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Kommentiert [MS1]: Am Ende darauf achten: 1. Einzug nach jedem Absatz gleich breit? 2. Nummerierung der Beispiele im Text korrekt? 3. Jahreszahlen im Text mit Jahreszahlen in Zotero (und entsprechend den References) abgleichen

Acceptability Judgements About Contrastive Dialogues Involving Ellipsis: A Pilot Study

Thesis submitted for the degree of Master of Arts

Supervised by
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Abstract

This research co

1. Introduction

In this chapter, the background and motivation for the present study is provided, outlining the research questions and objectives that guide our investigation. I emphasize the significance of this study, while acknowledging the scope and limitations inherent in our research design.

1.1 Background and motivation

The pronunciation of a sentence holds significance, encompassing not only the stressed words but also the contents emphasized in the conversation. However, it is reasonable to assume that the perception of naturalness by native speakers may not solely depend on the stressed word but also on its associated meaning as well as the structure of the sentence. This becomes particularly intriguing in dialogues that involve contrastive focus and incomplete sentences as answers, as illustrated in the following example in German (1).

(1) A: Peter hat AB 18 Uhr im Kino gearbeitet.
'Peter worked at the cinema FROM 6pm.'
B: Nein, BIS 18 Uhr.
'No, UNTIL 6pm.'

(own example)

(2) A: Peter hat ab 18 Uhr im KINO gearbeitet.
'Peter worked at the CINEMA from 6pm.'
B: Nein, BIS 18 Uhr.
'No, UNTIL 6pm.'

(own example)

Speaker B's response in (1) lacks a complete sentence structure. Therefore, to understand the intended meaning of speaker B's response, the reader must construct a complete sentence using both speaker A's preceding utterance and speaker B's response. Hence, the reader can derive the following sentence: *Peter worked at the cinema until 6pm*. For an in-depth analysis of the processing of such incomplete utterances, see chapter 2.1.

However, for the reader to grasp its intended message, they need to first identify the word *bis* 'until' as contrasting with something else and then discern the intended meaning behind speaker B's response. If the reader is not primed for the contrast through orthographic marking, understanding

speaker B's response could become even more challenging. This becomes particularly evident when speaker A emphasizes a word other than *bis*, as demonstrated in example (2).

In the dialogue (2), emphasis is being placed on the word *Kino* 'cinema'. Since speaker B's utterance is focused on a part of speaker A's utterance that is not emphasized in the conversation, the reader is confronted with the contrast unexpectedly. It is yet to determine to what extent native speakers struggle more to interpret dialogues without emphasis on the contrastive words such as (2) in comparison to dialogues such as (1). Additionally, other factors that might influence the acceptability ratings of such dialogues should be analyzed. The following section will present the factors and hypotheses investigated in the present paper.

1.2 Research questions and objectives

The present paper aims to determine the most effective medium for reliably obtaining judgments about such dialogues involving contrastive focus and fragment answers. By examining the effects of different stimulus characteristics, we seek to deepen our understanding of how modality, emphasis, and fragment type contribute to the perceived acceptability of fragments. In this section, the research questions and hypotheses of the study are presented.

First, as has been shown by the examples (1) and (2), dialogues that incorporate orthographic marked contrasting words are contrasted with dialogues, in which another word than the contrasting word is orthographically marked in the preceding utterance. The present paper aims to investigate which dialogues are perceived as more natural by native speakers. It is hypothesized that stimuli emphasizing the contrasting words are regarded as more natural by native speakers. This prediction is grounded in the assumption that emphasizing the contrasting elements enhances their salience and facilitates comprehension, leading to increased acceptability. For an overview of the role of emphasis in sentence comprehension, see chapter 2.3.

Furthermore, a comparison is made between (1) and (2) on the one hand and their verbal counterparts one the other hand. That is, the sentences (1) and (2) are recorded by native speakers and differ in where the

prosodic emphasis is placed. Building upon the notion that the majority of our language interactions occur through spoken and heard communication rather than written and read forms, a second hypothesis posits that, generally, auditory stimuli are more likely to be accepted by native speaker than written stimuli. Given that fragments are prevalent in everyday speech, the presentation of auditory stimuli is expected to establish an authentic and natural context, leading to heightened acceptability ratings compared to written stimuli. For an in-depth discussion of auditory stimuli in acceptability ratings, see chapter 2.5.

Last, dialogues such as (1) and (2) are compared to dialogues, in which the contrastive words do not have functional meaning but lexical meaning. That is, instead of prepositions such as *bis* 'until' and *ab* 'from', the contrastive focus is placed on nouns such as *Bruder* 'brother' and *Vater* 'father' as in (3). See also (4) as the equivalent to (3) but with emphasis on Buch 'book', which is not contrasting with speaker B's response.

(3) A: Peter hat seinem BRUDER ein Buch geschenkt.
'Pete gave a book to his BROTHER.'
B: Nein, seinem VATER.
'No, his FATHER.'

(own example)

(4) A: Peter hat seinem Bruder ein BUCH geschenkt.
'Pete gave a BOOK to his brother.'
B: Nein, seinem VATER.
'No, his FATHER.'

(own example)

Thus, it is hypothesized that stimuli with lexical words in contrastive focus such as *Bruder* 'brother' and *Vater* 'father' receive higher acceptability ratings than stimuli with functional words in contrastive focus such as *ab* and *bis.* Previous studies that compare functional and lexical words in stimuli are summarized in chapter 2.6.

1.3 Significance of the study

In the following section, the significance of the present study is demonstrated by exploring the implications of the findings for theoretical frameworks and practical applications.

Absatz zu frameworks und wie fragments helfen können zwischen move and delete und insitu zu unterscheiden. Verweis auf die jeweiligen Kapitel, wo die frameworks erklärt werden.

