klikken | 6 | Werken | 3 | Ellebogen | 1 |
| Kronkelen | 6 | Wroeten | 3 | Fietsen | 1 |
| Ploegen | 6 | Zingen | 3 | Forceren | 1 |
| Slaan | 6 | Bikkelen | 2 | Fouilleren | 1 |
| Bluffen | 5 | Blunderen | 2 | Gokken | 1 |
| Branden | 5 | Boksen | 2 | Grommen | 1 |
| Dansen | 5 | Duwen | 2 | Hacken | 1 |
| | | Flirten | 2 | Hameren | 1 |
| | | Knippen | 2 | Hoesten | 1 |

# 2. RESEARCH DESIGN

| Werkwoord | Frequentie |
|---|---|
| Banen | 1178 |
| Zoeken | 135 |
| Vechten | 69 |
| Vreten | 33 |
| Boren | 14 |
| Schieten | 14 |
| Hakken | 13 |
| Knokken | 12 |
| Graven | 10 |
| Vinden | 8 |
| Worstelen | 8 |
| Wurmen | 8 |
| Dribbelen | 7 |
| Kappen | 7 |
| Klikken | 6 |
| Kronkelen | 6 |
| Ploegen | 6 |
| Slaan | 6 |
| Bluffen | 5 |
| Branden | 5 |
| Dansen | 5 |

| | |
|---|---|
| Dringen | 4 |
| Eten | 4 |
| Schoppen | 4 |
| Slingeren | 4 |
| Wringen | 4 |
| Beuken | 3 |
| Bijten | 3 |
| Brullen | 3 |
| Knagen | 3 |
| Ploeteren | 3 |
| Schreeuwen | 3 |
| Slalommen | 3 |
| Springen | 3 |
| Verschaffen | 3 |
| Werken | 3 |
| Wroeten | 3 |
| Zingen | 3 |
| Bikkelen | 2 |
| Blunderen | 2 |
| Boksen | 2 |
| Duwen | 2 |
| Flirten | 2 |
| Knippen | 2 |

| | |
|---|---|
| Achtbanen | 1 |
| Antwoorden | 1 |
| Beledigen | 1 |
| Blauwbekken | 1 |
| Bombarderen | 1 |
| Bouwen | 1 |
| Breken | 1 |
| Brommen | 1 |
| Cijferen | 1 |
| Claxonneren | 1 |
| Combineren | 1 |
| Drinken | 1 |
| Drukken | 1 |
| Drummen | 1 |
| Ellebogen | 1 |
| Fietsen | 1 |
| Forceren | 1 |
| Fouilleren | 1 |
| Gokken | 1 |
| Grommen | 1 |
| Hacken | 1 |
| Hameren | 1 |
| Hoesten | 1 |

# 2. RESEARCH DESIGN

| Werkwoord | Frequentie |
|-----------|------------|
| Banen | 1178 |
| Zoeken | 135 |
| Vechten | 69 |
| Vreten | 33 |
| Boren | 14 |
| Schieten | 14 |
| Hakken | 13 |
| Knokken | 12 |
| Graven | 10 |
| Vinden | 8 |
| Worstelen | 8 |
| Wurmen | 8 |
| Dribbelen | 7 |
| Kappen | 7 |
| Klikken | 6 |
| Kronkelen | 6 |
| Ploegen | 6 |
| Slaan | 6 |
| Bluffen | 5 |
| Branden | 5 |
| Dansen | 5 |

| | |
|---|---|
| Dringen | 4 |
| Eten | 4 |
| Schoppen | 4 |
| Slingeren | 4 |
| Wringen | 4 |
| Beuken | 3 |
| Bijten | 3 |
| Brullen | 3 |
| Knagen | 3 |
| Ploeteren | 3 |
| Schreeuwen | 3 |
| Slalommen | 3 |
| Springen | 3 |
| Verschaffen | 3 |
| Werken | 3 |
| Wroeten | 3 |
| Zingen | 3 |
| Bikkelen | 2 |
| Blunderen | 2 |
| Boksen | 2 |
| Duwen | 2 |
| Flirten | 2 |
| Knippen | 2 |

| | |
|---|---|
| Achtbanen | 1 |
| Antwoorden | 1 |
| Beledigen | 1 |
| Blauwbekken | 1 |
| Bombarderen | 1 |
| Bouwen | 1 |
| Breken | 1 |
| Brommen | 1 |
| Cijferen | 1 |
| Claxonneren | 1 |
| Combineren | 1 |
| Drinken | 1 |
| Drukken | 1 |
| Drummen | 1 |
| Ellebogen | 1 |
| Fietsen | 1 |
| Forceren | 1 |
| Fouilleren | 1 |
| Gokken | 1 |
| Grommen | 1 |
| Hacken | 1 |
| Hameren | 1 |
| Hoesten | 1 |

