

# The Meaning and Productivity of English Diminutive Affixes

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*English expresses diminutive language in many ways. This study looks specifically at the productivity and meaning diversity of diminutive affixes in English. First, it reviews the productivity of four diminutive suffixes (-ie, -let, -ling, and -ette) using data from Twitter and finds -ie to be the most productive suffix. Second, it shows that more frequent words shift an affix further toward its prototypical meaning, through a study of the effect of word frequency on the meaning of the suffix -ie. With variation in productivity and meaning, English diminutive affixes are a rich source for language study.*

**D**iminutive language expresses smallness, as well as any of the attitudes that come attached to smallness. Diminutives can be expressed analytically through full words (e.g., *little pig*) or morphologically through word modification (e.g., the suffix *-let* in *piglet* or the *-y* in *Johnny*). This article will look specifically at English diminutive affixes, which are elements attached to a root word, including suffixes, which attach to the end, and prefixes, which attach to the beginning. Much of the research done around English diminutive affixes compares English to other languages, but less research has been done comparing the usage of individual diminutive affixes within English. This article will look at the usage of individual English diminutive affixes in two ways: their productivity and the effect of their frequency on meaning.

## Literature Review

This section will review the literature in three main categories: what contexts English diminutive affixes appear in, what meanings they can carry, and how they compare against other languages and dialects. While this article will look specifically at affixational diminutives, other ways of expressing diminutives are important to understand. Across languages, affixation is the most common way to express diminutive meaning, like the *-ito/a* suffix in Spanish and the *-liyo* suffix in Greek (Sifianou, 1992). English differs from the norm, more commonly expressing diminutives analytically, with a separate word rather than an attached affix (Schneider & Strubel-Burgdorf, 2012). You can imagine this distinction in the difference between saying “little kitchen” and saying “kitchenette.” Bystrov et al. (2020) found that 66.6 percent of diminutives in directive speech acts in children’s literature were expressed analytically (p. 91). We can expect this pattern to be followed throughout the language.

While the universality of diminution as a whole and its analytic existence in English is widely accepted, the state of diminutive affixes in English is more debated. Some linguists argue that because diminution is not required to understand English grammar rules, it is not an influential morphological process (al-Ghazalli, 2012, pp. 395–396). Other linguists have argued that English diminutive affixes are all borrowed from other languages and are not a part of native English (Mintsys & Mintsys, 2015). Grandi (2011) suggested that while English has its own

diminutive affixes, they are not productive (i.e., able to form new words with an affix). Other linguists consider diminutive affixes only productive in pet names in English (Sicerhl, 2012). Because of all these reasons and because diminutive affixes are less common in English, their state in English today is unclear.

## Contexts of English Diminutive Affixes

Diminutive affixes have multiple grammatical contexts—what they attach to and where. There are as many as eighty-six different diminutive affixes in English, but most sources accept the fourteen affixes that Schneider (2003) put forward as major and most frequent (Biały, 2012; Sicherl & Žele, 2011). These fourteen major affixes are all suffixes and consist of *-a*, *-een*, *-er*, *-ette*, *-ie/-y/-ey/-ee*, *-kin*, *-le*, *-let*, *-ling*, *-o*, *-peg*, *-poo*, *-pop*, and *-s*. Of these fourteen, *-ette*, *-ie/-y/-ey/-ee*, *-let*, and *-ling* are the most frequent and productive and therefore are more widely studied. There are also a few possible prefixes, including *mini-*, *micro-*, and *under-*, but these prefixes are often used as their own lexical items, unattached to words, so most sources do not count these prefixes as English diminutive affixes (al-Ghazalli, 2012; Schneider, 2003; Sicherl, 2012).

In English, diminutive affixes most often attach to a base noun to form another noun (e.g., *horse* becomes *horsie*). They can also attach to adjectives to form nouns (e.g., *cute* becomes *cutie*) (Schneider, 2003). Lockyer (2014) found that the diminutive affix *-ie* can attach to interjections. Using a corpus of tweets from Twitter, Lockyer studied diminutive affixes on interjections in informal language and found examples of diminutive affixes in the interjections *whoopsie*, *wowie*, *ouchie*, *oopsie*, and *owie*.

Diminutive affixes are used in many different social contexts. Diminutive language is used most often in informal and casual speech (Lockyer, 2014). It is often used when speaking to children (Biały, 2012; Mattiello et al., 2021). Adult-to-child speech is often affectionate and informal, creating a perfect environment for diminutive language (Bystrov et al., 2020).