Absatz zu acceptability judgements

Surprisingly, acceptability judgments have been underutilized in previous studies, especially in assessing the acceptability of fragments. While previous research has shed light on the comprehension of fragments and the role of focus and ellipsis, the specific focus on acceptability judgments has remained largely unexplored. Therefore, this study will be the first of its kind to systematically examine and compare different media for collecting acceptability judgments about fragments. By determining the best medium for reliably obtaining these judgments, our research will contribute to a deeper understanding of the nature of fragments and provide valuable insights for future studies in linguistics and psycholinguistics.

Identify the gaps or limitations in the current literature and highlight the need for your research

1.4 Scope and limitations

In the following, the limitations inherent in our research design, acknowledging the potential constraints and scope of the investigation are addressed.

Zum Beispiel nur Untersuchung von Fragments innerhalb von linguistic generative theories?

Und nur untersuchung von syntaktischer ellipse (gibt es auch in semantik und pragmatik) → grenze zu semantik und pragmatik ziehen (siehe Merchant 2010)

Include Paragraph on limitations, z. B. keine Erhebung zu regionalen Unterschieden oder Unterschieden in den accetability judgements von unterschiedlichen Altersgruppen (laut Literatur sind das signifikante Faktoren, nochmal nachschauen)

Inherent limitations of acceptability judgement tasks

The present paper is subdivided as follows. Chapter 2 delves into the theoretical background of fragments, focus, and ellipsis comprehension, providing a more detailed explanation of our hypotheses. Chapter 3 centers on the study design and participant information. Chapter 4 presents the findings of the study, while chapter 5 explores and addresses any confounding factors related to the findings. Lastly, chapter 6 concludes with a summary of the study and offers insights into potential avenues for future research.

Kommentiert [MS3]: Update that once the MA is done und insert in 1.1

Kommentiert [MS4R3]: Oder löschen? Ich habe ja ein table of contents und dieser Absatz passt auch nicht zu dem Kapitel Scope and limitations

2. Literary review

This chapter provides an overview of the theoretical frameworks of ellipsis and fragment theory, emphasizing the relevance to the present investigation. I discuss the methodological approach of acceptability judgment tasks, which allow us to capture native speakers' intuitions about the grammaticality and acceptability of linguistic constructions. Moreover, previous the role of emphasis in sentence comprehension is discussed and research on written and auditory stimuli as well as functional and lexical stimuli is reviewed to establish a strong foundation for our own empirical analysis and contribute to the broader understanding of these linguistic phenomena.

2.1 Theoretical frameworks of ellipsis

Discuss terminologies: ellipsis, movement, island, prepositional phrases,

Intuitively, one can say that (5) is a complete sentence.

(5) Bill should collect butterflies.
(adapted from Merchant 2010, p. 143)

Depending on the theory, such sentences are called TP, IP, or CP (cf. Merchant 2010). A sentence is deemed complete, if it includes all required elements and is well-formed (source). However, in daily life, we encounter many utterances that do not represent complete sentences such *Jill should, too.* in (6).

(6) Bill should collect butterflies. Jill should, too.
(Merchant 2010, p. 143)

According to Stainton (2006), incomplete sentences such as *Jill should, too.* in (6) are the result of ellipsis. That is, a linguistic representation *r* is deemed grammatically elliptical iff "there exists another linguistic representation *r'* in the language such that *r'* has a longer phonological form than *r*, but *r'* has precisely the same context-invariant content as *r*. In the case of *Jill should, too*, this linguistic representation *r'* would be the sentence (7).

(7) Jill should collect butterflies, too.

(adapted from Merchant 2010, p. 143)

Therefore, *r* and *r'* do not differ in their grammatical structure but in their phonological representation. Hence, ellipsis can be understood as "a grammatical process of abbreviation" (Stainton 2006, p. 98, emphasis omitted).

Similarly, sentences in which only the wh-phrase remains such as in the German example in (8) are argued to be a result of ellipsis as well.

(8) *Er will jemandem schmeicheln, aber sie wissen*
he wants someone.DAT flatter but they know
*nicht, *wer /*wen /wem*.
not who.NOM who.AKK who.DAT
'He wants to flatter someone, but they don't know who.'
(adapted from Merchant 2004, p. 664)

(9) *Sie wissen nicht, *wer /*wen /wem er*
They know not who.NOM who.AKK who.DAT he
schmeicheln will
flatter wants
'They don't know who he wants to flatter.'
(adapted from Merchant 2004, p. 666)

That is, (8) the elliptical wh-phrase is structurally similar to (9) but parts of the phrase are unpronounced. This assumption is supported by the fact that the elliptical wh-phrase *wem* in (8) must be marked with the same case as in the nonelided structure in (9) (cf. Merchant 2004).

When analyzing elliptical structures, an important notion is *movement*. The term *movement* refers to … [cite Oxford Handbook after getting it from the library].

Merchant (2001) argues for the so-called *move-and-delete approach*, henceforth MDA. [continue here after getting Merchant 2001 from the library]

Griffiths 2019

Alternative B (siehe PDF mit good summary in Mails)

Alternative ohne Ellipse (nonsententialist view): fragments are genuine nonsentential utterances → in nächstem Kapitel genauer diskutieren? Ist

zwar eine eigene Theorie, aber über fragments oder hier schon benennen und dann im nächsten Kapitel ausführlicher beschreiben

2.2 Fragment theory and its linguistic foundations

Consider (3).

(10) Abby and Ben are at a party. Abby asks Ben about who their mutual friend Beth is bringing as a date by uttering: "Who is Beth bringing?" Ben answers:
"Alex."

(Merchant 2004, p. 661)

Ben's answer only consists of one word and yet, it can easily be derived that it is intended to convey that Beth is bringing Alex. Linguistic expressions such as Ben's answer are called fragments (cf. Merchant 2004). According to the sententialist approach as proposed by Merchant (2001), fragments are the only pronounced item in a full-fledged yet unpronounced clause. That is, while clausal ellipsis suppresses the phonological realization of most parts of the sentence, one or more subconstituents of the clause survive ellipsis. These remnants of ellipsis are called fragments.

