

RUNNING HEAD: Diminutive strategies in East Franconian

**A Psycholinguistic Investigation into Diminutive Strategies
in the East Franconian Noun Phrase:
Little schnitzels stay big, but little crooks become nicer**

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ABSTRACT. Upper German dialects make heavy use of diminutive strategies, but little is known about the actual conceptual effects of those devices. This paper is the first to present two large-scale psycholinguistic experiments that investigate this question in East Franconian, a dialect spoken in Bavaria. Franconian uses both the diminutive suffix *-la* and the quantifying construction *a weng a* (lit. ‘a little bit a’) to modify noun phrases. Our first experiment investigated effects of diminutivation on conceptualization of magnitude (i.e., size of objects), and we found that people do not think of a smaller referent when the noun phrase is modified with the quantifying construction, the morphological diminutive, or their combination. The second experiment showed that the morphological diminutive again had no effect on how people conceptualize the degree of gradable noun phrases, but in contrast, *a weng a* reduced the degree to which a predicate hold in gradable nouns significantly. Our conclusions are threefold: First, we show that the morphological diminutive in Upper German dialects has no semantic effects in the domain of indicating magnitude; second, we uncover how East Franconian can use the quantifier *a weng a* to measure degrees; and third, we demonstrate a methodological point, broadening the avenue of cognitive psychology into dialectology with the active participation of a speaker community.

KEYWORDS. Degree; Diminutive; East Franconian; Magnitude; Measurement; Noun Phrase; Quantifiers

1. Introduction

It is often mentioned in the literature that the highly frequent use of diminutive strategies is a signature property of several Upper German dialects (see Kargl 1976 on Bavarian; Siebenhaar & Wyler 1997 on Swiss German; and Schirmunski 1962, Dressler & Barbaresi 1994 for a general overview). In this paper, we focus on East Franconian and explore to what extent this frequent use corresponds to semantic bleaching and whether different diminutive strategies differ in this regard. East Franconian is an Upper German dialect spoken mainly in the northeastern region of Bavaria by about 4.9 million speakers (Eberhard et al. 2015).

We investigate these questions by restricting ourselves to two relevant strategies in this particular variety: the diminutive suffix *-la* and the quantifying construction *a weng a*. Our hypothesis is that these two devices can potentially function to measure both the magnitude of noun referents and, in the case of gradable noun phrases, the degree to which a predicate holds.

Our paper is structured as follows. In Section 2, we will first introduce the two different diminutive strategies we are focusing on, and we motivate our driving premise that these devices can profitably be compared with each other because in East Franconian they feature the same basic constraint when occurring with noun phrases: both turn mass nouns into count nouns. However, we will sketch that the two diminutive devices modify the noun referent at two different structural levels: *-la* is a numeral classifier inside the noun phrase (Section 2.1), whereas *a weng a* is a quantifying construction that operates at the level of the determiner phrase (Section 2.2). After having characterized these core conceptual and structural properties of the different diminutive strategies, we will sketch two possible hypotheses regarding their measurement function in Section 2.3: either those diminutive devices can measure the magnitude (i.e., the size) of the noun referent,

or they can measure the degree of predicates that we find in gradable nouns, or they can function in both conceptual domains of measurement. Section 3 will then report on our first experiment. In this phrase-picture matching study, we tested to what extent the two diminutive strategies and their combination (e.g., *a weng a bia-la* ‘a little a beer-DIM’) function as a means to indicate magnitude and thus diminish the size of the respective noun referents. In Section 4, we will then present our second experiment, where we asked whether either *-la* or *a weng a* or a combination of the two can reduce the degree to which a predicate holds in gradable noun phrases. In order to explore this question, we conducted a rating task where the different diminutive strategies occurred with gradable nouns. Section 5 summarizes our results and concludes with an outlook on potential theoretical and empirical implications of the psycholinguistic approach to dialectal phenomena illustrated in our paper.

2. Diminutive strategies in East Franconian

Each language slices up the space of diminutivation differently, using syntax, the lexicon, and morphology, but little is known about how much each grammatical device contributes to how people conceptualize a referent. In what follows, we focus on the morphological device of diminutives, on a complex quantifying construction, and on the types of nouns both devices can syntactically be combined with. Let us first illustrate the morphological diminutive, which is realized by the suffix *-la* in East Franconian.

2.1 The diminutive suffix *-la*

It is well known that diminutive marking in German turns mass nouns into count nouns (1). The same holds for Upper German versions of Standard German *-chen* (1b), in our case, East Franconian *-la* (2b):

- | | | | | | | |
|-----|----|-------------|------|----|-----------------------|-----------|
| (1) | a. | viel | Wein | b. | zwei | Wein-chen |
| | | much | wine | | two | wine.DIM |
| | | ‘much wine’ | | | ‘two glasses of wine’ | |
| | | | | | | |
| (2) | a. | vill | Bia | b. | zwaa | Bia-la |
| | | much | beer | | two | beer.DIM |
| | | ‘much beer’ | | | ‘two glasses of beer’ | |

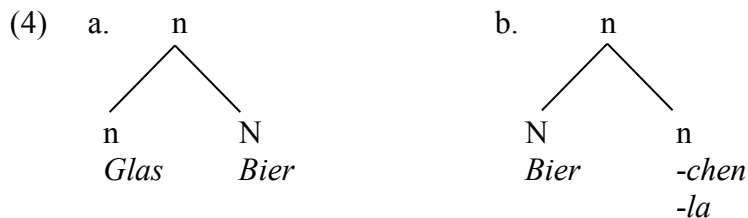
As soon as the diminutive suffixes *-chen* and *-la*, respectively, are present (1b and 2b), the noun must be interpreted as a count noun (Jurafsky 1996). In what follows, we will capitalize on this central fact and abstract away from further semantic and/or pragmatic functions that the diminutive might have. Intuitively, at least in Standard German, the diminutive shrinks the size of its noun referent, but here we start with the assumption that this additional meaning component might vary from language to language, and from variety to variety. We hypothesize that in Upper German dialects like East Franconian, the high frequency of the use of diminutive forms might actually correspond to a semantic bleaching (for further semantic/pragmatic effects of diminutives in a

cross-linguistic perspective, see Fortin 2011; Parzuchowski et al. 2016; and our discussion in Section 5 below).

