

Why ellipsis? Interactional function predicts choice of syntactic form in conversation

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Editor: Manfred Stede

Submitted 05/2024; Accepted 12/2025; Published online 02/2026

Abstract

In this paper, we investigate the factors that influence interactants' choice of syntactic variants when using a predicative adjective construction like *that is okay*. In German colloquial conversation, such constructions can occur as full sentences with subject, copula and adjective (*das ist gut* 'that is good'); with topic drop consisting of copula and adjective (*ist gut*); or as fragments consisting only of the adjective (*gut*). We present findings from a corpus of colloquial speech between fellow students showing that the interactional function of listener feedback has a higher predictive power in accounting for the use of fragments vs. fuller structures than adjective semantics (descriptive vs. evaluative), propositional structure (reference to individual or propositionally structured referent), and predictability in terms of adjective frequency. Moreover, we find that fragments consisting of evaluative adjectives show a clear tendency to be grounded in the here-and-now of the current situation, whereas fuller structures are more apt to express evaluations grounded in past experience. We argue that fragments are formally optimized to convey expressive actions such as listener feedback and other ad-hoc evaluations.

Keywords: ellipsis, feedback, fragments, interactional function, predicative adjectives, topic drop

1 Introduction

Ellipsis is a very common phenomenon in colloquial speech. Interactants often use fragments consisting only of one word, or other structures that do not form full clauses. For instance, in German, copula structures with predicative adjectives may be expressed by a full clause with a pronominal subject, see (1), by a structure where the subject is elided, which is commonly called *topic drop* even though the topicality of the subject is not crucial, see (2), or by a single adjective, viz. a so-called *fragment*, see (3).

- | | |
|---|--|
| (1) <i>das ist gut</i> [MK-DB] ¹
'that is good' | <i>full clause</i>
(subject pronoun – copula – adjective) |
| (2) <i>is okay</i> [MK-DB]
'(that) is okay' | <i>topic drop</i>
(copula – adjective) |
| (3) <i>krass</i> [MK-LD]
'(that is) crass' | <i>fragment</i>
(adjective) |

In conversation, all three structures may be used to express an evaluation or a non-evaluative description of a referent from the preceding discourse, depending on the adjective's semantics (e.g., *that is cool/yellow*). The subject referent may be an individual or a proposition (*he/that is sick*) and may be explicitly mentioned in the preceding discourse or merely contextually recoverable. When tense and grammatical person are held constant, there are no differences in the truth conditions of the three structures, given that ellipsis requires the elided material to be (con)textually recoverable. This raises the question why interactants choose one or the other of these three structures.

In the literature, several factors have been identified as potentially contributing to the choice between structures with varying amounts of ellipsis, either specifically for predicative adjective structures, or for (potentially) elliptic structures more generally. Amongst these are (a) semantic-pragmatic factors that are particular to predicative adjective structures (Reich 2019), (b) information-theoretic factors, which pertain to the predictability of information in discourse in general (Lemke 2021; Lemke, Schäfer & Reich 2021; Lemke et al. 2021; Schäfer 2021; Schäfer 2025), and (c) factors pertaining to the interactional function of the relevant utterance, for instance

¹ These examples are from our corpus, the Münster Korpus (Hoffmann & Himmelmann 2009; see Section 4). The letters after the hyphen identify individual conversations. The corpus tokens in all examples throughout this paper are given only in non-capital letters. Where relevant for the interpretation of the examples, further interactional features are annotated using symbols from GAT2 (Selting et al. 2009).

as listener feedback or as a statement conveying new information (Günthner 2009; Imo 2013; Imo 2014).

In the present study, we investigate the role of factors (a)-(c) for the choice between the different forms of elliptic vs. non-elliptic predicative adjective structures by examining such structures ($n = 204$) in the Münster Korpus (henceforth MK), which is a corpus of colloquial speech between fellow university students (Hoffmann & Himmelmann 2009). Our study includes a quantitative analysis of the characteristics of predicative adjective structures as well as a qualitative analysis. We find that the interactional function of listener feedback is the strongest predictor for fragmentary uses of adjectives, performing much better than the other predictors.

The paper is structured as follows. In Section 2 we review the three factors mentioned above that have been proposed to influence the choice of (non-)elliptic structures. In Section 3, we present the hypotheses that we have derived on the basis of the previous literature, as well as the predictions for our quantitative corpus analysis. In Section 4 we describe the method of data collection and annotation. Section 5 presents the results. Section 6 provides the discussion and concludes.

2 Factors influencing the choice between (non-)elliptic forms in predicative adjective structures

As mentioned in the Introduction, there have been several proposals regarding the choice of structures with varying amounts of ellipsis. Moreover, the general availability of ellipsis depends on a plethora of characteristics on all linguistic levels from phonetics to pragmatics, including, for instance, information and discourse structure in terms of the Question under Discussion (QuD, Roberts 1996). We do not discuss these here because the information structure does not vary in the three structures under investigation in our study: the subject referent is given in the discourse and the adjective is new, non-contrastive information. Regarding syntax, Merchant (2008) proposed the inviolable economy constraint MaxElide, which basically requires that the largest constituent that can be elided must be elided. The constraint applies to structures where an element is moved from the elided part of the clause to the left periphery (e.g., a *wh*-pronoun in sluicing). Merchant (2010) argues that fragments constitute such left-moved elements. However, as was argued in detail by Lemke (2021: 59–151), this assumption cannot be upheld for German, where fragments are not the result of moving the fragment to the left periphery and deleting all subsequent material. In this paper, we do not discuss syntactic constraints on ellipsis further, as we are interested in interactants' choices regarding full and elliptical structures rather than the syntactic properties of ellipsis.

In the following, we first discuss semantic-pragmatic factors, as these have been suggested to be relevant specifically for predicative adjective structures. Reich (2019) presents data from a corpus study and two experiments where he investigates the role of adjective semantics in the occurrence of predicative adjective structures as full clauses vs. fragments. In the corpus study, he examines fragments only and observes that evaluative² adjectives (e.g., *cool*) often occur in fragments, whereas descriptive adjectives (e.g., *yellow*) occur infrequently. To see whether the difference between evaluative and descriptive adjectives is a predictor for the choice of syntactic structure – full clause vs. fragment –, Reich conducts two acceptability judgment experiments, where he tests predicative adjective structures with (elided) individual-referring subjects, and evaluative vs. descriptive adjectives. He finds that although participants judged evaluative adjective fragments to be more acceptable than descriptive adjective fragments, adjective semantics was not actually decisive for the choice between fragment and full clause: Participants also judged full clauses with evaluative adjectives to be more acceptable than full clauses with descriptive adjectives. Reich (2019) speculates that the difference between the corpus findings and the experimental results might be due to a difference in subject reference. In his fragment corpus, adjective semantics is highly correlated with reference structure. Evaluative adjectives mostly refer

² Reich (2019) uses the term *expressive adjectives*, but the examples he gives suggest that he tested evaluative adjectives. See Section 3.1 for more details.

to propositional referents and descriptive adjectives to individuals. This leads Reich to hypothesize that adjective fragments with an elided propositional anaphor as subject are typically evaluative. This hypothesis does not so much predict *syntactic form* from reference structure, but rather predicts *adjective type* from reference structure. Still, given that Reich did not investigate full clauses in the corpus, it may well be the case that full sentences show a different distribution in conversational corpus data. This hypothesis is supported by findings reported in Arens (2023: 378): for the evaluative adjectives *gut* ‘good’ and *schön* ‘beautiful’ the fragmentary structure is restricted to evaluations of propositions and extralinguistic actions/circumstances, whereas the full structure (with the anaphor *das* ‘that’) is employed flexibly for different types of referents. Reich’s and Arens’s findings suggest that the factors adjective semantics and reference structure are not independent from each other with respect to the choice of syntactic structure, i.e. ellipsis. Either one of them might be the driving factor.³

Turning to the information-theoretic factor of predictability, it has been suggested that elliptical structures occur more often in predictable than in unpredictable linguistic and extralinguistic contexts (Lemke 2021; Lemke, Schäfer & Reich 2021; Lemke et al. 2021; Schäfer 2021; Schäfer 2025). In an acceptability judgement experiment, Lemke, Schäfer & Reich (2021) tested the acceptability of fragments vs. full clauses in contexts where the target utterance constitutes a predictable continuation of an event chain that forms part of a script, such as cooking pasta. Unsurprisingly, utterances in general were judged to be more acceptable when they constituted a predicted continuation. Crucially, this effect was stronger for fragments than for full clauses. Lemke et al. (2021) report an experiment where participants produced continuations of conversations representing different scripts. They found that contextually predictable words were more likely to be omitted. Schäfer (2021; 2025) investigates a corpus of text messages in German, showing that topic drop is more likely when the verb has a lower unigram surprisal, i.e., is more predictable.

These findings are argued by the authors to be compatible with the Uniform Information Density Hypothesis (UID, Levy & Jaeger 2007) which predicts that information will be distributed evenly across a signal, thus avoiding surprisal minima and maxima. Consequently, elliptical structures are more likely to occur in predictable contexts, because surprisal minima are avoided. In less predictable contexts, the information is more likely to be spread out over more linguistic items, thus engendering higher proportions of full(er) structures in order to avoid surprisal maxima.

It has long been recognized that in addition to a syntactic approach to ellipsis, the use of ellipsis needs to be investigated from a communicative perspective (Rath 1979). Accordingly, there are

³ It is an interesting question why there might be this correlation of propositional reference and evaluativity of the adjective in fragments. Arens (2023) proposes that a possible explanation might be the tendency of adjective fragments to grammaticalize into discourse particles, as she suggests for *gut* and *schön*. Discourse particles typically take scope over propositions rather than individual referents.

Another reason might be the local discourse structure in which copula structures occur. In the dialogue in (i) Alex’s response is a fragment. Intuitively, the most likely reading of this response is that Alex likes the fact that Peter brought the plants last night. It is less likely that Alex intends to say that Peter is very nice.

- (i) *Ben:* Peter brought the plants last night. *Alex:* Very nice.

From a discourse coherence point of view, Ben’s utterance answers the QuD *What happened?*. Alex comments on what happened, answering the QuD *How do you like what happened?*. The result is a coherent elaboration. If Alex were to comment on Peter’s personality this would imply a change of topic: Alex would be answering the QuD *What kind of person is Peter?*. It seems that this change of topic – and thus the beginning of a new discourse segment – must be signaled by a full clause: *He is very nice* would be a coherent reply in (i).

In the dialogue in (ii), Ben’s opinion about Peter’s personality is at issue in the first turn of the conversation: a plausible QuD for Ben’s utterance is *What does Ben think about Peter?*. Alex’s reply is more easily interpreted as expressing Alex’s opinion about Peter, although the reading where Alex comments on Ben’s entire utterance is still available.

- (ii) *Ben:* I think that Peter is a really lovely guy. *Alex:* Very nice.