# CONTENTS

UNIVERSITEIT
GENT

# 4. USER-RELATED VARIABLES

A. Socio-biographic

→ questionnaire

– Age

– Gender

– Education

– Mobility/Language contact

– Multilingualism: knowledge of English/other languages

UNIVERSITEIT
GENT

# 4. USER-RELATED VARIABLES

## B. Personality

→ Big Five personality test (BFI-2; Soto & John 2017)

1. Extraversion
2. Openness
3. Agreeableness
4. Conscientiousness
5. Neuroticism

*I am someone who . . .*

| Disagree strongly | Disagree a little | Neutral; no opinion | Agree a little | Agree strongly | Statement |
|---|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ | 1. Is outgoing, sociable. |
| ○ | ○ | ○ | ○ | ○ | 2. Is compassionate, has a soft heart. |
| ○ | ○ | ○ | ○ | ○ | 3. Tends to be disorganized. |
| ○ | ○ | ○ | ○ | ○ | 4. Is relaxed, handles stress well. |
| ○ | ○ | ○ | ○ | ○ | 5. Has few artistic interests. |

UNIVERSITEIT GENT

## B. Personality

→ Big Five personality test (BFI-2; Soto & John 2017)

1. Extraversion
2. Openness
3. Agreeableness
4. Conscientiousness
5. Neuroticism



UNIVERSITEIT
GENT

# 4. USER-RELATED VARIABLES

## B. Personality

→ Big Five personality test (BFI-2; Soto & John 2017)

1. Extraversion
2. Openness
3. Agreeableness
4. ? Conscientiousness
5. ?? Neuroticism

= AR
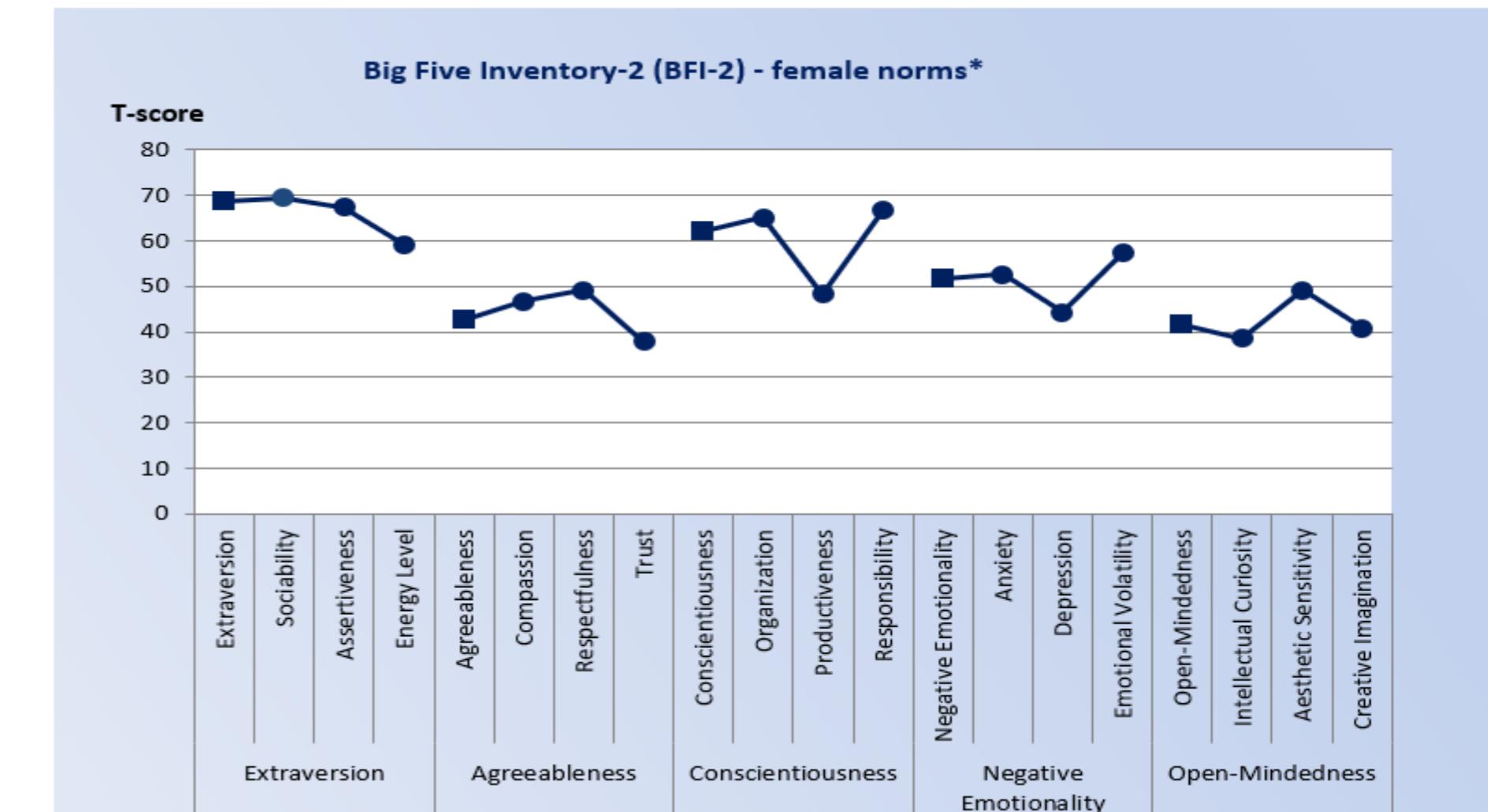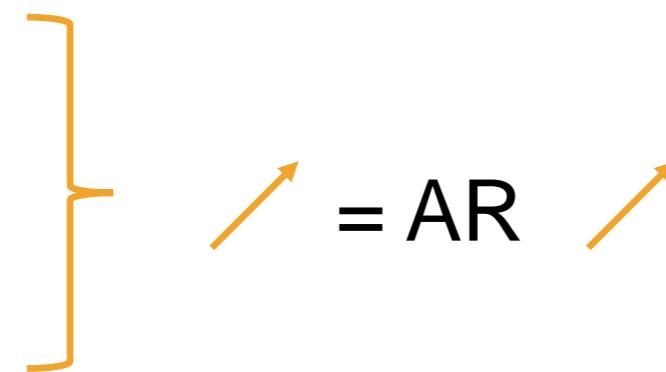
# 4. USER-RELATED VARIABLES