Kommentiert [MS5]: Yet to find the book

Kommentiert [MS6]: A better way to phrase it would be:
Remnants of ellipsis (henceforth, fragments) ….

Kommentiert [MS7]: Probably write again after reading Merchant 2001 and making sure it's n´ot a direct copy of Griffith et al 2023

Include constraint in Griffiths 2019, p. 21, formulated in (63)

➔ Includes fragment answer, contrast, and focus

- Theory and hypotheses

2.3 Contrastive Focus

x

explain focus (Oxford Handbook)

explain contrastive focus (Oxford Handbook of information structure)

explain contrastive fragments

One specific type of fragments are contrastive fragments. These fragments include focus. According to Krifka (2008), focus can be defined as follows.

(11) A property F of an expression α is a Focus property iff F signals
(a) That alternatives of (parts of) the expression α or
(b) Alternatives of the denotation of (parts of) α are relevant for the interpretation of α.
(Krifka 2008, p. 248, emphasis removed)

While the first case (4a) is concerned with the expression itself, focus as in case (4b) is used to identify the specific part of the sentence that should be replaced by an alternative denotation. The second case will be called contrastive focus in the following. The constituent *Mary* in the antecedent sentence that is replaced by speaker B's answer is called correlate, where the brackets subscripted with F show the constituent in focus.

Kommentiert [MS8]: Ggfs. umformulieren und Quelle einfügen und nachschauen ob correlate = antecedent

(12) A: Mary stole the cookie.
B: No, [Peter]$_F$ stole the cookie!
(adapted from Krifka 2008, p. 252)

B': No, [Peter]$_F$!
(own example)

Kommentiert [MS9]: Gffs. Anderes Beispiel nutzen (Merchant????), was schon contrastive fragment enthält

As can be seen in (5B), the contrastive focus placed on *Peter* serves to emphasize ⟦Peter⟧ as an "alternative answer to an explicit or implicit statement provided by the previous discourse/situation" (Wagner 1999, p. 1529). The answers (14B) and (14B') have the same meaning, despite of the fact that (14B') only consists of one word, i.e., a fragment. In the given example, the context preposition of the utterances by speaker A and B differ, leading to speaker B correcting the information provided by speaker A (cf. Krifka 2008). However, the alternative denotations must be of the same type and be mutually exclusive (cf. Wagner 2012, Krifka 2008).

Kommentiert [MS10]: Maybe only use B' and not B and write "adapted from"

Explain the term remnant and correlate
See also overview of literature

2.4 Acceptability judgement tasks (AJTs) in linguistics

This sections provides an overview of acceptability judgement tasks, henceforth AJTs, and …

Explore different theoretical frameworks and models that have been proposed to understand sentence acceptability judgments

Although AJTs are conducted to investigate the syntactic structures of the German language, the term *grammaticality judgements* is misleading, as it assumes that participants have the ability to access their implicit knowledge about language. Instead, the term *AJTs* is used to clarify that based on the acceptability of certain structures, on can gain insights about the grammaticality of the respective syntactic patterns (cf. Sprouse et al. 2013).

In the following, the term *informal method* refers to AJTs that were conducted with a low number of participants and that are associated with scale biases, judgement errors, etc. In contrast, the term *formal method* is used to describe AJTS, adhering to experimental standards, i.e., a common rating scale, a sufficient number of participants, etc. (cf. Sprouse et al. 2013, Schütze 2016).

Include studies that made use of that method

Acceptability judgements with auditory stimuli

Sedarous & Namboodiripad (2020)

- Argue that audio stimuli are better suited for judgment task than written stimuli (give their reasons)

2.5 The role of emphasis in sentence comprehension

This section explores the impact of emphasis on sentence comprehension. Additionally, it investigates the specific influence of emphasis on the comprehension of elliptical sentences

Explain the term emphasis

Explain the term sentence comprehension

The processor, i.e., hearer or reader of the dialogue, must finish the following three basic tasks in order to process the ellipsis.

(13) Basic tasks of the processor in ellipsis processing:

1. Parse the remnant by constructing the appropriate phrase structure for the remnant given the input.
2. Locate the correlate, if any, from the antecedent clause.
3. Construct the elided phrase by regenerating or copying a structure at Logical Form

(Harris & Carlson 2018, p. 485)

In the example (5B'), that means that first, *Peter* is identified as remnant. Next, *Mary* is retrieved as correlate to *Peter*, as it appears to be a suitable contrasting denotation. Lastly, the elided phrase is contrasted, i.e., *Peter*$_1$ *stole the cookie* t_1 (cf. Harris & Carlson 2018).

Include literature on emphasis and perhaps at-issueness?

Carlson, Frazier & Clifton 2009

- How does prosody impact language processing?
- Prosodic packaging approach: prosodic boundaries structure the linguistic input into perceptual and memory units, with the consequence that material in earlier packages is less accessible for linguistic processing than material in the current package -> holds true for all constructions, regardless of linguistic dependency
- Specialized role approach: prosodic boundaries determines(?) hierarchical structure, but pitch accents determines accessibility of a constituent
- Experiment 1: testing the prosodic packaging hypothesis / prosodic boundaries

    - asked participants to give their interpretations of the sentence they heard, not an acceptability rating)
    - failed to reach significance, failed to support predictions of hypothesis
- Experiment 2a: same as 1 but asked whether participants understood the sentences
- Experiment 2b: same as 1/2a but disambiguated sentences and asking whether participants understood the sentences
- Experiment 3: testing the influence of pitch accent on interpretation of ambiguous replacives
    - Hypothesis: If more prominence, as conferred by the pitch accent, results in greater accessibility in a discourse representation, then accented phrases should more often be chosen as the correlate of a replacive than unaccented phrases
    - Set-up similar to Exp. 1 but including pitch accents
    - Position of pitch accent significantly affected the choice of correlate of the replacive

Rasekhi & Harris (2021)