These observations raise questions regarding the availability of individual vs. propositional antecedents for reference resolution in fragmentary utterances. The assumption that discourse structure is a relevant factor is corroborated by observations regarding interactional factors to be discussed below.

several observations regarding the conversational function of elliptic vs. full clauses in general and specifically regarding utterances containing predicative adjectives. Günthner (2009) investigates structures where an evaluative adjective is followed by a complement clause introduced by *dass* ‘that’, which forms the semantic subject of the predication. For instance, in *(Es ist) schön, dass ihr da seid* ‘(It is) nice that you are here’, the subject pronoun *es* is a correlate of the complement clause. Günthner proposes that interactants use such structures to express their position regarding a contextually accessible state of affairs that has not yet been explicitly verbalized. Crucially, the elliptic variant often introduces concluding remarks, whereas the full structure mostly forms part of larger sequences that expand on a topic, the difference being a gradient one. Moreover, the degree of expressivity is higher for the elliptic variant which puts emphasis on the speaker’s affective stance.

Imo (2013) observes a correlation for the occurrence of topic drop in utterances like *(Das) weiß ich* ‘I know [that]’, *(Das) find ich nicht* ‘I don’t think [so]’. He suggests that the full clause variant has a higher potential of introducing new information than the elliptical form, whereas the elliptical form has a higher potential for commenting on something uttered in a preceding turn. When we compare this finding with Günthner’s (2009) observations, we find that elliptic variants are not used for introducing new information or expanding a new discourse topic. Rather, they are used for comments or concluding remarks.

With respect to the two evaluative adjectives *gut* ‘good’ and *schön* ‘beautiful’, Arens (2023) proposes that the formal differentiation (full structure with anaphoric *das* ‘it/that’; topic drop; fragment) correlates with interactional function. Whereas the full structure is restricted to expressing evaluations, the fragmentary structure is functionally very variable, signaling for instance discourse management in the form of topic or sequence closing.

Moreover, Selting (1997) notes that the form of an ellipsis in German conversations is constrained in terms of its sequential context, in that different elliptical forms typically occur in different types of sequences. While, for instance, answers to content questions are formed to fit the question morpho-syntactically, morpho-syntactic matching does not occur in assessments (utterances that express an evaluation of a referent or state of affairs; Goodwin & Goodwin 1984; Pomerantz 1984; Uhmann 1996). Here, adjectival and adverbial structures are observed (including what we call adjectival fragments and topic-drop structures), in addition to verb phrases (Selting 1997: 148–149). Even though this observation does not help us to form predictions for the use of topic-drop structures vs. fragments, it still supports the idea that interactional function has a role to play in German speakers’ choice of syntactic structure.

3 Hypotheses and operationalization of predictor variables

On the basis of the literature reviewed in Section 2, we developed four hypotheses regarding the choice between elliptic vs. non-elliptic forms for predicative adjective structures. In this section, we present these hypotheses and describe our operationalization of the four respective predictor variables in our corpus annotation.

3.1 Adjective semantics: evaluative vs. descriptive

Based on the discussion in Reich (2019), we examined whether adjective semantics plays a role in German speakers’ choice of syntactic structure. Recall, however, that in Reich’s corpus study of fragments, adjective semantics showed a high correlation with subject reference structure, which suggests that the two factors might not be independent. We discuss subject reference in Section 3.2.

As mentioned in Section 2, Reich compares what he calls *expressive* adjectives and *descriptive* adjectives, invoking the work of Potts (2007) on expressive meaning. Reich (2019: 110) defines this distinction in terms of adjectives that convey the person’s attitude (expressive) and those that operate on truth-conditions only (descriptive). However, in our view this definition is imprecise with respect to whether we are dealing with *semantic* features of the adjective, or with features

pertaining to the *use* of the adjective in a particular context. It has been suggested that adjectives with evaluative semantics can be employed for making factual, descriptive statements and thus have non-expressive uses, and that descriptive adjectives can have expressive uses conveying a person's attitude (Soria Ruiz & Stojanovic 2019). For instance, in (4) the interlocutors share the standard of evaluation for judging films, but they do not share first-hand knowledge of the film at issue. In this situation, Militza's utterance, which contains the evaluative adjective *horrible*, constitutes the statement of a fact rather than an expressive use. In (5), in contrast, Nassim's statement is a value judgement of Almodóvar's films, even though *powerful* semantically is a descriptive adjective.

(4) *Context: Militza and Farid have the same taste in films; Militza has seen the film, while Farid has not.*

Militza: This film is horrible.

(Soria Ruiz & Stojanovic 2019: 170)

(5) *Context: Mehmed and Nassim are in a conversation about European cinema, talking about films and directors that they think are (aesthetically) the best.*

Nassim: Almodóvar is powerful.

(ibid. p. 176)

Another reason not to follow Reich's categorization is the observation that lexical items often supply descriptive and expressive meaning at the same time (Gutzmann 2015: 20).⁴ To wit, Bybee & Thompson (2021) argue for predicative copula structures in English that they may simultaneously convey a subjective evaluation and provide factual information about the referent. Thus, the descriptive vs. evaluative semantics of adjectives is not equivalent to the factual/descriptive vs. expressive meaning in sentences or utterances. For these reasons, we distinguish between the descriptive and evaluative semantics of the adjectives in our study, separating this dichotomy from use and interactional function.

Our first hypothesis regarding the factors contributing to the choice between the three (non-)elliptic structures is stated in hypothesis H1-AdjSem in (6). This hypothesis is motivated by Reich's (2019) empirical observations in his corpus study of fragments. For topic drop structures, there is no evidence in the literature suggesting that adjective semantics might play a role. Therefore, we are expecting that topic drop should pattern with full clauses regarding adjective semantics.

(6) **H1-AdjSem:** The use of fragments can be predicted from the semantics of the adjective:

Evaluative adjectives occur more frequently in fragments than in full clauses and in topic drop structures.

For operationalizing the variable of adjective semantics, we applied three semantic tests commonly discussed in the literature. These tests were all coded separately, so this variable was split into three coding categories.

3.1.1 The *find*+POSITIVE adjective test: embedding under subjective attitude predicate

One test commonly applied to identify evaluative adjectives is whether they are able to embed under subjective attitude predicates such as *find*, testing for the possibility of expressing a subjective or judge-dependent statement (Bylina 2014: 15). While languages differ as to the applicability of the translation equivalents of *I find*, in German this test is successful (Umbach 2021). The *find*-test is consistently passed both by one-dimensional and by multi-dimensional evaluative adjectives, identifying them as subjective when used in the positive adjective form (i.e.,

⁴ In Gutzmann's terminology, 'truth-conditional' and 'use-conditional' meaning.

in their base form). One-dimensional adjectives convey properties that pertain to one single, measurable dimension (e.g., *heavy*, where only the measurable dimension of weight is relevant), whereas multi-dimensional adjectives rely on multiple properties – for instance *healthy* which requires a judgment based on various dimensions (Umbach 2021: 6). The *find*-test is failed by descriptive adjectives.

We applied this test by inserting the relevant adjective into a sentence of the form *Ich finde PRON ADJ* ‘I find PRON ADJ’, where the appropriate pronoun was chosen according to the context of the original utterance from the corpus. (7) illustrates with a multi-dimensional evaluative adjective, (8) with a one-dimensional evaluative adjective, and (9) with a descriptive adjective.

- | | |
|---|--|
| (7) <i>das is echt toll</i> [MK-VU]
that is really great
‘That is really great.’
→ <i>pass, coded as 1</i> | TEST: Ich finde das toll.
‘I find that great.’ |
| (8) <i>das is schon ziemlich teuer</i> [MK-VH]
that is PART quite expensive
‘That is quite expensive.’
→ <i>pass, coded as 1</i> | TEST: Ich finde das teuer.
‘I find that expensive.’ |
| (9) <i>das war halt umsonst</i> [MK-VU]
that was PART for_free
‘That was for free.’
→ <i>fail, coded as 0</i> | TEST: *Ich finde das umsonst.
‘I find that for free.’ |

3.1.2 The *find*+COMPARATIVE adjective test: embedding under subjective attitude predicate plus comparative

In a second test, we probed whether an adjective was able to embed under *Ich finde* ‘I find’ in comparative form, a test that rules out one-dimensional adjectives in addition to the descriptive adjectives. The reason for the infelicity with one-dimensional adjectives is that comparison on a single dimension precludes the possibility of subjective evaluation: evaluation becomes a matter of factuality – a measurement – and is no longer judge-dependent (Umbach 2021). Our application of the test is illustrated in (10)–(12).

- | | |
|--|--|
| (10) <i>das is echt toll</i>
‘That is really great.’
→ <i>pass, coded as 1</i> | TEST: Ich finde das hier toller als das da.
‘I find this greater than that.’ |
| (11) <i>das is schon ziemlich teuer</i>
‘That is quite expensive.’
→ <i>fail, coded as 0</i> | TEST: *Ich finde das hier teurer als das da.
‘I find this more expensive than that.’ |
| (12) <i>das war halt umsonst</i>
‘That was for free.’
→ <i>fail, coded as 0</i> | TEST: *Ich finde das hier mehr umsonst als das da.
‘I find this more for free than that.’ |

3.1.3 Faultless disagreement

The last test we applied is faultless disagreement (e.g., Stephenson 2007), which involves a reaction of a second speaker who takes the opposite stance from the first speaker, for instance: A: *That is great*. B: *That is not great*. If such a discourse is coherent, i.e., if both speakers can be right, the

adjective expresses subjective meaning, which is judge-dependent. It is debated in the literature whether ‘true’ faultless disagreement in fact exists (e.g., Kölbl 2004; Umbach 2016). Usually, disagreement between speakers will not be faultless from the perspective of the speakers. Therefore, we apply this test from an acentric perspective that does not take the position of a possible judge (Lasersohn 2009: 364), testing only whether the interactants could be thought of as disagreeing without any of them saying something false. (13)–(15) illustrate.

- | | | |
|------|--|---|
| (13) | <i>das is echt toll</i>
‘That is really great.’
→ <i>pass</i> , coded as 1 | TEST: Das ist toll. Nein, das ist nicht toll.
‘That is great. No, that is not great.’ |
| (14) | <i>das is schon ziemlich teuer</i>
‘That is quite expensive.’
→ <i>pass</i> , coded as 1 | TEST: Das ist teuer. Nein, das ist nicht teuer.
‘That is expensive. No, that is not expensive.’ |
| (15) | <i>das war halt umsonst</i>
‘That was for free.’
→ <i>fail</i> , coded as 0 | TEST: Das war umsonst. #Nein, das war nicht umsonst.
‘That was for free. No, that was not for free.’ |

An adjective that passed all three tests in our coding scheme was classified as evaluative, whereas all other adjectives were classified as descriptive.

3.2 Reference structure: individual vs. proposition

As discussed in Section 2, Reich (2019) hypothesizes that adjective fragments which predicate over a(n elided) propositional anaphor will typically be evaluative: In his corpus of fragments, propositional subject referents are more frequent than individual subject referents ($n = 269$ vs. $n = 72$). Arens’s (2023) findings for the evaluative adjectives *gut* ‘good’ and *schön* ‘beautiful’ point in the same direction, their fragmentary forms being mostly employed for propositional referents. From these observations, we may derive a preference of fragments to have (elided) propositional subject referents rather than individual subject referents, potentially in correlation with adjective semantics (Section 3.1).