Accordingly, as soon as we focus only on the productive pattern of diminutive marking on mass nouns, we see that diminutives can be analyzed along the lines of other numeral classifiers like *Glas* ‘glass’ in so-called ‘counting constructions’ (Wiese & Maling 2005):

- (3) *zwei Glas Bier*
 two glass beer
 ‘two glasses of beer’ [count reading only]

Since numeral classifiers like *Glas* share this basic semantic feature of turning mass into count nouns, many syntactic analyses treat them on a par and propose structural claims like (4) in order to account for this parallel (see Ott 2011; Wiltschko 2006; and many others). The category *n* is the ‘light noun’—a category that has been used for a variety of phenomena at the syntax-morphology interface (Marantz 1997), and especially for classifier systems of Asian languages (e.g., Kishimoto 2000; Hiraiwa 2016, 2018):¹



¹ Nothing in our paper hinges on the particular theoretical framework one assumes; we formulate these analyses to be understandable to a wide readership, but theories assuming different mapping mechanisms between syntax and semantics would not make different predictions as far as we are aware. See also Section 5 for discussion.

In (4), diminutive suffixes, in accordance with further numeral classifiers, are thus analyzed as light nouns. This corresponds to our hypothesis that the only semantic effect of these morphological devices which seems to hold across languages and varieties is that they turn mass into count nouns. In other words, diminutives, at this conceptual level, merely express something like ‘one piece of N’, and it remains to be seen whether diminutive suffixes also have interpretive effects beyond this basic component of conceptualization—for instance, additionally modifying the size of the noun referent (i.e., ‘one small piece of N’, e.g., Schneider 2013). Before investigating this question in more detail in Sections 3 and 4 below, let us first turn to another diminutive strategy in East Franconian whose distribution with mass vs. count nouns displays a similar pattern and, to our mind, can thus be profitably compared with diminutive suffixes: the quantifying construction *a weng a N*.

2.2 *The quantifying construction a weng a*

The quantifier *weng* is the East Franconian version of the Standard German *wenig* (‘few’, ‘little’). Interestingly, this quantifier can occur in a construction with indefinite determiner doubling (5), which is a signature property of Upper German dialects, especially of Bavarian (Brandner, 2008; Kallulli & Rothmayr 2008; Leu 2008).

- (5) *a weng a Bia*
a little a beer
[count reading only]

As already pointed out in the literature, the doubling of definite determiners in Upper German varieties is restricted. That is, it can only occur with a certain set of lexical elements like *ganz* ('very, completely'). An example would be the following Austro-Bavarian case from Kallulli & Rothmayr (2008: 101):

- (6) Ees seids de ganz de Gscheidn.
you are the very the clever
'You are the very clever/the cleverest ones.'

However, it has also been noted, in the very same literature, that there are differences in acceptability between Upper German varieties in Austria and Germany, and according to our judgment, a corresponding example to (6) is not possible in Eastern Franconian:

- (6')??Iah seid die ganz die Gscheidn.
you are the very the clever
'You are the very clever/the cleverest ones.'

Although judgments may thus vary regarding doubling of the definite determiner as such, it is undisputed that co-occurrence of the definite determiner with *weng* is only possible as quantifier in the mass-noun reading of the noun referent and without doubling (7a); all other options of co-occurrence of definite determiners with *weng* are ungrammatical (7b/c):

- (7) a. des weng bia
 the little beer
 [mass reading only]
- b. *des weng des bia
 the little the beer
- c. *a weng des bia²
 a little the beer

We can thus conclude that doubling of a determiner in Eastern Franconian in a construction that also contains *weng* is only possible with the indefinite determiner. Focusing on indefinite-determiner configurations, we can now observe that without doubling of the indefinite determiner, *weng* can again only occur with mass nouns:

- (8) a weng Bia
 a little bia
 [mass reading only]

Given our discussion in Section 2.1, this predicts that indefinite determiner doubling + *weng* should also be fine with the diminutive suffix *-la* because this suffix can also only occur in the

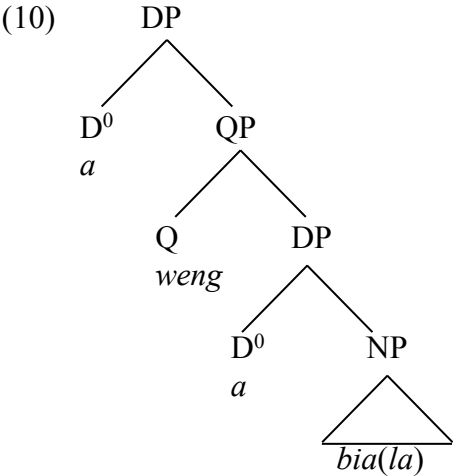
² The combination of *a weng* with a definite determiner is only possible in an adverbial position, modifying the verb, as in (7’):

(7’) Dringg amoll a weng des bia aus.
 drink.IMP PART a little the beer out
 ‘Finish the beer (≈ quickly)’

count-noun reading. In other words, we predict that the quantifying construction *a weng a* should be fine with the diminutive suffix, and this is indeed what we observe:

- (9) *a weng a* Bia-la
- a little a bia.DIM
- [count reading only]

Following the data patterns above, we can thus conclude that our quantifying construction *a weng a* crucially depends on doubling of the indefinite determiner and can optionally co-occur with diminutive morphology on the noun because this morphology features the same constraint that it has to occur with count nouns. Based on the examples above, we propose the following basic structure of our quantifying construction *a weng a*, which corresponds to structural claims that have been made for Bavarian indefinite determiner doubling (Kallulli & Rothmayr 2008). In particular, we postulate that the doubling can be analyzed as a recursive DP structure, and we analyze *weng* as head of a Q(uantifier) Phrase:



Let us briefly summarize the East Franconian data we have introduced so far: In Section 2.1, we have seen that the diminutive suffix *-la* turns mass nouns into count nouns and thus has the same interpretive effect as numeral classifiers. Section 2.2 has introduced the quantifying construction *a weng a*, and we demonstrated that this linguistic device likewise turns mass into count nouns and that, in the count reading, the quantifier *weng* can only occur with doubling of the indefinite determiner. Based on these distributional patterns, we can now turn to the questions that motivated our comparison of these two linguistic devices, and thus our experimental investigations, into diminutive strategies in the East Franconian noun phrase.