- investigate importance of each factor used to interpret clausal ellipsis
- in Persian
- focus on Locality and Parallelism
- necessary for ellipsis processing based on definition by Harris & Carlson
    - Locality
        - See Harris 2015 and Harris & Carlson 2016 for Locality bias
        - "processer prefers to contrast the remnant with the closest possible DP, typically the object" (p. 4), re-formulation of locality bias defined in literature mentioned above
        - See also Frazier & Clifton 1998, Carlson et al. 2009
        - Violating this preference leads to a processing cost (p. 5)
        - "licensing of ellipsis is sensitive to information status of constituents […] One information structural explanation of the Locality bias is that the closest DP is preferred not because it is linearly more accessible, but because it bears pitch accent by default" (p. 5)
        - **"In silent reading, comprehenders thus default to the object DP as the location for contrastive accent. However, information structural factors, such as explicit and implicit marking of pitch accent or the**

location of a contrastive adjective (11), may overturn the default, so that a remnant is paired with a non-local correlate" (p. 5)

        - In German: usually disambiguated morphologically by e. g. der/den
    - Parallelism
        - e. g. both with DP object, similar thematic roles, matched prosodic weight
        - In general: processing advantage when conjuncts are parallel,
        - With ellipsis: comprehension cost if subjects differ in number (singular or plural)
        - Dimensions of parallelism: structural, prosodic, semantic
        - DP Parallelism Hypothesis: The processor favors analyses in which DPs that share internal properties (have similar syntactic, prosodic, and semantic features) share external properties (appear in similar structural positions within their respective clauses or phrases), and vice versa (p. 6)
        - Morphological Parallelism: The processor favors correlate-remnant pairings for which the DPs are maximally similar along semantic and morphological dimensions. (p. 7) [especially for German]
- See general discussion for discussion effect of Locality and Parallelism in online versus offline processing
- results

information structure and parallelism strongly influence correlate resolution in both tasks, but that a weaker preference for a local correlate emerges in scrambling in the sentence completion task

[check if I included all papers that James sent to me in May(?)]

2.6 Modality in AJTs

X

Explore different theoretical frameworks and models that have been proposed to understand written and auditory stimuli

Include studies that made use of that method

- see chapter 2.1.1 in Juzek 2016

- Background on auditory and written stimuli and how prosody impacts language processing, especially for fragments?

Recent studies have investigated to what extent prosody impacts language processing. This is especially intriguing for the processing of ellipsis sentences and sentences involving contrastive focus. In the following, ToBI labelling (cf. Beckman & Ayers 1997) will be used for to refer to intonation patterns.

Contrastive focus has been characterized phonologically with a L+H* pitch for English and German (cf. Wagner 1999). This leads to the hypothesis that prosodically marking contrasting words may allow the hearer to access the words quicker and more easily, leading to an easier understanding of the contrast. Carlson et al. (2009) investigated whether pitch accent affects how ambiguous replacive sentences such as (7) are interpreted.

Kommentiert [MS11]: Nochmal umformulieren, nachdem ich mehr Paper dazu gelesen hab

(14) a. ROGER insisted that Alice was reliable // not ANDREW[.]
b. Roger insisted that ALICE was reliable // not ANDREW[.]
c. ROGER insisted that ALICE was reliable // not ANDREW.
(Carlson et al. 2009, p. 1077)

Indeed, they found that pitch accent significantly influenced participants' choice of the correlate of the replacive, i.e., whether the expression *Andrew* is used to replace *Roger* or *Alice*. There are two main differences between the sentences used in the study by Carlson et al. (2009) and the sentences used in the present study. First, the former uses replacive sentences, while the latter uses fragment answers. Since both are forms of ellipsis, it is still reasonable to compare the results. Second, the former uses ambiguous sentences, while the latter uses sentences disambiguated using case marking. Although the prosodic marking is not used to choose the current correlate, it allows the hypothesis that contrasting words with emphasis are easier to understand(?) and therefore, the first hypothesis holds that stimuli with emphasis on contrasting words are rated more natural than stimuli without any orthographic marking or with prosodic marking on a word other than the contrasting word. Additionally, the same should hold for words with orthographic markings since they are also emphasized and therefore more easily accessible in the discourse representation.

Kommentiert [MS12]: Give example with DAT in glosses

→See more papers on sentence comprehension (literature overview)

2.7 Previous studies on functional and lexical stimuli

X

Falls es dazu nichts in der Literatur gibt, dann Subchapter löschen und ebenso bei Beispiel (3) herausnehmen

3. Data and method

This chapter presents an overview of the study design, stimuli selection, recording procedures, data collection, participant recruitment and characteristics, and data analysis methods. I discuss the rationale, procedures, and considerations involved in each aspect.

3.1 Study design

The experiment was conducted using a 2 (modality: written or auditory) x 2 (emphasis: with or without emphasis) x 2 (fragment-type: functional or lexical word) study design. A between-subject design was employed to examine the effects of modality, while a within-subject design was utilized to investigate the influence of emphasis and fragment-type. The chosen study design aims to mitigate participant perplexity or skepticism arising from varying modalities and to ensure that any observed differences in results for stimuli with different emphasis and fragment types are attributable to their influencing factors rather than participant variability. This design selection safeguards against potential confounding factors, reducing individual differences and increasing the sensitivity to detect effects.

In the study, participants were asked to rate dialogues in the naturalness. The questionnaire was an ordinal response task on a 7-point Likert scale. The scale ranged from 1, representing fully acceptable structures to 7, indicating full unacceptability. Prior, fully acceptable, fully unacceptable, and neither acceptable nor unacceptable examples were given in the introductory part to the study.

The experiment was designed as follows. After a welcoming page, participants were presented with three dialogues (15-17) that had a similar structure to the critical and filler items of the experiment and varying acceptability ratings. The dialogues did not include the variables that were investigated in the experiment. However, through the introduction of similar dialogues, participants became familiar with the rating scale. Moreover, it was ensured that all participants understood that the study aims to determine what sentences would be acceptable in daily speech contrary to written language (cf. Sedarous & Namboodiripad 2020). Note that the glossing and

translation is given in (15-17), while participants were only presented with only the German sentences.