From Reich’s (2019) assumptions we cannot derive a hypothesis regarding topic drop structures. In Helmer’s (2017) corpus analysis of topic drop structures, the dropped (subject or object) constituent denotes an individual referent less often than a propositional referent (33% vs. 42%), indirect/complex anaphors and reference to speech acts making up the remainder of the data (20% and 5% resp.). In Arens’s (2023) study on *gut* and *schön*, individual subject referents are even rarer in topic drop structures (13 out of 61, 21%) (Arens 2023: 382). Based on these works, we expect topic drop structures in our study to show a preference for propositional referents. Hypothesis H2-SubjRef summarizes our expectations:

- (16) **H2-SubjRef:** The use of fragments and topic drop structures can be predicted from the type of subject referent, with (elided) propositional referents occurring more often in fragments and topic drop structures than in full clauses, the difference potentially being greater for fragments than for topic drop structures.

To test hypothesis H2-SubjRef, we coded the type of subject referent. An individual referent can be, among others, a person, an object, or an activity, as in (17), (18), and (19), respectively:

- (17) 01 *boah meine schwester die warn auch- die warn letztes jahr*
 woah my sister they were also they were last year
zum ersten mal im skiurlaub
 for_the first time in skiing_holiday
 ‘woah, **my sister**, they went skiing for the first time last year’
 02 *die is sowieso total anfällig*
 she is anyway very prone
 ‘**she** is very prone [to get bruises] anyway’ [MK-DB]
- (18) 01 *ich mein hier die schrankwand*
 I mean here the wall_cupboard.FEM
 ‘I mean **this wall cupboard** here’
 02 *die is ja auch total eingestaubt*
 she is PART also very full_of_dust
 ‘**it** is also full of dust’ [MK-LD]
- (19) 01 V: *mittlerweile geht tennis aber auch*
 by_now goes tennis but also
 ‘but by now **tennis** is also quite okay [regarding the cost of practicing it]’
 02 C: *ja geht so*
 yes goes so
 ‘well more or less’
 03 *das is schon ziemlich teuer*
 that is PART quite expensive
 ‘**that** is quite expensive’ [MK-VH]

A propositional subject anaphor refers back to a proposition that was introduced in the preceding discourse. In German, the pronoun *das* ‘it/that’ is often used for propositional reference. Furthermore, it is used for indirect reference, for instance when it denotes a proposition that is established as a discourse entity from various sources in the preceding context (cp. *complex* anaphors: Consten, Knees & Schwarz-Friesel 2007: 81). In our annotation we used the label ‘propositional referent’ for both of these uses of *das* and other (elided) propositional anaphors. In (20), *das* is used as a propositional anaphor in the narrow sense: *das* in line 03 refers to the proposition expressed by Dennis’s question in line 01, which is confirmed by Beate in line 02. The pronoun makes the proposition expressed available as an integrated referent for further predication.

- (20) 01 D: *ihr schreibt keine klausuren?*
 you.PL write no exams
 ‘you don’t write any exams?’
 02 B: *nöö*
 ‘nope’
 03 D: *boah das is ja mal super*
 woah that is PART PART great
 ‘woah **that**’s really great’ [MK-DB]

In line with Reich (2019: 119), we also treat reference to speech acts as reference to propositional referents.

3.3 Predictability

Regarding predictability, we follow the suggestions from the previous literature (Lemke 2021; Lemke, Schäfer & Reich 2021; Lemke et al. 2021; Schäfer 2021; Schäfer 2025), assuming that interactants aim to distribute information evenly across the discourse to avoid information maxima and minima. Hypothesis H3-Predict is built on the assumption that less predictable adjectives create a greater information maximum and thus a less smooth information transition if they are not preceded by further material in the clause. Predictable adjectives, in contrast, do not create such a maximum and can be preceded by ellipsis more readily. In a corpus of German text messages, Schäfer (2021: 175–176) finds that verb surprisal is among the most significant predictors of topic drop, with more predictable verbs leading to a higher likelihood of topic drop. However, in the case of predicative adjective constructions topic drop structures might also be seen as a good compromise when the adjective is less predictable: the subject is elided because mentioning it would create an information minimum, but the copula is mentioned because it smoothens the transition to the non-predictable adjective. Also, from a speaker perspective, topic drop structures are more economical than full structures. We may thus expect that for topic drop, the predictability effect is less pronounced than for fragments.

- (21) **H3-Predict:** The use of fragments and topic drop structures can be predicted from the predictability of the adjective, with more predictable adjectives occurring more frequently in elliptic structures than in full clauses, the effect being potentially stronger for fragments than for topic drop.

To test hypothesis H3-Predict, we operationalized predictability in terms of the frequency of an adjective in predicative position. We estimated this frequency on the basis of the FOLK corpus (*Forschungs- und Lehrkorpus Gesprochenes Deutsch*), version 2.22 (released on June 5, 2024), a corpus of spoken German with a wide stratification of speakers representing a broad range of speech situations containing 3,450,408 tokens (e.g., Kaiser 2018; Reineke et al. 2023). In order to estimate the frequency of each adjective in predicative function, we carried out a token search combined with a POS-search (ADJD for predicative and adverbial uses). We manually checked (subsets of) the cases identified in the corpus. If the cases contained many adverbial uses, the predicative uses were counted manually for at least 60 tokens and then, if necessary, extrapolated to the entire set of cases.⁵ When adjectives had several meanings in FOLK, we only took into consideration the meaning that was relevant for our corpus. We then calculated the frequency per million words for each of the adjectives, adding 1 to all absolute frequencies to avoid zero frequencies (7 adjectives had an absolute frequency of zero in predicative position).⁶ The frequencies per million words were then rescaled according to the Zipf scale (van Heuven et al. 2014), a scale where word frequencies are ordered on a logarithmic scale from 1 to 7, representing frequencies per million words between 0.01 (score 1) and 10,000 (score 7). This measure has the advantage that it avoids negative values for words with a frequency below 1 per million words, as would be the case with a common log transformation (see van Heuven et al. 2014: 1179). We used the formula in (22):⁷

⁵ Some of the predicative adjectives in our corpus originate from other word classes, for instance *durch* ‘worn out’, which also is a preposition meaning ‘through’. Since the tagger in FOLK does not differentiate these cases, we applied additional search filters.

⁶ As the logarithm of 0 is undefined, this Laplace transformation is used to correct for zero frequencies (van Heuven et al. 2014: 1180).

⁷ Our formula is a slight simplification of the formula used in van Heuven et al (2014). The latter takes into account the number of observed word types in the corpus, on the basis of which the number of *unobserved* word types with 0 frequency is estimated. As the number of word types for the FOLK corpus could not be reliably estimated, we do not include it in our formula.

$$(22) \quad \log_{10}(\text{estimated frequency (+1) per million words})+3$$

Like any assessment of frequencies in (spoken) language, the method we applied can only offer an approximation of ‘real’ frequencies. However, since the method is based on spoken German used in social interaction it is close to the data type that we investigate in our collection, and it is superior to a frequency assessment on the basis of written data. We acknowledge that adjective frequency is only an approximation of predictability, as it does not take aspects of the context into account, and there are more sophisticated approximations to predictability such as unigram surprisal calculated on the basis of a language model (Schäfer 2021, 2025). Furthermore, frequency is correlated with the more context-sensitive measures of predictability (predictability in context and predictability across contexts), which may lead to false attributions of observed effects, making it desirable to disentangle the effects of these three different measures (Cohen Priva & Jaeger 2018). Checking the impact of more context-sensitive predictability measures on our data will be a promising path for future research. Finally, it is not yet fully established whether or not lexical predictability effects are linear or logarithmic (e.g., Smith & Levy 2013; Brothers & Kuperberg 2021), which is particularly relevant for the question of whether there are significant differences between low-predictability items. As FOLK 2.22 contains 3,450,408 tokens, the lowest frequency per million words that can be calculated is 0.29 for words that have one occurrence. Therefore, we cannot investigate differences at the lower end of the scale.

3.4 Interactional function: listener feedback vs. other

Based on the observations reviewed in Section 2, that for a range of linguistic structures there is a mapping of form to interactional function, our fourth hypothesis is about the role of interactional function on the choice of syntactic structure. In Section 2 we discussed evidence suggesting that elliptic variants are not typically used for introducing new information or expanding a new discourse topic, but rather for comments or concluding remarks. This holds both for structures without a subject and copula (Günthner 2009), which come close to our fragments, and for topic drop structures (Imo 2013). Hence, we hypothesize that both fragments and topic drop structures are preferentially used in utterances that do not claim speakership and do not introduce new information as their main function, but in utterances that react to informing actions by the other speaker. We will call such utterances (*listener*) *feedback*. Hypothesis H4-Interact summarizes:

- (23) **H4-Interact:** The use of fragments and topic drop structures can be predicted from the interactional function of the utterance, where utterances conveying listener feedback occur as fragments or topic drop structures more often than as full clauses.

For the operationalization of interactional function, we defined listener feedback as an utterance that is used by recipients of informing actions in order to demonstrate their active participation (Stubbe 1998), and to display understanding of the preceding talk by the interlocutor through signaling the absence of conversational trouble (Schegloff 1982). Listener feedback can thus be seen as a form of interactional management providing information about the listener’s willingness and ability to maintain the conversation, to perceive and understand the other’s contribution, and to provide appropriate reactions (Allwood et al. 1992: 2–3). This notion is similar to that of ‘backchannels’ (Yngve 1970) and includes response tokens like *mhm* or *yeah* (Gardner 2001), visual cues like nods (Stivers 2008) and smiles (Brunner 1979), or short conventionalized requests for reconfirmation such as *Echt?* ‘Really?’ (Gubina & Betz 2021). The predicative adjective structures that we are interested in offer listener feedback in terms of an expression of the listener’s consideration of the information given by the other interactant. For the classification of an utterance as listener feedback vs. some other interactional function, we used four criteria relating to the sequential environment in which the utterance occurs.

- (24) Classification criteria for utterances used as listener feedback vs. for some other interactional function:
- i. **TIMING:** Feedback is immediate: The target utterance constitutes a reaction to an immediately preceding turn or longer stretch of talk by the addressee.
 - ii. **SEQUENTIAL PLACEMENT:** Feedback follows informing actions where the speaker of the feedback utterance is told something that (most likely) is new to them, for instance as part of a longer sequence of informing utterances but also in the form of an answer to a previous question. The subject referent either has been introduced by the addressee of the feedback utterance or can be established on the basis of the addressee's previous contribution. Thus, 'access' to the referent is necessarily asymmetric, in that it is exclusively provided by the addressee of the feedback utterance.
 - iii. **CONDITIONAL RELEVANCE:** Feedback is not given as an action that is sequentially required by the preceding turn by the other interactant. Responses to questions and reactions to directives are not feedback as they are expected by the preceding utterance. Responses to assertions, in contrast, are not sequentially required and can thus be feedback.
 - iv. **UPTAKE:** Feedback does not receive any direct uptake by the addressee of the feedback utterance or the speaker, for instance in the form of an agreeing or disagreeing second assessment by the addressee or an elaboration of the topic by speaker or addressee.