2.3 The function of diminutive strategies in East Franconian: Two hypotheses

Given the observations in Sections 2.1 and 2.2, we now move on and explore a question already hinted at above: Do these East Franconian elements have a function that goes beyond their conceptualizing role of turning mass into count nouns? We submit that there are at least two such potential functions that suggest themselves. First, following the classical analysis of diminutives as a device that “means at least ‘small’” (Jurafsky 1996: 534, and Table 1; Schneider 2013), both the diminutive suffix *-la* and the quantifying construction *a weng a* could additionally be interpreted to signal that the size of the noun referent is diminished. If this is true, then they function as a modifier in the conceptual domain of magnitude. Note that this function is intuitively always associated with the diminutive suffix, but it is unclear whether East Franconian diminutives fulfill this function: the sheer frequency of diminutives in this variety of German may correspond to semantic bleaching (on Upper German diminutives in particular, see also Kolmer 1999; and already Schiepek 1908).

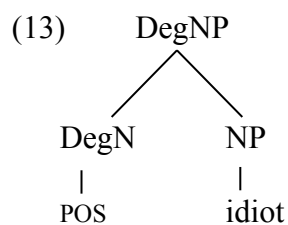
A second way in which both the suffix *-la* and the construction *a weng a* could play a ‘diminishing function’ could be not within the domain of magnitude (size, volume, length, etc.), but within the domain of degrees of gradable noun phrases. That is, in addition to testing whether the diminutive devices play a role for measuring magnitudes of objects, we also consider the possibility that they could function in the domain of measuring degrees of predicates. This hypothesis is driven by the observation in the literature that (11) has in fact two interpretations (example from Kolmer 1999:34):

- (11) a weng a schlechts Bia
a little a bad beer

First, (11) can refer to a small portion of bad beer, or second, to the small degree of which the substance beer has gone bad. Accordingly, we observe that *a weng a* can also modify the degree of predicates, like the adjective *schlechts* (‘bad’) in (11). In order to enable the comparison between the diminutive morpheme *-la* and *a weng a* (based on their common syntactic distribution with count nouns), we focus on gradable nouns instead, and not on adjective-noun combinations. Consider the following examples, showing that some nouns denote gradable properties (12a), while others do not (12b; see Morzycki 2009 for extensive discussion of this difference):

- (12) a. ein großer Idiot
a big idiot
b. a großer Lehrer
a big teacher

Since the noun *idiot* in (12a) denotes a gradable predicate and thus has the degree reading ‘someone who is idiotic’, its combination with an adjective like *big* most likely results in the reading that someone is idiotic to a high degree. In other words, the adjective does not measure the physical size of that someone being an idiot, but it rather modifies the degree component of the gradable noun *idiot*. On the other hand, nouns like *teacher* in (12b) do not have such a degree reading and thus their combination with *big* most likely yields the reading that ‘someone who is a teacher is big (in size)’. Accordingly, nouns like *idiot* may be thought of as containing an abstract degree head POS that distinguishes them from non-gradable cases and forms the Deg(ree) Phrase (see Kennedy & McNally 2005 on POS and Morzycki 2009: 187 on the following structural claim):



Semantically, we would expect *a weng a* to have an effect on degree modification, because of *weng*'s usual function as a mass noun modifier, indicating the quantity of a substance like in (8). To see this, consider the conceptual parallels between the measurement of mass nouns and predicates denoting degrees. For instance, if a mass, e.g. ‘beer’, is divided, it stays ‘beer’; if a degree predicate such as being an idiot is reduced, the person still stays an idiot—whereas if one divides a count object like ‘cup’, the resulting parts are not still ‘a cup’. This has been called the principle of divisiveness in the literature (Bale & Barner 2009; Wellwood 2015; Wittenberg & Levy 2017).

We suggest that in order to explore the conceptual effects of diminutive strategies, one therefore should consider also this degree component of gradable nouns, in addition to their effect on measuring (physical) sizes. Accordingly, complementing our study on magnitude effects described in Section 3 below, we also conducted an experiment where we tested the co-occurrence of East Franconian gradable nouns (analogous cases to *idiot* above; e.g., *Gribbl* ‘crook’) with both the diminutive suffix, the quantifying construction, and a combination of the two. But let us first start with our experiment on potential magnitude effects.

3. Experiment 1

Our first study investigated the effect of the morphological diminutive *-la* and the quantifying construction *a weng a* on the magnitude semantics of nouns. As already mentioned in Section 2 above, we hypothesize that the high frequency of the morphological diminutive *-la* corresponds to a semantic bleaching, which should surface as an absence of a diminutive effect on object magnitude. We also ask whether the quantifying construction *a weng a* may serve a diminutive function, since it has the same distribution as the morphological diminutive, insofar as it can only occur with count nouns.

3.1. Methods

3.1.1. Recruitment and Participants

We recruited 129 participants from East Franconia through social media, through an interview of the first author by a local newspaper in Upper Franconia, and through reports by local radio. We

excluded 5 participants because they indicated (by self-report) that they were not fluent speakers of Eastern Franconian and/or avoided dialect whenever possible. The remaining 124 participants were 52% female, and on average 42 (range: 22-74) years old (see [link to Supplemental Material will be provided with final version]).

We conducted an extensive dialect questionnaire, asking about dialect use frequency, language attitude, and proficiency. All our final participants had a positive attitude towards dialect, and reported to be proficient, using dialect often and for the most part deliberately. Figure 1 shows that as positive attitude increases, the frequency of dialect use also increases.