(15) A: *Was mag Peter?*
what likes Peter
'What does Peter like?'
B: *Peter mag Ingwer.*
Peter likes ginger
'Peter likes ginger.'
(adapted from Sedarous & Namboodiripad 2020, p. 7)

(16) A: *Was hat Peter gestern gemacht?*
what AUX Peter yesterday did
'What did Peter do yesterday?'
B: **Vater Fußball gestern.*
father football yesterday
'father football yesterday.'
(ibid.)

(17) A: *Hat Peter inzwischen aufgegeben?*
AUX Peter by.now gave.up
'Has Peter given up by now?'
B: ?*Nein, das Handtuch, das würde er*
no the towel that AUX he
b*estimmt nie werfen!*
certainly never throw
'No, the towel, he would certainly never throw that in!'
(adapted from Wierzba et al. 2023)

Participants are instructed that their acceptability ratings should be based on only speaker B's response to speaker A's utterance. While (15) is described to the participants as *fully acceptable*, (16) is identified as *fully inacceptable* and (17) is used as an example of an utterance that is *neither acceptable nor acceptable*.

After the introductory pages, participants were randomly assigned to either only written or auditory stimuli and then presented with seven items of each variable, i.e., with and without emphasis of contrasting words as well as functional and lexical fragments. In total, 56 critical items, including written and auditory items, were used for the study. However, since each participant was assigned to either written or auditory stimuli, each participants encountered 28 critical items and 28 filler items. The critical, written items were equally distributed across the four conditions, i.e., with and without orthographic marking as well as lexical or functional fragment types.

Similarly, the critical, auditory items were equally distributed across the four conditions, i.e., with and without prosodic marking on the contrasting words as well as lexical or functional fragment types. Therefore, each condition is exemplified by 7 items in each run of the experiment. This balanced design allows for a systematic examination of the effects of emphasis and fragment types on the experimental variables.

At the end of the questionnaire, participants were asked to indicate their age, level of education, where they grew up, and native language/dialect.

Kommentiert [MS13]: Check if that is correct or what else they were asked to indicate

3.2 Selection of stimuli

This section gives an overview of the selected stimuli for the study and the rationale behind their choice. The list of written critical and filler items can be found in the appendix, while their verbal equivalents can be found here: https://shorturl.at/blwGM. An exemplary overview of all conditions is shown in (1-4), repeated here as (18-21).

(18) A: Peter hat AB 18 Uhr im Kino gearbeitet.
'Peter worked at the cinema FROM 6pm.'
B: Nein, BIS 18 Uhr.
'No, UNTIL 6pm.'
(own example)

(19) A: Peter hat ab 18 Uhr im KINO gearbeitet.
'Peter worked at the CINEMA from 6pm.'
B: Nein, BIS 18 Uhr.
'No, UNTIL 6pm.'
(own example)

(20) A: Peter hat dem POLIZISTEN seinen Ausweis gezeigt.
'Peter showed his identity card to the POLICE OFFICER.'
B: Nein, dem TÜRSTEHER.
'No, the BOUNCER.'
(own example)

(21) A: Peter hat dem Polizisten seinen AUSWEIS gezeigt.
'Peter showed his IDENTITY CARD to the police officer.'
B: Nein, dem TÜRSTEHER.
'No, the BOUNCER.'
(own example)

Several steps were taken to ensure minimize the influence of extraneous factors. First, the contrasting words in the stimuli with functional fragment

type incorporated the prepositions *bis* 'until' and *ab* 'from', *mit* 'with' and *ohne* 'without' as well as *nach* 'after' and *vor* 'before', as these demonstrate opposite meanings.

Second, for the lexical fragments and their correlates, the contrasting nouns all denoted human referents to. Moreover, only masculine nouns marked with dative case were chosen to stand in contrastive focus to ensure that the reader or hearer can unambiguously identify the correlate of the fragment.

Third, critical items were adjusted to be in past tense to ensure that the word in contrastive focus is not in final position, as this position is claimed to be a default location (cf. Harris & Carlson 2018/ Carlson et al. 2009???). Therefore, fragments that correlate(?) to a word or phrase in this position are more likely to be accepted than if the correlate is inside the clause (Quelle).

Kommentiert [MS14]: Look up again and re-formulate. Literature: utterance-final effect (Griffiths & Lipták 2014, p. 202, footnote 10; Barros et al. 2014)

Kommentiert [MS15R14]: James said that any fragment that correlates with final position is accepted

Next, the sentences were created in such a way that stimuli with lexical fragments include ditransitive verbs, while stimuli with functional fragments, that must include a preposition phrase based on the study design, only include transitive verbs, as can be seen in the example (18-21). Therefore, a comparatively equal length of all stimuli is guaranteed

Last, the contrasting words are either orthographically or prosodically marked in the condition with emphasis on the one hand, but in the condition without emphasis, on the other hand, the stimuli either do not contain any orthographic marking or the nuclear accent is not on the contrasting word but on the default position (cf. Féry 2011). For an overview of stimuli with prosodical marking and stimuli with default intonation, see chapter

A total of 56 critical items were selected for the study. However, due to the study's design, each participant only encountered 28 items. This was because participants were randomly assigned to either the written or auditory stimuli group. In addition, 28 filler items were included in the study.

Filler items involved dialogues that incorporated either non-fragmental contrast such as in (22) or dialogues without any contrast such as (23). The order of critical and filler items was randomly arranged, with each item being presented on its own individual page.

(22) A: *Peter hat die SÜDDEUTSCHE gelesen.*
Peter AUX the Süddeutsche read
'Peter read the Süddeutsche.'
B: *Nein, er hat die FAZ gelesen.*
no he AUX the FAZ read
'No, he read the FAZ.'

(own stimuli)

(23) A: *Peter hat in der Mensa zu Mittag gegessen.*
Peter AUX in the canteen for lunch ate
'Peter had lunch in the canteen.'
B: *Ja, zusammen mit Freunden.*
yes together with friends
'Yes, together with friends.'