## B. Personality

→ Big Five personality test (BFI-2; Soto & John 2017)

1. Extraversion
2. Openness
3. Agreeableness
4. ? Conscientiousness
5. ?? Neuroticism
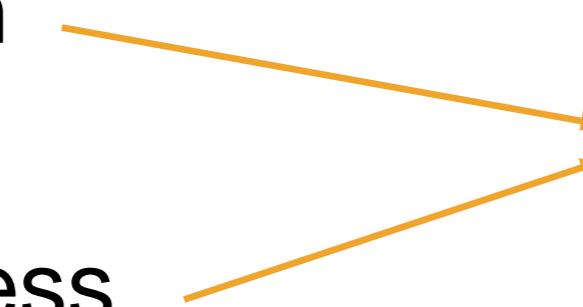
Circumplex: interpersonal relationships/contacts



a.

Assured-Dominant
Gregarious-Extraverted
Warm-Agreeable
Unassuming-Ingenuous
Unassured-Submissive
Aloof-Introverted
Cold-Hearted
Arrogant-Calculating

## C. Cognitive abilities

- General intelligence (IQ)
- Language-related:
  - Proficiency
  - Vocabulary size
  - Knowledge of collocations
  - Print exposure/reading experience

(Dabrowska 2018)

**Table 6**
Correlations between the six tasks and education.

|  | Education | IQ | PrintExp | LgAnalysis | Grammar | Vocabulary | Collocations |
|---|---|---|---|---|---|---|---|
| Education | 1.00 | 0.36** | 0.47*** | 0.59*** | 0.36** | 0.43*** | 0.37** |
| IQ | 0.36** | 1.00 | 0.09 | 0.50*** | 0.46*** | 0.43*** | 0.22 |
| PrintExp | 0.47*** | 0.09 | 1.00 | 0.45*** | 0.27* | 0.60*** | 0.50*** |
| LgAnalysis | 0.59*** | 0.50*** | 0.45*** | 1.00 | 0.46*** | 0.47*** | 0.35** |
| Grammar | 0.36** | 0.46*** | 0.27* | 0.46*** | 1.00 | 0.40*** | 0.38** |
| Vocabulary | 0.43*** | 0.43*** | 0.60*** | 0.47*** | 0.40** | 1.00 | 0.57*** |
| Collocations | 0.37** | 0.22 | 0.50*** | 0.35** | 0.38** | 0.57*** | 1.00 |