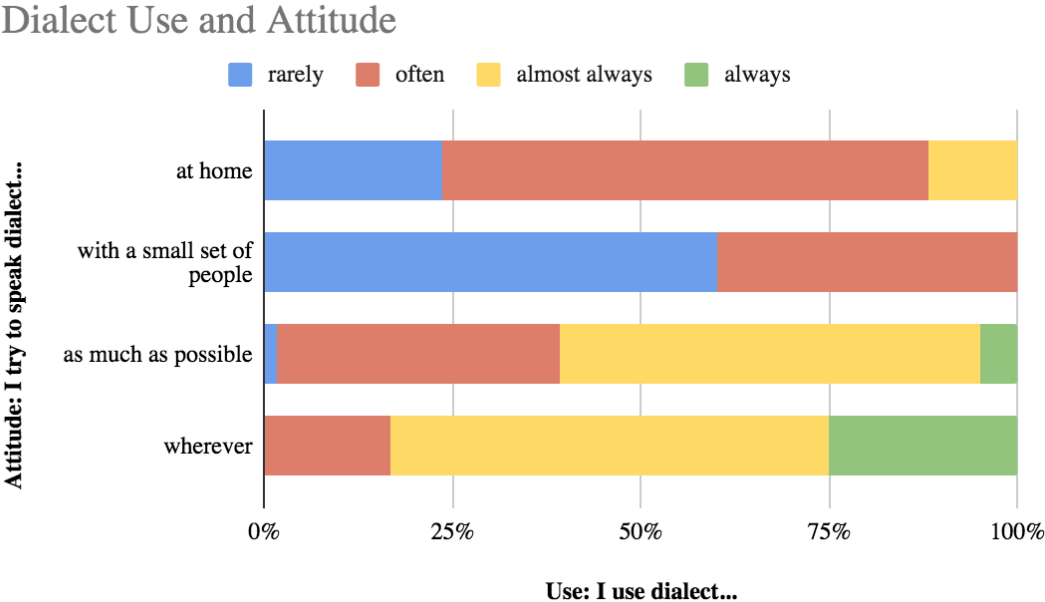


Figure 1. Dialect use and attitude of participants in Experiment 1.

3.1.2. *Materials and Procedure*

Participants were presented with a cover story about having an elderly neighbor who records an audio tape in lieu of writing a shopping list when she goes to the supermarket. This was done in order to make the task more interactive, and avoid interference from seeing a usually not written dialect in orthographic form. Participants were instructed to help their fictitious elderly neighbor to pick the appropriate object or objects from a shopping list. This list was recorded by the first author (a native speaker), and the audio files were spliced by research assistants such that half of the items were combined with the carrier phrase *und dann breicherd ich nuch* ('and then I'd also need...'), and half of them were combined with *und außerdem nuch* ('and then also...'). For access to the audio files and the full stimuli list, please see [[link to Supplemental Material](#)].

There were twelve filler items varying according to number (singular vs. plural) and mass vs. count nouns. These served as distractor items to conceal the purpose of 16 critical items in four conditions: unmodified (14a), modified by the morphological diminutive *-la* (14b), modified by both *-la* and the quantifying construction *a weng a* (14c), and modified by *a weng a* (14d).³

- (14) a. ...dann hedd ich gern noch an epfl
then like I PART also an apple
'...then, I'd also like an apple'
- b. ...dann hedd ich gern noch a epfala
then like I PART also an apple.DIM

³ Notice that the pattern of the second article *a/an* denotes the gender change into neuter commonly introduced by the morphological diminutive.

- c. ...dann hedd ich gern noch a weng a epfala
 then like I PART also a little an apple.DIM
- d. ...dann hedd ich gern noch a weng an epfl
 then like I PART also a little an apple

The presentation of trials was latin-squared, such that each participant never heard a given expression more than once, but heard each modification option four times, in combination with four different nouns; the order of items was pseudorandomized. Participants selected the matching items from an array of pictures by clicking on the pictures themselves. For fillers, there were 3-8 pictures to choose from, all chosen to represent close semantic neighbors of the respective filler item (see [[link to Supplemental Material](#)]). Critical items were the same pictures in four different sizes. The sizes were calculated in taking a reference picture and reducing its size by a quarter, half, and three-quarters (see Figure 2).

The dependent variable was the size of the selected picture. If morphological diminutives are not bleached in East Franconian, sentences like (14b/c) should result in smaller average sizes than in non-modified nouns (14a); the same logic applies to the the quantifying construction *a weng a*.



Figure 2. Example stimuli used in Experiment 1 (fillers on the left, critical item on the right.)

3.2. Analysis and Results

We analyzed the data using a mixed-effects cumulative logit model: For ordered response categories (in our case, four bins ranging from smallest to biggest), this kind of model specifies response probabilities for a given choice of bin as a function of predictor variables—in our case, how the noun was modified. Instead of the intercept, ordered logit models provide a set of threshold parameters, which describe the boundaries from one bin to the next, and the probability of being drawn from one particular bin is estimated by the linear predictors with the inverse logit function (Wittenberg & Levy 2017). Since none of the demographic factors explained a significant amount of the variance, we only report the simplest model here, with only modifier as fixed predictor, and item and subject as random intercepts.

Figure 3 shows, coded by color, the proportion of picture sizes chosen, depending on how the item was described—with the morphological diminutive *-la*, the quantifying construction *a weng a*, both, or neither. As can be seen on first glance, most choices are close to or at chance

level. Table 1 contains an overview of the results of the cumulative logit model, which confirm this impression statistically. The first three rows indicate the threshold coefficients from one bin (smallest/small/big/biggest) into the next. The regression coefficient for each modifier is shown in the next part, with “no modification” as a baseline: For instance, the value of -.16 for lexical diminutive would mean that *a weng a*+NPs are associated with smaller sizes. However, none of the results of the likelihood-ratio tests are significant: None of the diminutives—the quantifying construction, the morphological diminutive, or their combination—had any effect on which size of objects people chose.

| | β | SE | | |
|--|---------|------|-----------------|-------------|
| smallest small | -1.52 | 0.17 | | |
| small big | 0.01 | 0.16 | | |
| big biggest | 1.46 | 0.16 | | |
| | β | SE | <i>p</i> -value | |
| morphological diminutive (- <i>la</i>) | 0.14 | 0.16 | 0.41 | <i>n.s.</i> |
| quantifying construction (<i>a weng a</i>) | -0.15 | 0.16 | 0.32 | <i>n.s.</i> |
| both (<i>a weng a N-la</i>) | 0.11 | 0.16 | 0.49 | <i>n.s.</i> |

Table 1: Experiment 1: Regression table for categorizations (*n.s.* means “not significant”).