(own stimuli)

The acceptability of the fillers varied. The filler in (22) and (23) represent structures associated with full acceptability. The fillers in (24) and (25) signify complete unacceptability.

(24) A: *Peter hat mit Freunden UNO gespielt.*
Peter AUX with friends UNO played
'Peter played UNO with friends.'
B: **Nein, beim Stammtisch die Freunde haben mit Vorliebe SKAT gespielt.*
no at.the regulars' table the friends AUX with preference Skat played
'No, at the regular's table the friends played skat with preference.'

(own stimuli)

(25) A: *Peter hat seinem Sohn ein Geschenk gemacht.*
Peter AUX his son a gift made
'Peter gave a gift to his son.'
B: **Ja, ein Fahrrad in die Schule zum Fahren.*
yes, a bike to the school for riding
'Yes, a bike to the school for riding.'

(own stimuli)

To ensure consistency, all stimuli, i.e., critical and filler items, were adjusted to be in past tense and start with *Peter*. Moreover, the filler items with non-fragmental contrast included orthographic or prosodic marking on

Kommentiert [MS16]: Die Stimuli sind eigentlich von Featherston, aber er hat meines Wissens nirgends seine Materialien publiziert, deswegen kann ich es nicht zitieren. Fußnote?

Kommentiert [MS17]: Die Stimuli sind eigentlich von Featherston, aber er hat meines Wissens nirgends seine Materialien publiziert, deswegen kann ich es nicht zitieren. Fußnote?

Kommentiert [MS18]: Die Stimuli sind eigentlich von Featherston, aber er hat meines Wissens nirgends seine Materialien publiziert, deswegen kann ich es nicht zitieren. Fußnote?

the contrasting words, while the dialogues without contrasts did not incorporate such marking.

3.3 Recording of stimuli

In this section, I delve into the critical process of recording stimuli, discussing the methodologies and considerations involved in capturing high-quality audio or visual materials for the present research study.

Stimuli were recorded in the open-source toolkit Praat in a soundproof room, using a Blue Snowball ICE microphone and saved to be in WAV-format. As each stimulus represents a dialogue, the two parts had to be recorded individually. Each part of every stimulus was recorded three times, of which the one with the highest clarity, intelligibility, and adherence was chosen for the experiment. The first part was recorded by the voice actor Roman Pertl, henceforth speaker A. The second part was recorded by the author, henceforth speaker B. All sentences were recorded by condition (cf. Sederous & Namboodiripad 2020). To demonstrated this, the pitch contour of the stimuli (20) and (21) in chapter 3.2 are illustrated in Figure 1 and 2.

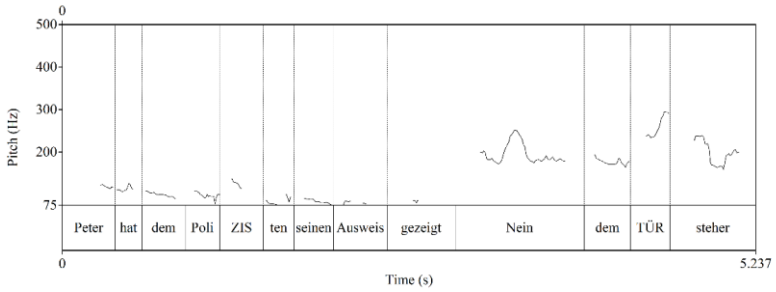

Figure 1: Pitch contour of stimuli with emphasis

Figure 1 shows the recoreded intonation of the stimulus (20), that includes the emphasis of the contrasting words *Polizisten* 'police officer' and *Türsteher* 'bouncer'. Both word are marked with L+H* accent[1]. The intonational contour of the preceding sentence in Figure 1 stands in stark contrast with its equivalent in Figure 2. Speaker A's sentence in Figure 2 shows consistent, natural intonationtion. That is, the preverbal position, i.e.,

[1] For the description of pitch accent and other intonational patterns, the ToBI labbeling by Beckman & Ayers (1997) will be used.

on the word *Ausweis* ‘identity card’, represents the default sentence accent (cf. Féry 2011). As becomes apparent in the pitch contours, the stimuli differ in whether the word *Polizisten* ‘police officer’ is emphasized or not. While *Polizist* in the stimulus displayed in Figure 1 received L+H* accent, it is de-accenated in the stimulus in Figure 2. Note that the apparent distinction in pitch between the speakers is attributable to the gender contrast (cf. Simpson 2009), with the first speaker being male and the second speaker being female.

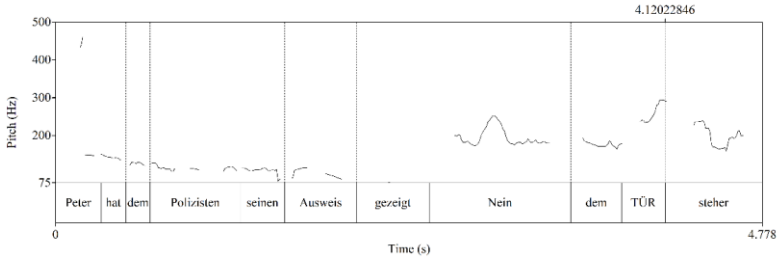

Figure 2: Pitch contour of stimuli without emphasis.

The recording of speaker B, that places L+H* accent on the contrasting word *Türsteher* ‘bouncer’, were used for both conditions. That is, when combining the parts of speaker A and speaker B, the same recording of speaker B was used for the stimuli in the conditions with and without emphasis in the preceding sentence to ensure consistency and minimize confounding factors. Given that the contents of the sentences as well as the fragment answers were identical, the stimuli depicted in Figure 1 and Figure 2 solely vary in terms of the emphasis placed on *Polizisten* ‘police officer’. This deliberate difference serves to eliminate alternative explanations for the observed outcomes, strengthening the validity of the results.

After the recording, the audio files of each speaker were concatenated in Praat. Therefore, each stimulus is composed of two merged audio files, seamlessly transitioning from the first to the second audio file without any audible disruptions or breaks.