UNIVERSITEIT
GENT

26

# 4. USER-RELATED VARIABLES

## C. Cognitive abilities

- General intelligence (IQ)
- Language-related:
  - Proficiency
  - Vocabulary size
  - Knowledge of collocations
  - Print exposure/reading experience

(Dabrowska 2018)

**Table 6**
Correlations between the six tasks and education.

| | Education | IQ | PrintExp | LgAnalysis | Grammar | Vocabulary | Collocations |
|---|---|---|---|---|---|---|---|
| Education | 1.00 | 0.36** | 0.47*** | 0.59*** | 0.36** | 0.43*** | 0.37** |
| IQ | 0.36** | 1.00 | 0.09 | 0.50*** | 0.46*** | 0.43*** | 0.22 |
| PrintExp | 0.47*** | 0.09 | 1.00 | 0.45*** | 0.27* | 0.60*** | 0.50** |
| LgAnalysis | 0.59*** | 0.50*** | 0.45*** | 1.00 | 0.46*** | 0.47*** | 0.35** |
| Grammar | 0.36** | 0.46*** | 0.27* | 0.46*** | 1.00 | 0.40*** | 0.38** |
| Vocabulary | 0.43*** | 0.43*** | 0.60*** | 0.47*** | 0.40*** | 1.00 | 0.57*** |
| Collocations | 0.37** | 0.22 | 0.50*** | 0.35** | 0.38** | 0.57*** | 1.00 |

UNIVERSITEIT GENT

# 4. USER-RELATED VARIABLES

## C. Cognitive abilities

– General intelligence (IQ)

– Language-related:

    – **Proficiency**

    – **Vocabulary size**

    – Knowledge of collocations

    – Print exposure/reading experience

Semantic vocabulary test
(Vander Beken et al. 2017)
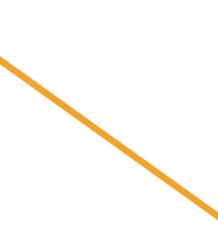
+ education:
- # years
- Degree

- **Successief**: A. Geslaagd, B. Zegevierend, C. Erfelijk, <u>D. Achtereenvolgend</u>
- **Martelaar**: A. Valsaard, B. Muggenzifter, <u>C. Lijder</u>, D. Prutser
- **Wauwelen**: A. Dromen, B. Schommelen, C. Spelen, <u>D. Babbelen</u>

UNIVERSITEIT GENT

# CONTENTS

UNIVERSITEIT
GENT

# 5. RESULTS

Linghentian Doctorials 2022!

Schedule:

– Beginning of 2022     Launch first survey
– Mid 2022                   Data analysis & results

UNIVERSITEIT
GENT

# CONTENTS

1. PRODUCTIVITY~CREATIVITY

2. MOTIVATION

3. RESEARCH DESIGN

4. USER-RELATED VARIABLES

5. RESULTS

## 6. FUTURE STEPS

UNIVERSITEIT
GENT

# 6. FUTURE STEPS

**WP2. Zooming in: Inter-individual variation & user-related variables**

- Optimize research design
- Zoom in on interesting patterns
- Complement ratings with other experiments

**WP3. Zooming in: Intra-individual variation & personality**

- Intra-individual variation: fixed participant pool, repeated/complementary tasks, interview
- Cx: expressivity/extravagance
- User-related variables: personality

UNIVERSITEIT GENT

# REFERENCES

- Barðdal, J. (2008). *Productivity: Evidence from case and argument structure in Icelandic* (Vol. 8). John Benjamins Publishing.
- Dąbrowska, E. (2018). Experience, aptitude and individual differences in native language ultimate attainment. *Cognition*, *178*, 222-235.
- Goldberg, A. (2019). *Explain me this. Creativity, Competition, and the Partial Productivity of Constructions*. Princeton: Princeton University Press.
- Hoffmann, T. (2018). Creativity and Construction Grammar: Cognitive and Psychological Issues. *Zeitschrift für Anglistik und Amerikanistik*, *66*(3), 259-276.
- Soto, C. J., & John, O. P. (2017). The next big five inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology*, 113(1), 117–143.
- Vander Beken, H., Woumans, E., & Brysbaert, M. (2018). Studying texts in a second language: No disadvantage in long-term recognition memory. *Bilingualism: Language and Cognition*, *21*(4), 826-838.
- Verhagen, V. (2019). Illuminating variation: Individual differences in entrenchment of multi-word units. *PhD Dissertation*. LOT Netherlands Graduate School of Linguistics.
- Zawada, B. (2006). Linguistic creativity from a cognitive perspective. *Southern African Linguistics and Applied Language Studies, 24*(2), 235-254.

UNIVERSITEIT
GENT