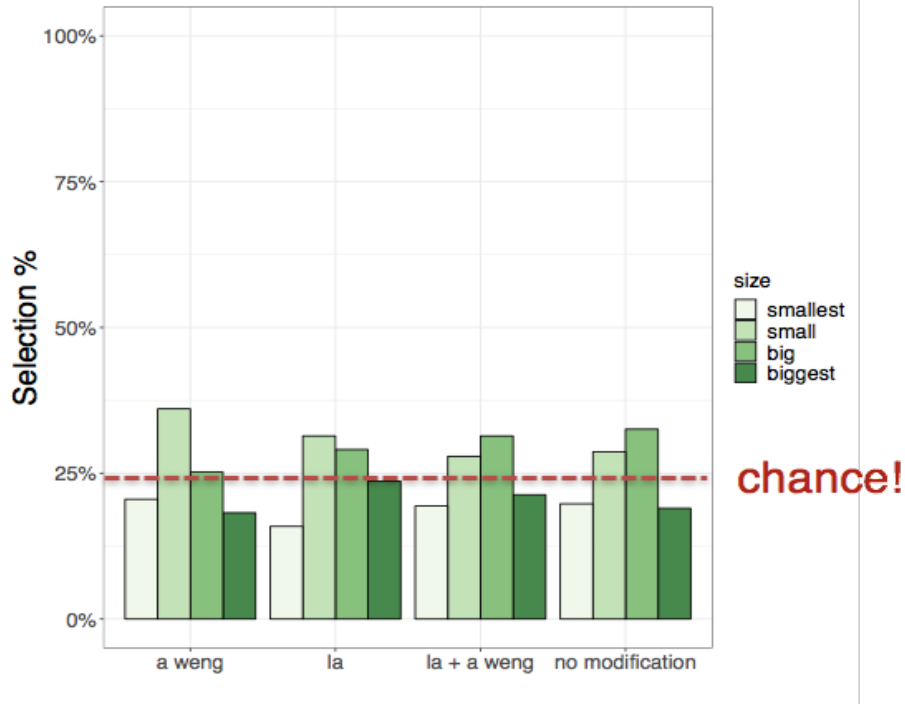


Figure 3. Experiment 1: Proportion of picture sizes chosen, per diminutivization option.

3.3. Discussion of Experiment 1

This experiment studied two questions: We asked whether the morphological diminutive *-la* and the quantifying construction *a weng a* affect how people conceptualize the magnitude of nouns, using a phrase-picture matching task. The results show that indeed, people do not pick smaller referents out of an array if the referent is described with the morphological diminutive *-la*. This was expected, based on how frequently morphological diminutives are reported to be used in Upper German dialects, presumably resulting in a bleached-out function (see our discussion in Section 2 above). However, the results also show that the quantifying construction *a weng a* likewise has no effect on how people decide on a referent for a noun. In sum, whether a noun was

modified with *-la*, *a weng a*, or even both *-la* and *a weng a*: People picked the referents not differently from when there was no modification at all, and not different from chance.

However, as argued above, the function of both the morphological diminutive *-la* and that of the quantifying construction *a weng a* cannot only be analyzed in terms of magnitude, but also in terms of degree. In the second experiment, we ask whether these two ways of forming diminutives in East Franconian result in how people think about degree judgments.

4. Experiment 2

This study investigated the effect of the morphological diminutive *-la* and the quantifying construction *a weng a* on the degree semantics of gradable nouns. Based on the relevant literature mentioned in Section 2 above, we noticed that at least *a weng a* could not only play a role for measuring magnitudes of objects, but that diminutive strategies more generally, and in particular with *a weng a*, could also function in the domain of measuring degrees of predicates. Since our aim was to compare the morphological device *-la* with the phrase-level modifier *a weng a*, we used gradable nouns for our study, instead of adjective-noun combinations, our assumption being that it would not be possible to investigate the role of the noun-attaching diminutive *-la* on degrees of predicates in a more complex adjective-noun construction. In other words, the path we chose allows for the most parallel comparison between morphological *-la* and *a weng a*.

4.1. Methods

4.1.1. Recruitment and Participants

We recruited 109 participants through the same channels as in Experiment 1. We excluded 1 participant because they indicated (by self-report) that they never speak East Franconian. The remaining 108 participants were between 20 and 81 years old (average age: 45; 51% female). As in Experiment 1, our participants' language attitude was quite positive, and their usage for the most part frequent (see Figure 4).

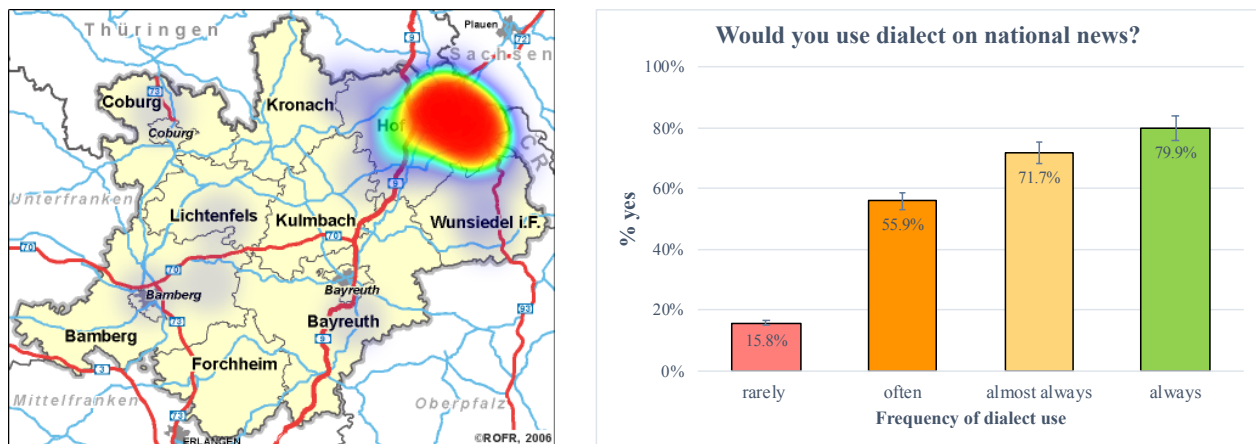


Figure 4. Results of two of our demographics questions used in Experiment 2: Heatmap indicating the participants' dominating dialect (left), and their language attitude (right), correlating their self-assessed frequency of dialect use with percentage of whether they would use dialect if interviewed on national news (Tagesschau).

4.1.2. Recruitment and Participants

Participants were instructed to rate the degree to which a predicate holds in gradable nouns, i.e., they assessed the ‘strength’ of modified or unmodified nouns on a scale from 1 to 10. As in Experiment 1, we created eight critical trials (as in 15a-d), and eight filler trials (for a full list of stimuli, see Supplemental Material). An example of a trial is shown in Figure 5. Both the nouns and the adjectives used in the evaluation task were taken from a local dialect dictionary (Müller 2013). As discussed in Section 2 above, gradable nouns are often those that have clear evaluative concepts associated with them (cf. the prominent example ‘idiot’ in Morzycki 2009); hence, we used mild invectives, such as *Gribbl* (‘crook’), *Schlawiner* (‘mischief’), or *Fregger* (‘mischievous child’); for a full list of stimuli, see [link to Supplemental Material].