Regarding criterion (iv), we wish to highlight that this is a narrow definition of listener feedback. It has been suggested that feedback in general may impact on the course of the interaction (Tolins & Fox Tree 2014). Indeed, certain types of feedback, such as reconfirmation requests like *Really?* often receive a response (Gubina & Betz 2021; Gipper, König & Weber 2024). We chose this narrow definition because different syntactic forms of predicative adjective structures might be used in different interactional settings, and it makes a difference if an utterance is meant and understood as a full contribution to the discourse (with the potential of introducing a new topic), or not. This distinction also allowed us to explore Günthner's (2009) finding that elliptic structures more often are used as concluding remarks, whereas fuller structures are more likely to allow for topic expansion. In the following, we illustrate the application of the four criteria with some examples.

In (25) Dennis informs Beate about his sister's apartment by stating that it is very nice in line 01, and describing some of its features in lines 03–04. In line 05, Beate produces a fragmentary token of the adjective *cool* (a loan from English). This utterance is classified as listener feedback: (i) it is immediate – it is placed immediately after the stretch of talk containing the evaluated entity, here the apartment; (ii) it follows an informing action; (iii) it is not required by Dennis's previous utterance; (iv) it does not receive any uptake in the form of a (dis)agreeing second assessment or an elaboration of the topic.

- (25) 01 D: *auf jeden fall hat sie ne sehr coole wohnung*
on every case has she a very nice apartment.FEM
'anyway she has a very nice apartment'
- 02 B: *mhm*
- 03 D: *also die is recht groß*
PART she is quite big
'it is quite big'
- 04 D: *und dann noch so ne so ne schöne terrasse*
and then in_addition such a such a beautiful terrace
dazu im dritten stock oben
in_addition in_the third floor upstairs
'and in addition a beautiful terrace up on the third floor'

- 05 B: *cool*
 06 D: (*ne*) *dachterrasse*
 a roof_terrace
 'a roof terrace' [MK-DB]

(26) is a case with a different sequential structure. Here, the fragment *krass* 'crass' in line 08 is used as listener feedback reacting to a confirming answer (*ja* 'yes', line 07). This answer is given as response to a request for reconfirmation (*echt?* 'really', line 06) and is an informing action, which line 08 reacts to. (26) is classified as listener feedback because all criteria are met.

- (26) 01 D: *ich wollte ja jetzt unbedingt karten für die drei*
 I wanted PART now very_much tickets for the three
fragezeichen haben
 question_marks have
 'I really wanted to get tickets for the Three Question Marks'
 02 *die kommen nach münster also die originalsprecher*
 they come to Münster PART the original_speakers
 'they are coming to Münster, that is the original speakers'
 03 B: *echt?*
 'really?'
 04 D: *ja aber es gibt schon für münster gibts gar nichts mehr*
 yes but it gives already for Münster gives_it_at_all nothing more
 'yes but for Münster there's nothing left'
 05 *alles ausverkauft*
 all sold_out
 'all sold out'
 06 B: *echt?*
 'really?'
 07 D: *ja*
 'yes'
 08 B: *krass*
 'crass'
 09 D: *und jetzt hab ich schon bei ebay geguckt*
 and now have I already at Ebay looked
 'and now I already checked at Ebay'
 10 *also die kommen im oktober oder so*
 PART they come in October or so
 'they are coming in October, something like that' [MK-DB]

(27) illustrates a case where criterion (ii) is not met. The fragment *krass* in line 12 is not classified as feedback here, because it refers back to an observation made by both interactants and discussed in the extract, viz. that in Amsterdam, some houses are equipped with steel hooks for securing pushbikes. Thus, access to the subject referent is not asymmetric, and criterion (ii) is not met.

- (27) 01 L: *geil fand ich ja in dem einen viertel*
 amazing found I PART in that one part_of_town
 'in that one part of town, I really found it amazing'
 02 *dass die da wirklich an den häusern haken dranhatten*
 that they there really on the houses hooks had_attached
 'that they really had hooks attached to their houses'

- 03 D: *jaha* ((laughs)) (*genau*) ((laughs))
 ‘yes exactly’
- 04 L: *um dann die fahrräder dran zu befestigen*
 for then the bikes on_them to attach
 ‘for attaching bikes to them’
- 05 D: *ja diese dicken diese dicken äh*
 yes these thick these thick uhm
 ‘yes these thick, thick, uhm’
- 06 L: *montierte*
 ‘mounted’
- 07 D: *stahlhak- stahlhaken ja*
 ‘steel hooks, yes’
- 08 L: *ja genau*
 ‘yes exactly’
- 09 D: *unddann so ne- so ne kette dadurch*
 and then such a such a chain through_it
 ‘and a chain going through’
- 10 L: *ja*
 ‘yes’
- 11 D: ((laughs))
- 12 L: *krass*
 ‘crass’ [MK-LD]

Example (28) shows a case where criterion (iii) is not met. In (28), Ulrike asks Victor what kind of tunes he plays with his bagpipes. His response answers this question, and hence is not categorized as feedback.

- (28) 01 U: *undspielst du dann so mittelalter oder schottische oder*
 and play you then such Middle_Ages or Scottish or
was für melodien
 what kinds_of melodies
 ‘and do you play medieval or Scottish or what kinds of melodies?’
- 02 V: *ja s is so n bisschen beschränkt*
 yes it is PART a little limited
 ‘well it’s a bit limited’ [MK-UV]

(29) illustrates a case where criterion (iv) is not met. Here, Hannah agrees in line 07 with Victor’s utterance in line 04/06 by saying *jaha*, which is a lengthened version of the response particle *ja* ‘yes’. Hence, Victor’s utterance is followed by a second assessment, which is not allowed by criterion (iv) which precludes feedback from being part of a topic elaboration.

- (29) 01 H: *ich war mal stadtmeister von neustadt*
 I was PART city_champion of Neustadt
 ‘I once was city champion of Neustadt’
- 02 V: *boah*
 ‘woah’
- 03 H: *ja*
 ‘yes’
- 04 V: *das is aber auch schon-*
 that is but too PART
 ‘but that’s quite...’

- 05 H: *das is*
‘that is...’
- 06 V: *sehr renommiert ne*
very renowned PART
‘very renowned, isn’t it?’
- 07 H: *jaha* ((laughs))
‘yes’ [MK-VH]

(30) is an instance where the predicative adjective structure in line 05 reintroduces a topic that was discussed a few turns before the start of the extract. Thus, there is a topic shift from a description of Stanford as beautiful and Dennis’s friend’s wish of doing his MA there (lines 01–03), to the high costs of studying there. This topic is then discussed further in the following turns. By criterion (iv) listener feedback cannot initiate topic shifts.

- (30) 01 D: *sieht echt richtig schön aus da*
looks really very beautiful PREFIX there
‘it looks like it’s really nice there’
- 02 *undda würd er halt ganz gerne hin glaub ich* ((laughs))
and there would he PART quite gladly towards believe I
‘and he would very much like to go there, I believe’
- 03 *undda so n master machen*
and there such a MA do
‘and do an MA there’
- 04 *so n el el em nennt sich das glaub ich*
such a L L M calls itself that believe I
‘an LLM it’s called I think’
- 05 B: *(aber s) s bisschen teuer*
but that is little expensive
‘but that’s a little expensive’
- 06 D: *kostet wohl so im jahr wenn man so alles einrechnet*
costs PART so in_the year if one so everything calculates
ungefähr sechzigtausend dollar
roughly sixty_thousand dollars
‘it apparently costs roughly sixty thousand dollars per year, all together’
- 07 B: *okay*
[the speakers continue to discuss the cost of studying at Stanford, with, e.g., D explaining that he and his friend had calculated the money they would need each day] [MK-DB]

It is clear that listener feedback is only one of many possible interactional functions of predicative adjective constructions, in particular when it comes to topic drop and fragmentary structures (Arens 2023). Thus, the binary distinction we make in this variable between listener feedback vs. all other functions is coarse. However, this strategy enables us to focus on one particular function we expect to be frequent in interaction and test its impact on the structure chosen by interactants.

4 Data and method

In this section, we describe the collection creation procedure as well as the methods of analysis applied to the data in the collection.

4.1 Collection creation

Our study is based on a corpus of video-recordings of four conversations among students who come from different areas in Germany and speak Standard colloquial German as their first language (Hoffmann & Himmelmann 2009). The recordings were made in the city of Münster in the year 2009. Three of the conversations are dyadic, the fourth contains three participants most of the time. One of the interactants features in two of the conversations, which results in a total number of eight participants, three men and five women. The corpus comprises two hours and 58 minutes of talk. The data are transcribed in ELAN (The Language Archive, MPI Nijmegen, The Netherlands; e.g. Brugman & Russel 2004).

From the corpus, we retrieved all instances of predicative adjective structures in fragment, topic drop and full clause form. The (elided) subject referent denotes an individual or a proposition which was either mentioned or invoked in the preceding discourse. The adjective is descriptive or evaluative. Apart from the (elided) subject, (elided) copula and adjective, other linguistic material could be present in a structure, for instance modal particles, intensifying adverbs/particles or epistemic adverbs. (31) shows a full clause utterance including the modal particle *ja* ‘yes’ and the intensifying particle *sehr* ‘very’.

- (31) *das is ja sehr merkwürdig*
 that is PART very strange
 PRO COP PART ADV ADJ
 ‘that is very strange, indeed’ [MK-LD]

For the automatic retrieval of potential target structures, we created a POS-tagged corpus in Sketch Engine (Kilgarriff et al. 2014). The retrieved structures were inspected manually for their relevance, keeping only cases which represented the desired structures, i.e., declarative sentences representing one of the three relevant structures and containing at least one adjective, expressing a description or evaluation of a referent from the preceding discourse that were uttered by a single speaker. Additionally, we manually checked the original ELAN-corpus for cases that were missed in the automatic retrieval. There were two cases where two adjectives were conjoined by means of the conjunction *und* ‘and’ (e.g., *und des is äh super breit und super lang* ‘and this is, uhm, super wide and super long’ [MK-LD]). We only took the first adjective into account in these two cases. This resulted in a *first collection* of 268 cases.

To arrive at a corpus of predicative adjective structures that was suitable to test the hypotheses presented in Section 3, we applied a number of additional selection criteria. We excluded sixteen cases with adjectives in comparative form, as their conditions for elliptical use may differ from those for non-comparative forms. In addition, we excluded two cases where an evaluative adverb preceded a descriptive adjective (e.g., *gut dressiert* ‘well trained’ [MK-DB]), as the adverb changes the whole expression from descriptive to evaluative. Seven cases embedded under direct speech or thought were also excluded, as they operate at a different level of discourse.

We excluded cases where adjectives were employed as response elements (*klar* ‘clear’, 5 cases; *richtig* ‘correct’, 1 case) or discourse markers (*gut* ‘good’, 10 cases). Uses of fragmentary *okay* as discourse marker or response particle were not included in the collection from the start. (32) illustrates the use of *klar* as a response element to a (declarative) question (see Loos & Repp 2025 on German response elements).