Next, the audio files were controlled for loudness in Praat using the plugin (https://www.praatvocaltoolkit.com/normalize.html). The raw recordings as well as the combined, neutralized recordings can be found here: https://shorturl.at/pCHM6.

3.4 Data collection

In this chapter, the data collection process employed in our research study, which involved gathering acceptability judgments from participants, is discussed. I will outline the methods employed to obtain these judgments, including participant recruitment, experimental design, and data collection procedures.

Paragraph on prolific/clickworker/etc

Paragraph on collection procedure (see the respective chapter 3.1 on study design but go into more detail about the presentation format of stimuli, likert scale, control measures, etc.)

Age and geography must be controlled for!!

Paragraph of managing and organizing of collected data for analyses, data cleaning, etc.

3.5 Participant recruitment and characteristics

Pilot study showed that sex and education play no significant role but age and geography must be controlled for (in CLEFS project summary gelesen, Quelle heraussuchen)

German native speakers

3.6 Data analysis

Provide details about the data, including corpus composition and size

Participants' Likert scale responses were z-scored and analyzed using Linear Mixed Models, using R

Describe any qualitative analysis conducted to identify linguistic patterns and factors that influence fragment acceptability

For LMMs see Winter 2013

For the use of z-scores in linguistics see Juzek 2013 chapter 3.2.2 and check references in there

4. Results

x [split into more subchapters, e.g., written versus auditory?]

Present quantitative findings

5. Discussion

Since

5.1 Interpretation of the findings

X

discuss any significant findings or trends in quantitative findings

Present qualitative findings, proving interpretations and insights

5.2 Comparison with previous studies and theoretical predictions

X

Highlight similarities and differences

5.3 Implications for the understanding of German fragments

X

Discuss the broader implications of your findings for the field of fragment acceptability and related research areas

6. Conclusions

This paper gives an overview of the

6.1 Summary of findings

X

Main findings of the research

6.2 Contributions to the field

X

Highlight contributions of your research to the existing body of knowledge

6.3 Limitations of the study

X

Discuss any limitations or potential biases that may have affected your research

What could not be answered?

6.4 Suggestions for future research

X

What aspects need further research?

7. References

X

Insert references from Zotero

8. Appendix

8.1 Abbreviations, symbols and other notational conventions

?	questionable/marginal acceptability
#	infelicitous
*	ungrammatical
$_1$ … t_1	syntactic movement
XP^i … YP^i	coreference
//	intonational phrase boundary
CAPITALS	emphasis (orthographical marking or pitch accent)
[…]$_F$	focused position
⟦…⟧	denotation/semantic representation
L+H*	pitch accent
A, B, …	speaker
ACC	accusative
AJT	acceptability judgment tasks
A-movement	argument movement
ASG	adposition stranding generalization
CLMM	cumulative linear mixed model
DAT	dative
iff	if and only if
ISG	island sensitivity generalization
MDA	move-and-delete approach
NOM	nominative
p-omission	preposition-omission
p-stranding	preposition-stranding
SQA	syntactic question approach

8.2 List of critical items

The following list of critical items only includes written items. The auditory critical items can be found here: https://shorturl.at/iwR78.

Kommentiert [MS19]: Link to PRIVATE repository. Publish repository? Or publish recordings somewhere else?

(1) A: Peter hat seinem **BRUDER** ein Buch geschenkt.
B: Nein, seinem **VATER**.

(2) A: Peter hat seinem Bruder ein **BUCH** geschenkt.
B: Nein, seinem **VATER**.

(3) A: Peter hat dem **POLIZISTEN** seinen Ausweis gezeigt.
B: Nein, dem **TÜRSTEHER**.

(4) A: Peter hat dem Polizisten seinen **AUSWEIS** gezeigt.
B: Nein, dem **TÜRSTEHER**.

(5) A: Peter hat seinem **CHEF** den neuen Mitarbeiter vorgestellt.
B: Nein, seinem **KOLLEGEN**.

(6) A: Peter hat seinem Chef den neuen **MITARBEITER** vorgestellt.
B: Nein, seinem **KOLLEGEN**.

(7) A: Peter hat dem **MALER** ein Getränk angeboten.
B: Nein, dem **GÄRTNER**.

(8) A: Peter hat dem Maler ein **GETRÄNK** angeboten.
B: Nein, dem **GÄRTNER**.

(9) A: Peter hat seinem **KOLLEGEN** Urlaubsbilder gezeigt.
B: Nein, seinem **NACHBARN**.

(10) A: Peter hat seinem Kollegen **URLAUBSBILDER** gezeigt.
B: Nein, seinem **NACHBARN**.

(11) A: Peter hat seinem **NEFFEN** Werkzeug geschenkt.
B: Nein, seinem **NACHBARN**.

(12) A: Peter hat seinem Neffen **WERKZEUG** geschenkt.
B: Nein, seinem **NACHBARN**.

(13) A: Peter hat seinem **VORGESETZTEN** einen Kaffee gebracht.
B: Nein, seinem **MITBEWOHNER**.

(14) A: Peter hat seinem Vorgesetzten einen **KAFFEE** gebracht.
B: Nein, seinem **MITBEWOHNER**.

(15) A: Peter hat **AB** 18 Uhr im Kino gearbeitet.
B: Nein, **BIS** 18 Uhr.

(16) A: Peter hat ab 18 Uhr im **KINO** gearbeitet.
B: Nein, **BIS** 18 Uhr.

(17) A: Peter hat **BIS** August Miete gezahlt.
B: Nein, **AB** August.

(18) A: Peter hat bis August **MIETE** gezahlt.
B: Nein, **AB** August.

(19) A: Peter hat **MIT** seinem Bruder Unterschriften gesammelt.
B: Nein, **OHNE** seinen Bruder.

(20) A: Peter hat mit seinem Bruder **UNTERSCHRIFTEN** gesam-

melt.
B: Nein, **OHNE** seinen Bruder.