- (15) a. Des is a Schlawiner. (no modification)
b. Des is aweng a Schlawiner. (quantifying construction)
c. Des is a Schlawinerla. (morphological diminutive)
b. Des is aweng a Schlawinerla. (both modifiers)

(Question)

Auf einer Skala von 1-10, wie **gerissen** ist der Bürgermeister laut dieser Aussage?

‘On a scale from 1-10, how cunning is the mayor according to this statement?’

In addition to the eight critical items, we also used eight fillers. Those were also gradable nouns (i.e. *Schnorrer* ‘freeloader’, *Dadderer* ‘very old man’). These were presented with a range of

adjectival or adverbial modifications, but never with the modifiers under investigation. As in Experiment 1, the presentation of trials was latin-squared, such that each participant never saw a given expression more than once. Our dependent variable was the evaluation strength of adjectival descriptions (i.e., *gerissen* ‘cunning’).

4.2. Analysis and Results

The mean rating per condition, and the standard error, is shown in Figure 6. The overall rating patterns were analyzed using a binomial mixed effects regression on dummy-coded data, with the unmodified expression as a baseline, condition (no modification, the quantifying construction *a*

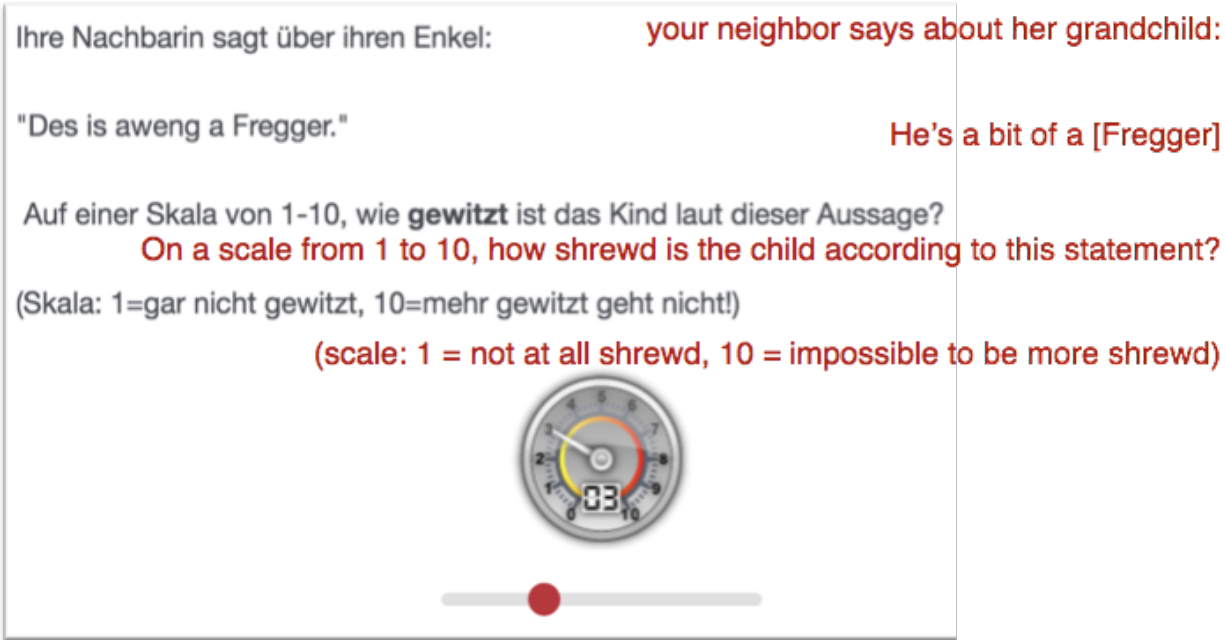


Figure 5. Example trial for Experiment 2 (unmodified condition), with a translation into English in red. Participants moved the slider on the bottom in order to adjust the needle and value of the gauge.

weng a, the morphological diminutive *-la*, or both) and location (coded as being from Hof/Rehau vs all other areas) as fixed effect, and random slopes of condition and age of participant, item, and participant. We also conducted planned pairwise comparisons with contrast-coded data in a binomial model using the same effects structure as for the omnibus analysis, collapsing across conditions, and Bonferroni-correcting for multiple comparisons.

| OMNIBUS ANALYSIS: | β | SE | <i>p</i> -value |
|--|---------|-------|-----------------|
| morphological diminutive (<i>-la</i>) | -0.18 | 0.41 | 0.66 |
| quantifying construction (<i>a weng a</i>) | -0.76 | 0.37 | 0.04 |
| both (<i>a weng a N-la</i>) | -0.85 | 0.37 | 0.02 |
| location (\pm Rehau/Hof) | -0.89 | 0.27 | 0.00 |
| PAIRWISE COMPARISONS: | | | |
| condition (\pm <i>la</i>) | 0.04 | 1.08 | 0.56 |
| location (\pm Rehau/Hof) | -0.27 | -2.78 | 0.02 |
| condition (\pm <i>a weng a</i>) | 0.36 | 2.78 | 0.02 |
| location (\pm Rehau/Hof) | -0.89 | -3.35 | 0.00 |

Table 2. Results of the regression analyses performed on data obtained in Experiment 2

(top: omnibus effects, bottom: planned pairwise comparisons, Bonferroni-corrected.)

Significant effects are in bold.

As Table 2 shows, Location had a significant effect on ratings: Speakers from the Hof/Rehau region of Franconia rated the expressions as stronger than people outside that region ($\beta = -0.89$, $p < .001$). Crucially, as in Experiment 1, the morphological diminutive (“Schlawinerla”, 79.9%) did not result in ratings different from the unmodified expression (“Schlawiner”, 81.8%). However, both the quantifying construction (“a weng a Schlawiner” 76%) alone, and in combination with

the morphological diminutive (“a weng a Schlawinerla”, 74.9%), resulted in significantly lower ratings than the unmodified expression.

For both pairwise analyses, location was again a strong predictor. More importantly, the first pairwise analysis compared ratings for conditions containing the morphological diminutive (15c/d) to the conditions not containing it (15a/b). Results reported in the bottom half of Table 2 suggest that the presence or absence of the morphological diminutive made no difference for ratings. The second pairwise analysis compared ratings for conditions containing the quantifying construction (15b/d) to the conditions not containing it (15a/c), and the difference was highly significant. These results indicate that the presence or absence of the morphological diminutive had no effect on how strongly people rated the degree to which a predicate holds in gradable nouns, but adding the quantifying construction *a weng a* reduced the degree of the same predicate in gradable nouns significantly.