- (32) 01 V: *du liest die auch auf englisch dann wahrscheinlich*
 you read them also on English then probably
 ‘I guess you read them in English?’

- 02 U: *ja klar*
 yes clear
 ‘Yes, sure.’ [MK-DB]
 → *response element, excluded*

To identify uses as discourse markers, we checked whether the adjective conveyed as its main function a description/evaluation of a referent from a preceding utterance, or rather conveyed functions oriented to the organization of the conversation with the evaluative function being absent or deferred to the background. In the case of *gut* ‘good’ and *schön* ‘beautiful’, such organizing functions include, for instance, the indication that a communicative task has been sufficiently accomplished, and the introduction of an utterance that offers an objection to the preceding turn (Arens 2023).⁸ As a formal criterion, we tested whether or not a replacement of the potential discourse marker with the full sentence containing the same adjective was possible and conveyed the same meaning, as illustrated in (33). If this was so, the case was included, if not, it was excluded.

- (33) 01 *du des steht und fällt mit den leuten ne*
 you that stands and falls with the people PART
 ‘It completely depends on the people, right?’
 02 *klar* TEST: *das ist klar*
 clear that is clear
 ‘[That’s] clear.’ [MK-VH] ‘That’s clear.’
 → *pass, included*

We furthermore excluded six answers to questions that were (quasi) verbatim repetitions of the question (e.g., *Is that nice? – That is nice.*), because priming effects may be responsible for the form of these answers (as reported for answers to content questions: Levelt & Kelter 1982; Chia & Kaschak 2022).

Finally, we excluded 17 cases that yielded annotation problems either because the subject referent could not be reliably identified (6 cases) or because the utterance was not fully audible (11 cases). After all these exclusions, we obtained a collection with 204 cases, henceforth *full collection*. This full collection served as the basis for our qualitative analysis in Section 5.

For the quantitative analysis, we reduced the full collection further by two criteria. The first criterion was phonetic/acoustic. We excluded 16 cases for which a fully clear decision regarding their structure as either a full clause or topic drop could not be made due to phonetic reduction (11 cases), due to speaker overlap (4), or to ambiguous self-correction (1): The copula *ist* and the subject pronoun *es/das* ‘it/that’ both can be reduced to [s], potentially resulting in a geminate [s:], which can be further reduced. As a consequence, it was sometimes impossible to decide whether an utterance contained both the pronoun and the copula or only the copula.⁹ In four cases of speaker overlap, it was impossible to capture the presence or absence of segments other than [s] in the *das/es ist* sequence, which made a reliable classification of the structure impossible. This reduction led to a *reduced collection* of 188 cases.

The second criterion was the morphosyntax of full structures and topic drop. We kept only cases with third person singular subjects and with an indicative present tense form of the copula. The

⁸ Arens (2023) includes the evaluative use of adjective fragments in the term ‘discourse marker’. In this paper, we consider only adjective fragments as discourse markers that do not have the primary function of describing or evaluating.

⁹ The length of [s] varied between 250ms and 50ms, which might be taken as indicative of the presence of both the pronoun and the copula (i.e., gemination) for the longer realizations vs. topic drop for the shorter realizations. However, the shorter realizations might also reflect geminate reduction. Since length did not show a bimodal distribution we abstained from evaluating length. Due to the variability in length we also abstained from coding cases with phonetic reduction as a fourth category of predicative construction.

reason is that fragments can be interpreted with different person, number and tense features only if they are used as answers to questions (e.g., *How was she? – Good.*).¹⁰ This is not the case for topic drop or the full structure, i.e., there is not the same availability of interactional functions across the three structures with different morphosyntactic characteristics. To avoid this confound, we excluded 36 cases following this criterion, leaving a collection containing 152 cases, henceforth *final collection*.¹¹

The exclusion criteria were applied by the first author only, except for the acoustic/phonetic criterion, which was applied by the first, third and last authors, who all had to have taken the same decision for the assignment of a case to one of the three structural categories. Table 1 gives an overview of the reduced and the final collections, showing the frequency of occurrence of the three structures under investigation.

Structure	Frequency		Proportion	
	reduced	final	reduced	final
Full sentence structure	113	82	0.60	0.54
Topic drop	29	24	0.155	0.16
Fragment	46	46	0.245	0.30
Total	188	152	1	1

Table 1. Distribution of structures in {reduced | final dataset}

4.2 Coding and interrater agreement

The coding of the five hypothesis-related coding categories described in Section 3 was done by two raters. All cases were coded by the first author. Most cases were also coded by a student assistant, the remaining cases by the third author. All cases where the raters did not agree were discussed among the raters and the other authors until a consensus was reached. Cohen’s Kappa for the hypothesis-related coding categories was calculated for the *full collection* (204 cases) with the function *CohenKappa()* from the package *DescTools* (Signorell et al. 2023), see Table 2 for the results. For four of the five coding categories, the raters reached substantial agreement in the classification of Landis & Koch (1977: 165), lying between 0.61 and 0.8. The only category which is below that, interactional function, is close to the lower boundary for substantial agreement with 0.58.

Coding category	Cohen’s Kappa	Lower CI	Upper CI
Adjective semantics			
<i>Test 1: ‘Ich finde...’</i>	0.62	0.48	0.76
<i>Test 2: ‘Ich finde...’ plus comparative</i>	0.7	0.59	0.8
<i>Test 3: Faultless disagreement</i>	0.62	0.49	0.75
Reference structure	0.74	0.64	0.84
Interactional function	0.58	0.46	0.7

Table 2. Cohen’s Kappa for hypothesis-related coding categories coded by two raters

¹⁰ In our full collection, there were no fragment cases with a clear elided first or second person subject, an elided third person plural subject, or with a past or subjunctive reading.

¹¹ We excluded: first person singular (1 topic drop/4 full clauses), second person singular (1 full clause), third person plural (6 full clauses); past tense (4 topic drop, 21 full clauses), subjunctive (2 full clauses). The exclusions do not add up to the total number, as there were some cases that had both a non-3SG subject and a non-indicative present tense copula. Note that topic drop with a first person subject was extremely rare ($n = 1$), contrary to observations in the literature that dropping a first person subject is particularly frequent (Auer 1993; Frick 2017; Schäfer 2021), some of which are based on text messages.

4.3 Analysis and modelling

To test the predictions of our hypotheses, we fitted three mixed-effects multiple logistic regression models in R, version 4.5.1 (R Core Team 2025), using the function *glmer()* from the package *lme4* (Bates et al. 2015).¹² In these models, we separately test our hypotheses for fragments vs. full sentences (128 observations), for topic drop vs. full sentences (106 observations), and for fragments vs. topic drop (70 observations). The binary dependent variable is the syntactic structure chosen in the target utterance (e.g., fragment vs. full sentence). Our models contain four predictor variables: adjective semantics (evaluative vs. descriptive), reference structure (proposition vs. individual), interactional function (listener feedback vs. other), and adjective frequency. In addition, we added random intercepts for the eight speakers. As the three subsets may be too small to provide enough statistical power to include interactions, we fitted the models without interactions.

In order to mitigate for the small sample size, we furthermore conducted non-parametric permutation tests (e.g., Pesarin & Salmaso 2010; Berry et al., 2011) to detect effects in the data not revealed by the logistic models. These tests allowed us to estimate the likelihood that any observed effects of our predictors occur by chance. For this purpose, the distribution of the outcomes across all values of one predictor at a time are randomly scrambled while the other three predictors are held constant. In order to make this possible for the adjective frequency predictor, we created a binary version of this predictor with a cutoff-point at a Zipf scale score of 5 ('high': >5; 'low': <5). To keep predictors constant, blocks of predictor combinations were created for each test. For instance, to test the predictor adjective semantics, blocks were created where the other three predictors are constant (e.g., one block containing only cases where reference structure = 'proposition', interactional function = 'feedback', and binary frequency = 'high', etc.). Within these blocks (but not across blocks), the observed values for the target predictor were scrambled across the observed values of the outcome variable, syntactic structure. The tests were run for each level of the outcome variable separately ('full structure', 'topic drop', 'fragment'). For each permutation, we calculated how often the outcome value (e.g., fragment) co-occurs with the less frequent value of the predictor (in our example, 'descriptive'), subtracting how often it co-occurs with the more frequent value (here, 'evaluative'). This difference was then compared to the corresponding statistic calculated on the unpermuted, real data. On the basis of a sample of 1,000,000 permutations, we used the beta distribution to identify the 95% confidence interval for the underlying likelihood of getting a permutation where the relevant predictor has a greater than or equal effect on the tested syntactic structure compared to the real data. The obtained values work similarly to *p*-values, i.e., if that likelihood is high, any effect observed in the real data is likely due to chance. The permutation tests were performed using for-purpose code written in Python, making use of a forthcoming functional programming library (Ellison forthc.). The beta distribution confidence intervals were calculated with the help of *scipy.stats* (Virtanen et al. 2020). The plots in this paper were generated in R with *ggplot2* (Wickham 2016), *ggcorrplot* (Kassambra 2022), and *ggpubr* (Kassambra 2025).

5 Results

In this section, we present the results of our analysis, starting with a presentation of properties of the dataset (Section 5.1). We then report the results of the regression models (5.2) and the permutation tests (5.3). In Section 5.4, we take a closer look at uses of fragments that do not convey listener feedback. Further qualitative observations are reported in Section 5.5.

¹² We used the following settings: *family = binomial*, *control = glmerControl(optimizer = "bobyqa")*, *naGQ=10*.

5.1 Dataset

Figure 1 gives an overview of the adjectives that occurred in the final dataset. There were 73 different adjectives¹³, their frequency being very variable. The most frequent adjective was *krass* ‘crass’ with 13 tokens. 53 adjectives occurred only once. All adjectives that occur more than twice are evaluative, and evaluative adjectives are more frequent overall.