(21) A: Peter hat **OHNE** sein Team einen Vortrag gehalten.
B: Nein, **MIT** seinem Team.

(22) A: Peter hat ohne sein Team einen **VORTRAG** gehalten.
B: Nein, **MIT** seinem Team.

(23) A: Peter hat **VOR** seiner Mittagspause seine Chefin angerufen.
B: Nein, **NACH** seiner Mittagspause.

(24) A: Peter hat vor seiner Mittagspause seine **CHEFIN** angerufen.
B: Nein, **NACH** seiner Mittagspause.

(25) A: Peter hat **NACH** seinem Urlaub den Handwerker gerufen.
B: Nein, **VOR** seinem Urlaub.

(26) A: Peter hat nach seinem Urlaub den **HANDWERKER** gerufen.
B: Nein, **VOR** seinem Urlaub.

(27) A: Peter ist **VOR** seinem Einkauf noch zur Bank gegangen.
B: Nein, **NACH** seinem Einkauf.

(28) A: Peter ist vor seinem Einkauf noch zur **BANK** gegangen.
B: Nein, **NACH** seinem Einkauf.

8.3 List of filler items

The following list of filler items only includes written items. The auditory filler items can be found here: https://shorturl.at/jsHV1. The acceptability of the fillers varied, with A representing full acceptability, B indicating some acceptability, C denoting neutrality in terms of acceptability, D implying partial unacceptability, and E signifying complete unacceptability.

Kommentiert [MS20]: Link to github, however repository is private! Publish repository?

A1 A: Peter hat in der Mensa zu Mittag gegessen.
B: Ja, zusammen mit Freunden.

A2 A: Peter hat den Gegenspieler vorsätzlich gefoult.
B: Ja, den Stürmer.

A3 A: Peter hat die **SÜDDEUTSCHE** gelesen.
B: Nein, er hat die **FAZ** gelesen.

A4 A: Peter hat einen **ERDBEERKUCHEN** gebacken.
B: Nein, er hat einen **SCHOKOKUCHEN** gebacken.

A5 A: Peter hat den **KAFFEE** gekocht.
B: Nein, er hat den **TEE** gekocht.

B1 A: Peter hat dem Fürsten jemanden empfohlen.
B: Ja, dem Fürsten den Maler.

B2 A: Peter hat dem Gast ein Getränk empfohlen.
B: Ja, dem Gast den Wein.

B3 A: Peter hat seinem Neffen ein Geschenk gegeben.
B: Ja, seinem Neffen ein Fahrrad.

B4 A: Peter hat geglaubt, dass sein **CHEF** Urlaub hat.
B: Nein, er hat geglaubt, sein Chef gibt **IHM** Urlaub.

B5 A: Peter hat sich **GEWUNDERT**, weil Maria zu Besuch kam.
B: Nein, er hat sich **GEFREUT**, weil Maria hat Geschenke mitgebracht.

B6 A: Peter hat angenommen, dass Franz ihm das Radio **SCHENKT**.
B: Nein, er hat angenommen, er **VERKAUFT** ihm das Radio günstiger.

C1 A: Peter hat dem Kunden etwas gezeigt.
B: Ja, dem Kunden sich selbst im Spiegel.

C2 A: Peter hat den Mann nach etwas gefragt.
B: Ja, wen wer in dieser Affäre betrügt.

C3 A: Peter hat seinen Nachbar zu dem Unfall befragt.
B: Ja, wem wer aufgefahren ist.

C4 A: Peter hat gedacht, dass der **POLITIKER** bestochen wurde.
B: Nein, in **ROTTENBURG** hat Paul gedacht, hat der Händler den Politiker bestochen.

C5 A: Peter hat erzählt, dass Franz einen **UNFALL** hatte.
B: Nein, auf einer **KREUZUNG** hat Paul erzählt, hatte Franz einen Unfall.

C6 A: Peter hat gehört, dass der Lehrer **WÄHREND** seinem Urlaub gekündigt hat.
B: Nein, **VOR** dem Urlaub hat Peter gehört, hat der Lehrer ge kündigt.

D1 A: Peter hat ihn als kompetenten Begleiter empfohlen.
B: Ja, sich selbst.

D2 A: Peter hat Maria einen Brief geschrieben.
B: Ja, einander.

D3 A: **PETER** hat es dem neuen Tenor zugemutet.
B: Nein, der **KOMPONIST** hat dem neuen Tenor es zugemutet.

D4 A: Peter hat seinen Sohn eine **GESCHICHTE** vorgelesen.
B: Nein, Peter hat ein **GEDICHT** ihm vorgelesen.

D5 A: Peter hat Maria eine **E-MAIL** geschickt.
B: Nein, er hat eine **SMS** ihr geschickt.

D6 A: Peter hat am liebsten die **FAZ** gelesen.
B: Nein, er liest am liebsten die **SÜDDEUTSCHE**, obwohl er lebt jetzt in Düsseldorf.

E1 A: Peter hat den Rasen gemäht.
B: Ja, obwohl der Hitze.

E2 A: Peter hat den Fernseher eingeschaltet.
B: Ja, um zu sehen eine Fernsehserie.

E3 A: Peter hat seinem Sohn ein Geschenk gemacht
B: Ja, ein Fahrrad in die Schule zum Fahren.

E4 A: Peter hat mit Freunden **UNO** gespielt.
B: Nein, beim Stammtisch die Freunde haben mit Vorliebe **SKAT** gespielt.

E5 A: Peter hat Franz mit einem Geschenk überrascht.
B: Nein, da gerechnet mit hat der Franz natürlich nicht.

Declaration of Authorship

I hereby confirm that this paper and the work presented in it is entirely my own. Where I have consulted the work of others this is always clearly stated. All statements taken literally from other writings or referred to by analogy are marked and the source is always given. This paper has not yet been submitted to another examination office, either in the same or similar form.

Tübingen, September 23rd, 2023

Miriam Schiele

Miriam Schiele