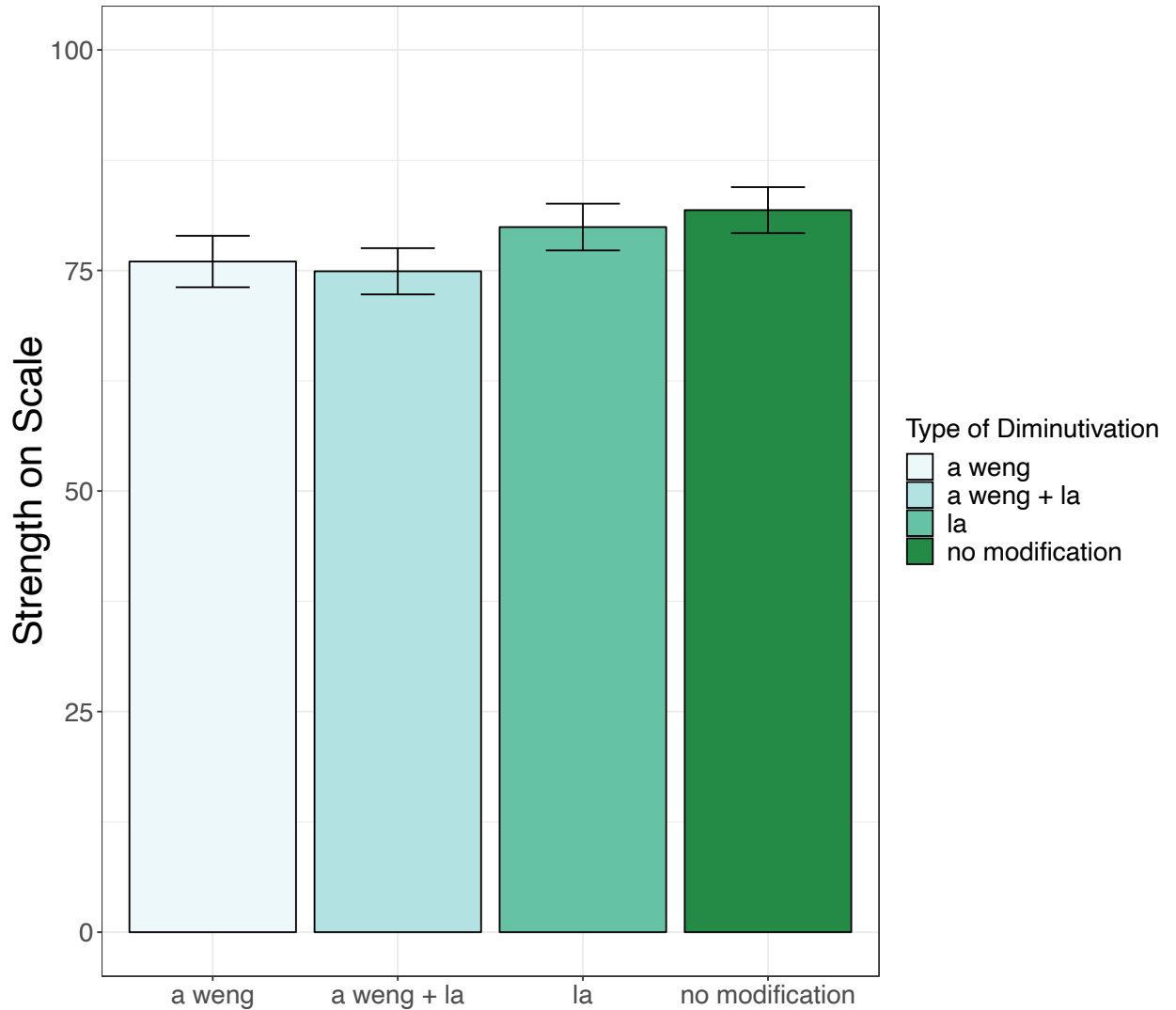


Figure 6. Mean strength ratings of gradable nouns (with SEs) in Experiment 2.

4.3. Discussion of Experiment 2

This study investigated the effect of the morphological diminutive *-la* and the quantifying construction *a weng a* on the degree semantics of gradable nouns, like *Gribbl* (‘crook’). Again, the the morphological diminutive *-la* did not significantly change the degree to which a predicate holds

in a gradable noun, but we found that *a weng a* did. We also found a significant effect of location: Speakers who speak the dialect from the region around Rehau rate the degrees of the predicates of the gradable nouns stronger than everyone else. This is an interesting effect of dialectal microvariation onto the conceptual effects of diminutivation. However, we cannot exclude two other factors that may explain this finding: First, the vast majority of our participants were from this corner of Upper Franconia, and it might be that the relative sparsity of data from other regions of Upper Franconia in the statistical model skewed the weight of this group's result. Second, this may be a familiarity effect, since both the gradable nouns and the adjectives were taken from a region-specific dialect lexicon (Müller 2013): The perceived intensity of a gradable noun may be stronger when one is more familiar with it. While the first explanation is hard to control for in large-scale, citizen science experiments, the second possibility could be explored by using expressions from several dialect dictionaries, casting a wider net across the geographic distribution of lexical expressions.

5. Conclusion and Outlook

This paper presented two psycholinguistic experiments that studied how speakers of East Franconian perceive the two diminutive devices their dialect often makes use of. In particular, we predicted that:

- (i) both the diminutive suffix *-la* and the quantifying construction *a weng a* could signal that the size of the noun referent is diminished and thus function as a modifier in the conceptual domain of magnitude.
- (ii) both the diminutive suffix *-la* and the quantifying construction *a weng a* could also potentially diminish the degree to which a predicate holds in gradable noun phrases.

Hypothesis (i) is motivated by the observation across grammar that highly frequent morphemes are often semantically bleached; given the frequency of diminutive strategies in Upper German dialects, it stood to empirically investigate whether their magnitude reduction function is, indeed, available to speakers of these dialects. Hypothesis (ii) leans on the fact that *a weng a* can modify degrees of predicates, like gradable adjectives, but also inherent degrees of a restricted set of nouns (see Section 2.3). Given the parallel syntactic distribution of *-la* and *a weng a* onto count nouns in East Franconian (Sections 2.1 and 2.2), we investigated these hypotheses by using non-gradable (Experiment 1) and gradable (Experiment 2) nouns. Let us briefly recap the results of these experiments.