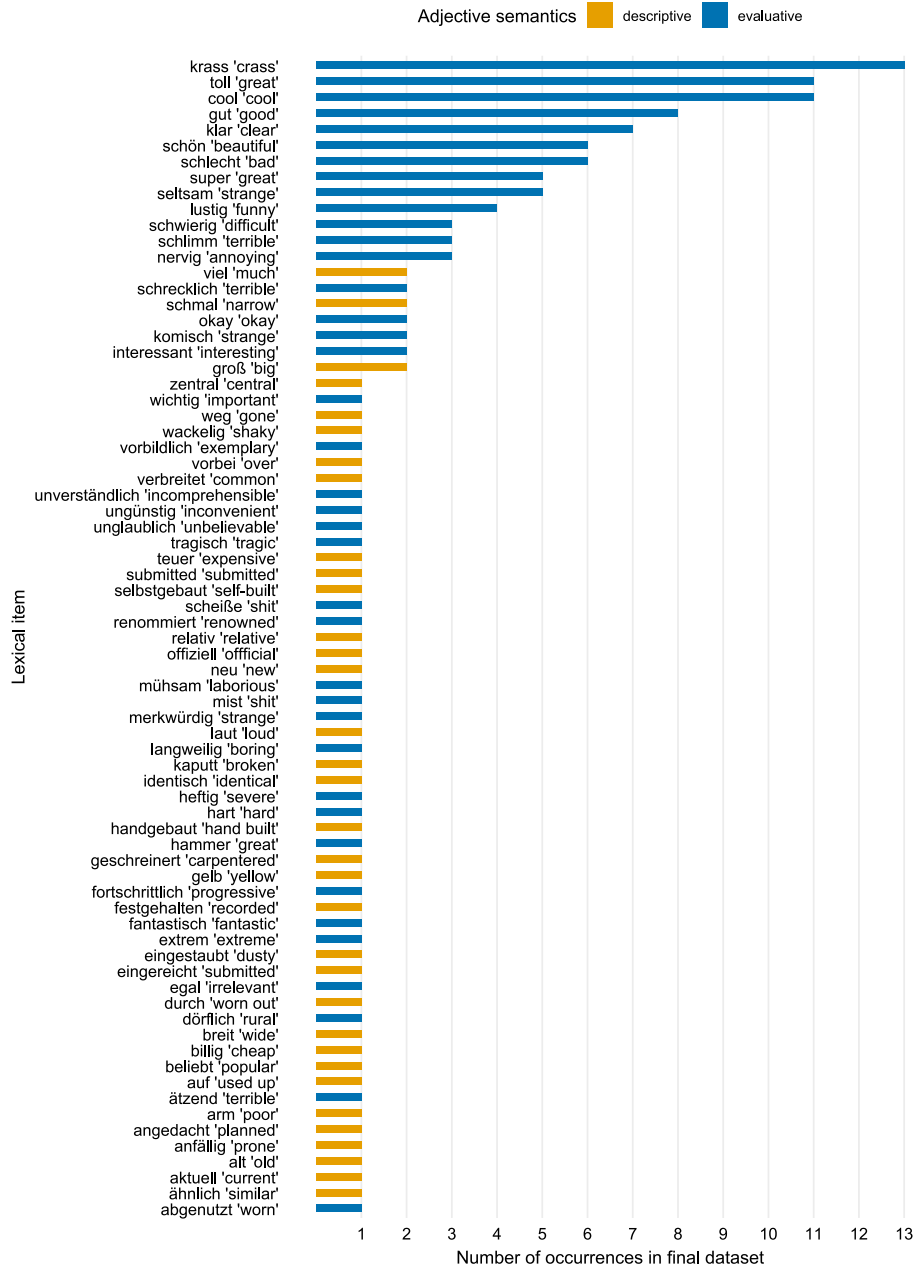


Figure 1. Absolute frequencies of adjectives in final dataset

¹³ Recall that our collection also contained elements in predicative position that belong to a different word class in other positions. Examples are *durch* ‘worn out’ (preposition ‘through’) or *weg* ‘gone’ (particle ‘away’), *mist* ‘shitty’ (noun ‘shit’). Also, many of the predicative adjectives cannot be used in attributive position.

To assess the typicality of our corpus, we compared the frequency of adjectives in predicative structures with their frequencies in the FOLK corpus by calculating a deviation score in using the formula $(\text{frequency pmw MK} + 1) / (\text{frequency pmw FOLK} + 1)$. We found that some of the evaluative adjectives in our data set, in particular *krass* ‘crass’, *seltsam* ‘strange’, and *fantastisch* ‘fantastic’, occur more frequently than expected in our corpus when compared to FOLK. The adjective *krass* ‘crass’ is used by most of the speakers in our corpus, which suggests that it may be typical for the speaker cohort represented. Four of the five *seltsam* tokens come from a single speaker, the same holds for the three *fantastisch* tokens, suggesting that these two adjectives may be idiosyncratic preferences.

Figure 2 visualizes the relationship of adjective frequency (Zipf scale score) with the other three predictors adjective semantics, reference structure, and interactional function for all instances in the final dataset. It indicates that evaluative adjectives in the dataset tend to be more frequent. The same is true for adjectives referring to propositions and for those used in feedback position.

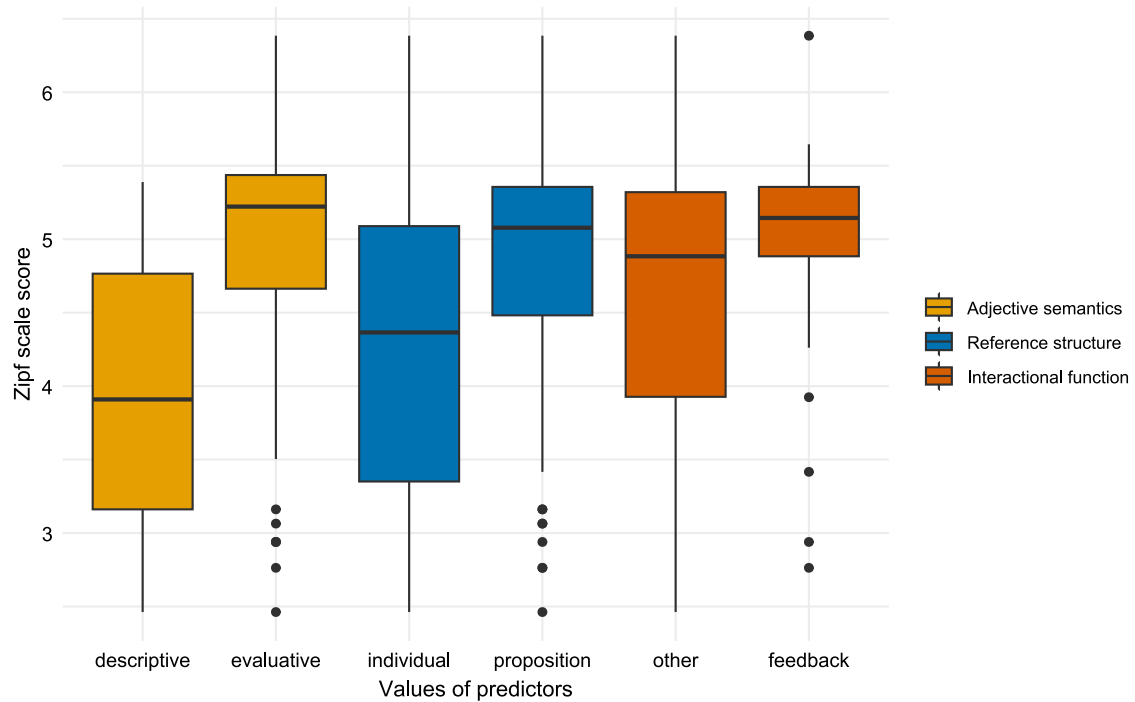


Figure 2. Relationship of adjective frequency in predicative function and adjective semantics, reference structure, and interactional function for all instances in final dataset

In Figure 3, the correlations between all variables are shown in a correlation plot. The strongest correlations are observed between adjective semantics and reference structure (0.5) and between adjective semantics and adjective frequency (0.48). The remaining correlations are comparatively moderate.

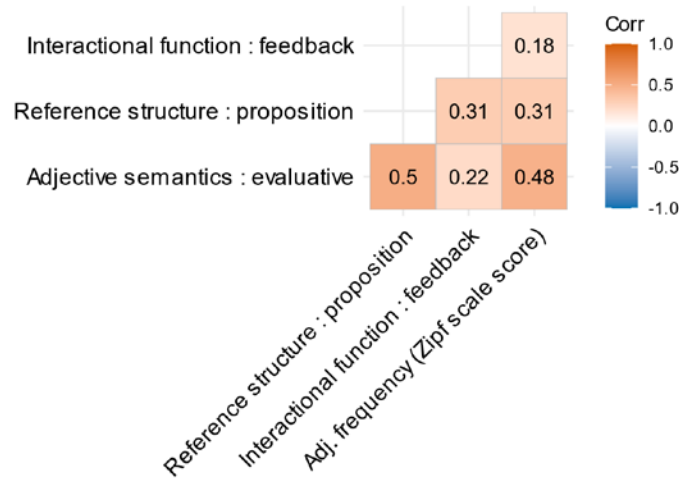


Figure 3. Correlation plot of the four predictors in final dataset

Figure 4 shows the distribution of the three structures for each of the predictors, indicating that all four predictors seem to have *some* effect on use of fragments vs. full sentences, the effect looking largest for interactional function.

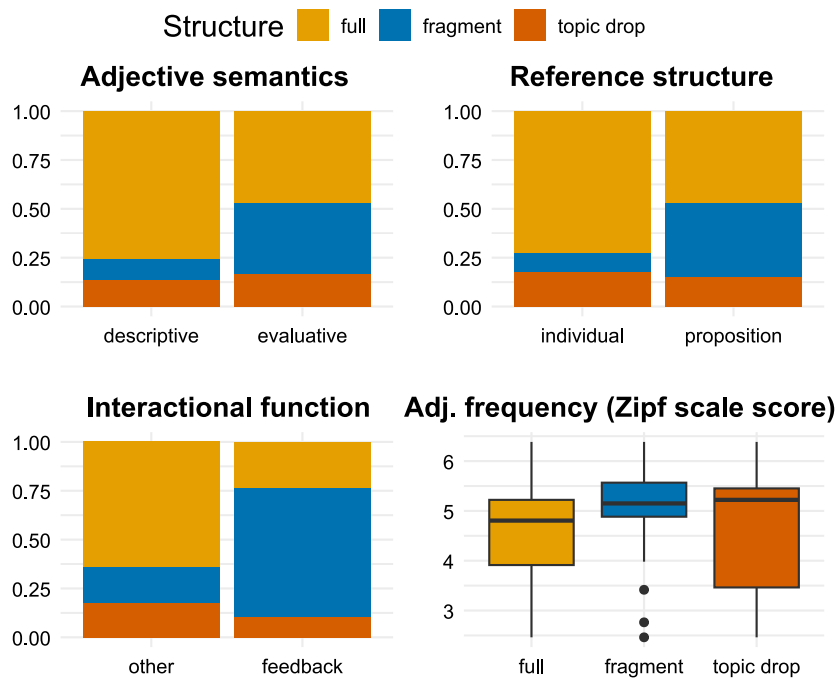


Figure 4. Distribution of four predictors and outcome variable

Figure 5 visualizes the distributions of the three structures for the combination of the predictors. The topic drop structure is infrequent overall and shows no clear distribution. For fragments, the pattern suggested by the regression models (see Section 5.2) becomes apparent: Fragments show a

preference for feedback position, which in turn bundles utterances that contain evaluative adjectives with high frequencies referring to propositions. We can also see that non-feedback functions, represented in the bars in the top row of Figure 5, are preferred by the full structure. Fragments in non-feedback functions mostly contain an evaluative adjective and a propositional subject referent. Note, however, that the proportion of fragments with these properties is much higher in feedback position. Thus, there is an effect in the predicted direction of adjective semantics and reference structure, but it is much more pronounced in feedback position.

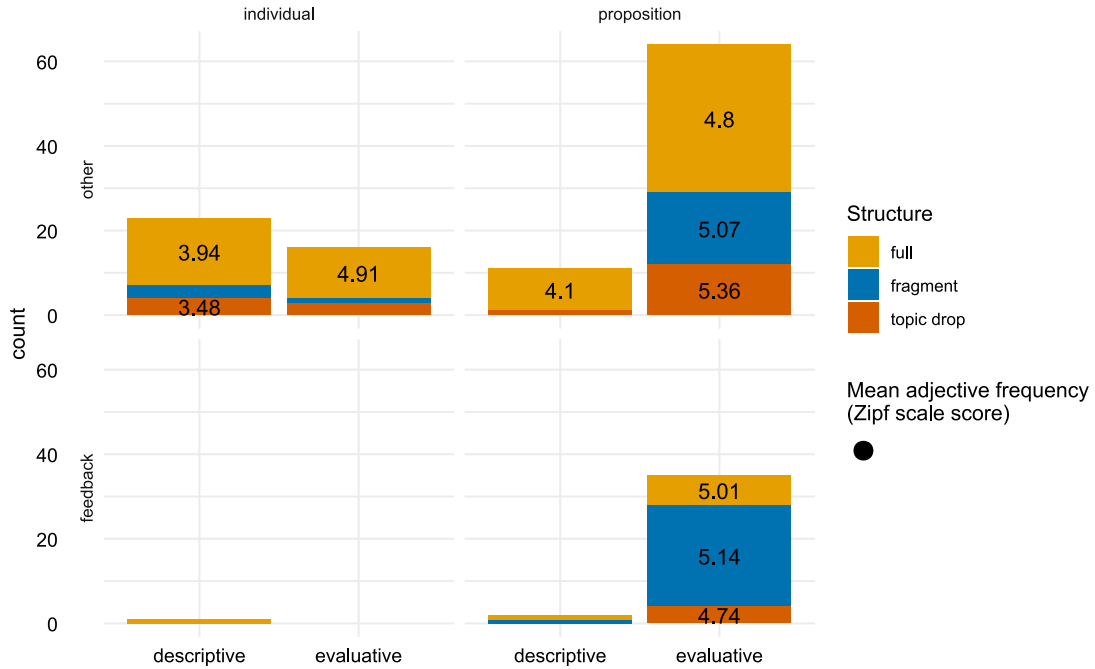


Figure 5. Distribution of combination of four predictors and outcome variable

5.2 Regression models

Given that our predictors show some degree of correlation, we tested for multicollinearity by calculating the variance inflation factors (e.g., Marquardt 1970) with the help of the function *vif()* from the package *car* (Fox & Weisberg 2019). The model estimates for the choice between fragments and full clauses are given in Table 3. All VIF values are between 1 and 1.1, which suggests that the model coefficients are not distorted by collinearity between the predictors.¹⁴ Only interactional function in terms of listener feedback has a significant effect, suggesting that this interactional function has the strongest impact on the use of fragments rather than full clauses.

	<i>estimate</i>	<i>SE</i>	<i>z</i>	<i>p</i>	
Adjective semantics : evaluative	1.15	0.85	1.36	0.17	
Reference structure : proposition	0.81	0.79	1.02	0.31	
Adjective frequency (Zipf scale score)	0.39	0.32	1.22	0.22	
Interactional function : listener feedback	2.46	0.64	3.86	0.0001	***

Table 3. Model estimates of fragments compared to full clauses

¹⁴ Note that while there is some disagreement regarding the cutoff-point for unproblematic VIF values (see e.g. Tomaschek et al. 2018: 253), values around 1 are generally not considered problematic.

Table 4 gives the model estimates for the choice between topic drop structures and full clauses. The VIF values for the four predictors range between 1.1 and 1.23. None of the predictors had a significant effect.

	<i>estimate</i>	<i>SE</i>	<i>z</i>	<i>p</i>
Adjective semantics : evaluative	0.78	0.67	1.16	0.25
Reference structure : proposition	0.13	0.68	0.2	0.84
Adjective frequency (Zipf scale score)	-0.09	0.27	-0.33	0.74
Interactional function : listener feedback	0.33	0.71	0.47	0.64

Table 4. Model estimates of the use of topic drop compared to full clauses

Table 5 shows the model estimates of fragments compared to topic drop structures. The VIF values range between 1.12 and 1.86. The predictor interactional function is significant, suggesting that fragments are used more often in feedback position than topic drop structures.

	<i>estimate</i>	<i>SE</i>	<i>z</i>	<i>p</i>
Adjective semantics : evaluative	-0.84	1.45	-0.58	0.56
Reference structure : proposition	0.69	1.28	0.54	0.59
Adjective frequency (Zipf scale score)	0.69	0.49	1.39	0.16
Interactional function : listener feedback	2.36	0.99	2.38	0.02 *

Table 5. Model estimates of the use of fragments compared to topic drop

5.3 Permutation tests

Table 6¹⁵ reports the results of the permutation tests. Of all tests conducted, only interactional function showed a significant effect on fragment and full structure, suggesting that when all other predictors are kept constant, feedback position is a very strong predictor of syntactic structure. In line with the results from our logistic models, the permutation tests show that utterances in feedback position are more likely to be formatted as fragments, and less likely to be formatted as full clauses.

Predictor (value)	Outcome	Lower	Same	Higher	CI	
Interactional function (feedback)	full structure	130	493	999377	0.0007	***
	topic drop	83769	131894	784337	0.22	
	fragment	999980	17	3	0.00003	***
Adjective semantics (descriptive)	full structure	796487	119961	83552	0.20	
	topic drop	329939	291576	378485	0.62	
	fragment	50010	118995	830995	0.17	
Reference structure (individual)	full structure	610107	164054	225839	0.39	
	topic drop	546438	216896	236666	0.45	
	fragment	97451	145964	756585	0.24	
Frequency binary (low)	full structure	726534	111966	161500	0.27	
	topic drop	33804	58651	907545	0.09	
	fragment	616841	149853	233306	0.38	

Table 6. Results of the permutation tests

¹⁵ The columns 'Lower', 'Same' and 'Higher' indicate how many of the 1,000,000 permutations yielded lower, the same, or higher evaluations than the real data where the evaluation compared the particular outcome with the predictor value of lower binary frequency (in brackets).

As a last analysis, we now look at the three predictors that did not show a significant effect in all preceding statistics, conducting permutation tests but now holding only the predictor interactional function constant. This test may reveal effects of the predictors that are independent from interactional function, but without taking into account the further predictors. We ran the test only for the value *fragment*, as this was the syntactic structure where interactional function showed the strongest effect. The results are given in Table 7. It turns out that adjective semantics and reference structure do show a mildly significant effect, with evaluative adjectives and propositional referents being more likely to occur with fragments in line with our hypotheses.

Predictor	Lower	Same	Higher	CI
Adjective semantics	7961	22740	969299	0.031 *
Reference structure	12655	32727	954618	0.046 *
Frequency binary	227045	134537	638418	0.37

Table 7. Results of permutation tests for adjective semantics, reference structure, and binary frequency, holding interactional function constant, for the value of fragment

In sum, the permutation tests confirm that interactional function is the strongest predictor of syntactic structure, in that utterances in feedback position are more likely to be fragments than full sentences. Adjective semantics and reference structure may show effects in larger datasets, but these are much smaller than the effect of interactional function in terms of feedback position.

5.4 Uses of fragments outside listener feedback

To address the question of what may condition interactants' use of fragments outside listener feedback, we looked in detail at the 18 fragments (see Figures 4 & 5) that were used outside the feedback position. 11 of the 18 instances occur in assessments of a referent introduced by the same speaker in the preceding discourse. 10 of these cases come from a single male speaker. The 11 cases split into three subtypes of interactional sequence: In the first, a second assessment ensues, see (34); in the second, the speaker uses the target utterance as a bridge between the preceding and the following discourse, see (35); in the third, two consecutive adjectival fragments (*toll* 'great' and *nich schlecht* 'not bad'), are employed to close the sequence, see (36).

- (34) 01 V: *und die tolle musik die da immer gespielt wird*
 and the great music.FEM that there always played is
 'and the great music that they always play there'
- 02 *schön ne*
 nice PART
 'nice, isn't it'
- 03 H: *ja die is so unglaublich*
 yes she is so incredible
 'yes, it's so incredible' [MK-VH]
- (35) 01 *kein tennis kein golf kein segeln*
 no tennis no golf no sailing
 'no tennis, no golf, no sailing'
- 02 *völlig langweilig*
 completely boring
 'completely boring'
- 03 *ich hab immer geturnt*
 I have always done_gymnastics
 'I used to do gymnastics' [MK-VH]

- (36) 01 *was hast du alles gemacht mein gott*
 what have youall done my God
 ‘all the things you have already done, my God’
 02 *kanu fahren im chor singen klavier spielen*
 canoe drive in choir sing piano play
 ‘canoeing, singing in a choir, playing the piano’
 03 *toll*
 ‘great’
 04 ***nich schlecht***
 not bad
 ‘not bad’ [MK-VU]

The seven remaining cases have a variety of interactional functions that cannot be systematized further. We find the following interactional contexts: correction or specification (descriptive adjective in second position, two uses), concluding assessment of jointly remembered state of affairs, agreement to proposal, agreement to assessment, first assessment, sequence abandonment (with the adjective *egal* ‘it doesn’t matter’).

5.5 Further qualitative observations

A general observation that we can make on the basis of our collection is that fragments, when containing evaluative adjectives, express evaluations that are presented as grounded in the here-and-now of the current conversational context, constituting ad-hoc evaluations done at the moment of speech. This is highly compatible with their frequent use as listener feedback: listener feedback offers a reaction to information given by the other interactant in immediately preceding talk, which means that they by definition convey stances that are generated ad hoc and have not been held previously. In part, this grounding in the here-and-now of evaluations in fragment format is related to the low potential of fragments to take further linguistic material. On the one hand, fragments lack the possibility of being marked for tense as they do not contain a verb. By formatting an assessment in past tense, either in the full structure or in the topic drop structure, speakers can express that the evaluation is grounded in past experiences, as in (37), and/or was already done in the past, as in (38).

- (37) 01 L: *ja aber da war er noch in gutem zustand im gegensatz zu*
 yes but then was he still in good state in contrast to
 jetzt
 now
 ‘yes but back then it was still in a good state in contrast to now’
 02 D: ***war jetzt okay***
 was now okay
 ‘it was kind of okay’ [MK-LD]
- (38) 01 *ich hab ihn verstanden und ich wusste die antwort*
 I have him understood and I knew the answer
 ‘I could understand him and I knew the answer’
 02 *s war toll*
 it was great
 ‘it was great’ [MK-VH]

Another strategy for making explicit that an evaluation is not grounded in the conversational here-and-now but based on previous experience is the use of modal particles. In (39), Victor and Ulrike

are talking about a certain soundtrack Victor likes. In line 01, he states that he once lived in a place where one of the neighbors used to play this soundtrack. Overlapping with his own positive evaluation of these situations in line 02, Ulrike first produces an affirmative response token in line 03, and then uses a predicative adjective construction in topic drop format containing the focus particle *auch* ‘too’ in its unstressed form (line 04). Thus, she marks her evaluation of the soundtrack as independent and based on her own past experience rather than grounded in information just provided by Victor. The use of the modal particle *auch* in this reading would not be grammatical in combination with a fragment.