Experiment 1 showed that in East Franconian, neither diminutive strategy—neither the morphological diminutive *-la* nor the quantifying construction *a weng a*, nor their combination—resulted in people picking out smaller referents than when they heard the unmodified noun. We interpreted this null result as indicating that neither diminutive marker in East Franconian has any conceptual effect with regard to the magnitude (here: size) of an object: For speakers of East Franconian, a *Schnitza-la* is as big as a *Schnitzl*.

Experiment 2 demonstrated that the presence or absence of the quantifying construction *a weng a* significantly influences how strongly people conceptualize the degree of a predicate: For

speakers of East Franconian, a *Gribba-la* is just as much of a crook as a *Gribbl*, but *a weng a Gribbl* has lost some of his villain-ness.

Note that in both studies, we ascribe importance to not finding an effect of the presence of either diminutive strategy (Experiment 1) or the lack of an effect of only the morphological diminutive *-la* (Experiment 2). Interpreting null results is always a difficult problem: Perhaps our task was not sensitive enough to detect a difference, or we did not have enough statistical power. As for the question of sensitivity, it is useful to compare our task to others that investigated how linguistic magnitude information is processed. In a seminal study, Sedivy et al. (1999) asked participants to pick the *small glass* from a set of items. In the critical condition, the array contained two glasses, one taller than the other. People overwhelmingly picked the target item (the smaller glass out of two). If the semantics of East Franconian diminutives had any magnitude-indicating function beyond marking count nouns, they should behave like gradable magnitude adjectives, and we should have found effects similar to Sedivy et al. (1999). Parzuchowski et al. (2016; Experiment 3) used a task in Polish that was very similar to ours, but using a wider range of sizes and more trials, and yet they only found an extremely small, potentially spurious, effect of diminutivation, and only on a subset of items. Thus, we conclude based on our data that if there is a real effect of diminutive strategies onto the conceptualization of magnitude, it is so small as to be disregarded.

Of course, this does not exclude the second possibility mentioned above, that the lack of effect is due to small statistical power. Since we did not have any prior expectations about how big of an effect we should see if it existed, we cannot run a power analysis to exclude this possibility. However, we did collect 248 data points per condition, from 124 participants. The number of experimental items was intentionally kept small, to prevent boredom and increase the

likelihood that people finished the experiment. Indeed, we by no means obtained a small sample size, especially considering that we are investigating a relatively small language—for instance, almost 2% of the population of Rehau (the city whose dialect dictionary we used to create items in Experiment 2; Müller 2013) participated in our studies. If one wanted 2% of speakers in any experiment, one would have to test 1.6 million participants in a Standard German experiment. This is not a statistical argument, of course, but a consequence of studying languages smaller than standard varieties, with volunteer subjects. In addition, the fact that we did find a robust difference in Experiment 2, for the presence and absence of *a weng a*, suggests that the study was sufficiently powered.

As for comparative linguistic work, our paper contributes to a vast cross-linguistic literature on diminutive strategies that analyze them as multifaceted instruments of linguistic expressions. They can function as semantic markers of magnitude (e.g., Jurafsky 1996; Schneider 2013), and they function as syntactic markers of count nouns, as well as triggers of a variety of pragmatic inferences from politeness to hedging (Mendoza 2005; Ogiemann 2009).

According to the literature, East Franconian diminutive strategies can also take on some of these non-literal effects, and, for instance, mean the opposite of ‘a little’: e.g., *a weng a Schdindla* (lit. ‘a little bit of an hour’) denotes more than one hour (Schiepek 1908; Kolmer 1999). Comparable semantic shifts can also be found in standard German or English, for example when ‘(he is) not very nice’ is interpreted as an in fact stronger version of ‘(he is) not nice’ (cf. Leffelt et al. 2019).

However, in our paper, we started with an observation about diminutives as realizing the basic conceptual function of individuation (Jurafsky 1996). This allowed us to compare further conceptual effects of both the morphological realization of this individuation function (the suffix

-*la*), and a phrase-level realization (*a weng a*). Also, we did not take it for granted that diminutive strategies in Upper German varieties have additional functions (as, e.g., reducing sizes of objects) because their high frequency might correspond to a rather poor ('bleached') semantics. The frequency of the morphological diminutive in East Franconian may be the culprit for this lack of effect. Cross-linguistically, we might predict that in languages where diminutives are used sparingly and mainly in informal contexts, like child-directed speech in English ('doggie' vs 'dog'; Burnham et al. 2002), those uses have a stronger pragmatic effect than in languages that use diminutives frequently and also in formal settings.

And indeed, our results suggest that in East Franconian, the morphological diminutive is restricted to the individuation function, but *a weng a* can operate on degrees and reduce their strength. From a phrase-structural point of view, this would be expected because the morphological diminutive is a numeral classifier inside the noun phrase, while the complex expression *a weng a* operates at the higher phrase-structural level of the determiner (the 'extended noun phrase') and could thus potentially modify the referential possibilities (including to what extent a predicate of the noun holds). In other words, *a weng a* can take scope over the noun phrase, while the suffix is attached at a structural level much lower. Semantically, the effect of *a weng a* is likewise expected, because the parallels between quantifying mass nouns and measuring degrees have long been noted (e.g., Wellwood 2015), and *weng* usually functions as a mass noun quantifier.

We want to conclude with a point about the methodological approach we took, relying heavily on the involvement of local media to advertise for this research project. This was necessary to gather data in the first place (see Rodd et al. 2016, for an ingenious larger-scale use of this strategy). However, by now, the studies' main finding, translated into laymen's terms—that East Franconians understand *a weng a* to reduce the strength of a word like *Gribbl*—has been broadcast

publicly in two radio interviews, one local and one regional.⁴ This of course prohibits close follow-up experiments about diminutivation, since a sizeable part of the community now potentially knows about the aim of the study. However, we did this on purpose, in order to foster ‘participatory citizen science’ (e.g., Kimura & Kinchy 2016): We do not only use citizens as mere subjects in our studies, useful to draw data from, but uninteresting beyond that. Instead, through our research and its dissemination, we aim to build linguistic awareness, foster positive language attitude, and create a community of engaged speakers and responsible researchers. Ideally, this can contribute to slowing down the creeping death of dialects, and revitalize linguistic diversity.

⁴ Non-anonymous link to interviews to follow after peer-review.

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