- (39) 01 V: *ich hab mal in nem wohnheim gewohnt da äh hat*
 I have once in a residence lived there uhm has
irgendwo unter mir eine gewohnt die hat das immer gespielt
 somewhere below me one_person lived she has that always played
 ‘I once lived in a student residence, uhm, where below me there lived someone
 who used to play that’
- 02 *und ich [fands immer so] toll so*
 and I found_it always so great so
 ‘and I always found that so great’
- 03 U: [ja:]
 ‘yes’
- 04 *is auch schön*
 is too beautiful
 ‘it is indeed beautiful’ [MK-VU]

Another observation from our data is that, when assessing referents introduced by the other interactant’s prior talk, fragments are usually not employed to express evaluations that are incongruent with evaluations explicitly or implicitly expressed by the other interactant. To convey potentially incongruent evaluations, speakers usually use fuller structures. Sometimes, they additionally use further linguistic material to make this incongruence explicit. For instance, they add the modal particle *doch* to indicate a mismatch between the other’s position and their own expectations. In (40), Claudia describes her prior sports experience, stating that she did not pursue one particular sport but rather did various things for some periods of time. Hilde then offers an evaluation, stating that that is not so bad after all, as at least Claudia did do sports. She uses the conjunction *aber* ‘but’ to project the upcoming incongruence, and marks her evaluation as incongruent by *doch*.

- (40) 01 C: *geturnt hab ich auch ma (...)*
 done_gymnastics have I too PART
 ‘I also did gymnastics for a while’
- 02 *ich hab alles immer mal son bisschen gemacht un dann*
 I have all always PART such_a bit done and then
wieder aufgehört
 again stopped
 ‘I used to practice everything for a while and then stopped again’
- 03 H: *ja aber is doch auch nich schlecht*
 yes but is PART too not bad
 ‘yes but that’s not bad either’
- 04 *also ich meine du hast (dann) wenigstens sport gemacht*
 so I mean you have then at_least sports done
 ‘I mean at least you have been doing sports’ [MK-VH]

Another difference between fragments and fuller structures is that fuller structures allow speakers to target referents they cannot target in fragments. In (41), an evaluation of the writings of Jane Austen is produced by Ulrike in line 09. Victor's reaction in line 05 allows for the inference that he is not very much inclined toward a positive evaluation (even though he has not read any works by Austen, see lines 07–08). The anaphor *das* (reduced to [s])¹⁶ in Ulrike's evaluation in line 09 refers to an individual, namely the writings of Jane Austen. If a fragment was used, this interpretation would not be possible: it would be taken to refer to Victor's preceding utterance where he states that he has not read any of Austen's works.

- (41) 01 V: *du bist jane austen fan (...)*
 you are Jane Austen fan
 'you're a fan of Jane Austen?'
- 02 U: *eh ja ich-*
 uhm yes I
 'uhm yes, I...'
- 03 V: *hast das buch gelesen oder was*
 have the book read or what
 'you read the book or what?'
- 04 U: *eh ich hab sogar meine facharbeit drüber geschrieben ja*
 uhm I have even my assignment about_it written yes
 'uhm I even wrote my assignment about it, yes'
- 05 V: (...) *ach du scheiße*
 oh youshit
 'oh shit'
- 06 U: ((laughs))
- 07 V: *ich hab ja von der frau nix gelesen muss ich sagen*
 I have PART by that woman nothing read must I say
 'I haven't read anything by her I have to say'
- 08 V: *ich kenn das überhaupt nich*
 I know that at_all not
 'I don't know it at all'
- 09 U: *ss fantastisch*
 that_is fantastic
 'it's fantastic' [MK-VU]

The examples we have discussed so far concern evaluative adjectives. (42) contains a descriptive adjective in a fragment, which is used as a correction (line 03). This leads to a conflict in the conversation, so the issue is negotiated in the subsequent talk. Thus, the interactional function of the fragment is to introduce new information, not feedback.

- (42) 01 L: *hab schon hässlichere gesehen*
 have already uglier_ones seen
 'I have seen uglier ones'
- 02 *is halt nur weiß mein Gott*
 is PART just white my God
 'it's just white, so what'

¹⁶ The example is one of the cases with phonetic reduction, so potentially we may also be dealing with a topic drop structure.

- 03 D: *gelb*
 ‘yellow’
- 04 L: *gelb pfa würd ich jetzt nicht sa-*
 yellow INTJ would I now not say
 ‘yellow, pha, I wouldn’t say so’
- 05 D: *war mal weiß*
 was once white
 ‘used to be white’ [MK-LD]

6 Discussion and conclusion

In this paper, we set out to investigate the factors influencing speakers’ choice between fragmentary and fuller predicative adjective structures in colloquial German conversation. We found that one particular interactional function, listener feedback, is the best predictor for speakers choosing fragments over full clause structures, showing a stronger effect than adjective semantics (evaluative vs. descriptive), referential structure (individual vs. propositional referent), and predictability. Moreover, we have shown that listener feedback brings together the other three predictors. Our results thus suggest that the differentiation between fragments and full clause structures is to a large extent conditioned by interactional function rather than by other semantic-pragmatic factors.

We suggest that our findings may explain the unexpected results reported by Reich (2019) that in a rating experiment, fragments were not strongly associated with evaluative adjectives. Rather, full sentences were judged better than fragments overall, and evaluative adjectives were also judged better than descriptive adjectives overall. We suggest that this may be due to the approach of the experiment where the interactional context was kept constant in all conditions. If the use of fragments vs. full structures is to a large extent conditioned by interactional function, as our results suggest, such an approach will not be able to distinguish between the relevant predictors. In Reich’s study, items were presented as text message chats, where an assertion by speaker 1 was followed by a follow-up question *Und? ‘And?’* by speaker 2, followed by the target utterance produced by speaker 1, which contained the adjective providing an assessment of a referent, always an individual, mentioned in the first statement, see (43).

- (43) S1: Paul und ich waren am Freitag beim Green Day-Konzert in Mannheim
 ‘On Friday Paul and I went to the Green Day show in Mannheim’
 S2: Und?
 ‘And?’
 S1: Ausverkauft
 ‘Sold out’ (Reich 2019: 114, glosses and English translations added by the authors)

It is very well possible that the follow-up *Und?* elicits a subjective evaluation of the entity in question rather than a description. This could explain why participants judged evaluative adjectives more acceptable overall than descriptive adjectives, both in fragmentary and full sentence format. Our study shows that fragments are more likely to occur in the interactional function of feedback position, which is particularly true for evaluative adjectives. In future experimental research, it would thus be advisable to manipulate interactional function and test whether this variable has an impact on participants’ ratings of utterances.

Regarding the use of the topic drop structure compared to the full structure, our data suggest that topic drop is not strongly influenced by the predictors we tested. Moreover, we found that the topic drop structure patterns with full clauses when it comes to use in feedback position, both structures being less likely to occur in this position than fragments. This suggests that for predicative adjective constructions, topic drop structures differ from fragments in their conversational use. Regarding other factors affecting the use of topic drop vs. full clauses (e.g.,

Auer 1993; Imo 2014; Trutkowski 2016; Schäfer 2021; Schäfer 2025), viz. high lexical predictability of the verb, preference of 1st and 3rd person subject, and distinct verb inflection (vs. syncretic inflection), our data are silent. Predictability of the verb is not relevant because the verb did not vary in the copula structures. Regarding person and verbal inflection, these did not vary in the final dataset, and the number of occurrences of topic drop in the final dataset are not sufficient for a quantitative analysis.

Our research shows that evaluative adjectival fragments show a tendency toward conventionalization as signals of listener feedback, thus adding to Arens's (2023) proposal for the adjectival fragments *gut* 'good' and *schön* 'beautiful' working as discourse markers with functions in the realm of conversational organization. In general, then, evaluative adjectival fragments show a tendency for taking on pragmatic and interactional functions that go beyond their literal evaluative meaning, one of them being listener feedback. Similar effects of conventionalization have been reported for other types of elliptical structures (Günthner 2009: 176; Imo 2014: 155–156; Arens 2023).

Our research furthermore demonstrates that fragments are used mostly with ad-hoc evaluations that are grounded in the here-and-now of the current speech situation. This is consistent with previous findings on other fragmentary structures that have been found to have an “exclamative potential” not observed for the full structure (Günthner 2009: 175–177) and a lower aptitude than full forms for introducing new information into the discourse (Imo 2013: 298). In this sense, the uses of adjectival fragments in the position of listener feedback can be classified as ‘speech act ellipsis’ (Busler & Schlobinski 1997: 95) with a specialization of expressing assessments in feedback position. When we compare the function of listener feedback conveyed by adjectival fragments to the uses of fragmentary *gut* ‘good’ and *schön* ‘beautiful’ as discourse markers with functions pertaining to the organization of interactional sequences (Arens 2023), we note that the evaluative component is still present in the listener feedback function, whereas it is often absent in the realm of conversational organization.

A further observation we can make on the basis of our data is that the lexical items that occur as adjective fragments in feedback position may to some extent be specific of certain social groups. Two of the adjectives are particularly frequent in feedback position in our collection, namely *krass* ‘crass’ and *cool*, both generally showing a higher frequency per million words in our collection when compared to the FOLK corpus. This suggests that the two adjectival fragments *krass* and *cool* may be typical feedback signals employed by students in their 20s at the end of the 2000s.

The main limitation of our study pertains to the small sample size. While this allowed us to apply manual annotation based on rigorous criteria and to add a qualitative exploration in addition to the quantitative analysis, it also comes with limited statistical power and the impossibility to investigate interactions between all predictors. In the future, it will be desirable to conduct studies with larger conversational corpora to corroborate the findings from this study.

To conclude, our data shed light on questions of the optimization of certain linguistic structures for specific interactive functions. Our results suggest that fragments are optimal structures for the interactional function of listener feedback and other functions that convey an ad-hoc evaluation of a referent. In comparison to full sentences, they are shorter and hence less invasive, and do not interrupt the talk of others.

Funding

We gratefully acknowledge the funding sources that made this research possible. The research reported in this paper was funded by the Excellent Research Support Program of the University of Cologne, funding line Cluster Development Program, project *Language Challenges*, and by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project-ID: 281511265 – SFB 1252 “Prominence in Language,” as part of project C09 “Prominence and predictive modelling” at the University of Cologne.

Acknowledgments

We are very grateful to the participants who took part in the data collection. For a discussion on possibilities for the data analysis, we thank Job Schepens. We furthermore thank Christoph Rühlemann for his advice on data visualization. Moreover, we are grateful to Undine Kuhlmann for her work on the coding of the data. All remaining errors are ours.

Author contributions

SG supervised data annotation and wrote all drafts. TAH and SG created the collection from the corpus and contributed to corpus analysis. SG, SR, TAH, NPH and PBS contributed to the design of the study and the coding scheme. SG and TME carried out statistical evaluations. SG, SR and PBS resolved problems regarding the statistical evaluation. SR contributed major revisions to all sections and participated in resolving annotation issues. All authors contributed to draft revisions and to the general discussion.

Data availability

The datasets and scripts for analysis can be found at <https://osf.io/fbq4p>.

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