## Meanings of English Diminutive Affixes

Diminutive affixes can carry many different meanings, both in a word's semantics (i.e., the logical meaning of a word) and in a word's pragmatics (i.e., the social meaning behind a word). The most widely accepted and widely used semantic meaning is smallness

(Schneider, 2003), but depending on context and which affix is used, different meanings and attitudes connected to smallness can apply. Each of the English diminutive suffixes have slightly different meanings and connotations.

The suffix *-ie*, sometimes spelled *-y*, is the most frequent and has the widest use (Schneider, 2003; al-Ghazalli, 2012; Biały, 2012). Schneider (2003) stated that on top of the implied smallness, the suffix *-ie* “indicates familiarity between speaker and hearer, and may express appreciation or depreciation, depending on the respective context” (p. 87). Al-Ghazalli (2012) supported Schneider, showing that *-ie* attaches to names and common nouns to express smallness, intimacy, and endearment (p. 396). Looking specifically at a corpus of 175 nursery rhymes, Biały (2012) found that *-ie* was the only diminutive affix used, where it attached to people, animals, and other concrete nouns to make them “small and sweet,” like in *piggy*, *dishy*, or *Georgie Peorgie* (p. 120). Dossena (1998) explained that Australian dialects of English use the diminutive affix *-ie* to express “not [just] endearment, but good humor,” like when Australians call mosquitos “mozzies” (p. 24). From these studies on the suffix *-ie*, we see that *-ie* does not only mean small but can also carry all the attitudes that speakers have towards those small things, like intimacy and appreciation.

Less common diminutive affixes also carry meaning beyond just smallness. In their study of British and American English, Schneider and Strubel-Burgdorf (2012) presented three meanings for the diminutive affix *-let*: small object (e.g., *droplet*, *booklet*), young animal (e.g., *owlet*, *piglet*), and despicable person (e.g., *wifelet*, *princelet*). The suffix *-let* always diminishes the base noun but in different ways depending on the context. Similarly, the suffix *-ette* has three distinct meanings: small (e.g., *kitchenette*, *novelette*), feminine (e.g., *usherette*, *dudette*), or even artificial (e.g., *leatherette*, *flannelette*) (Schneider, 2003; al-Ghazalli, 2012; Jurafsky, 1996). We would never think of *kitchenette* as a female kitchen, but *dudette* is certainly a female dude, not a small one. This example shows that diminutive affixes in English can have meanings outside of smallness.

## Comparing Diminutive Affixes across Languages and Dialects

Much of the research surrounding diminutive affixes compares English to other languages. There are key differences in how languages use diminutive language, how frequent and productive diminutive affixes are, and what meanings they carry. Many other languages like Spanish, Italian, Russian, Armenian, Polish, and Lithuanian use diminutive affixation more often than English (Schneider & Strubel-Burgdorf, 2012; Sicherl & Žele, 2011; Khachikyan, 2015). Not only are diminutive affixes less frequent in English, but they also are less productive, attaching to less types of words and forming fewer new words. On the other hand, Khangrah and Pramodini (2019) found that diminutive affixes in English are more productive than the single diminutive affix, *-ra*, that the Indian language Tangkhul has.

The differences between diminutive affixes in English and other languages are also found in the meanings of those affixes. Sicherl and Žele (2011) showed that diminutive affixes on nouns in Slovene can express the characteristics of “worthless” or “unimportant,” and while some diminutive affixes in English can carry a negative connotation (e.g., *-let* in *princelet*), it is not quite as strong as the meaning distinction in Slovene. In Spanish, the diminutive affix *-ito/a* can mark exactness or intensity (e.g., *ahora* vs. *ahorita*), but this meaning is absent in English diminutive affixes.

This review of current literature showed that while English uses diminutive affixes less frequently and less productively than most languages, the diminutive affixes it does use occur in many different contexts and carry many different meanings. Much of the current research focuses on comparing English diminutive affixes to other languages to understand frequency and meanings, but the field would benefit from more research about the perception of English speakers about diminutive affixes, the comparison of different English diminutive affixes, and their use in adult-to-adult speech.

## Finding the Productivity of Affixes through Twitter Corpus

While there are as many as eighty-six different diminutive affixes in English, to look closer at diminutive affix productivity I focused on the four most common diminutive suffixes: *-ie*, *-let*, *-ling*, and

*-ette* (Schneider, 2003). I measured the productivity of these four suffixes through counting their hapaxes (words that occur only once in a corpus) hopefully showing neologisms made with the suffix. Using a Python code to gather data from Twitter and make a corpus, I measured both hapax-conditioned productivity (the ratio of hapaxes with the suffix to all hapaxes in the corpus) and category-conditioned productivity (the ratio of hapaxes with the suffix to all words with the suffix).

The first step was to scrape Twitter to obtain a corpus of data. I used the python package called “snsrape” to gather my data. Snsrape has different ways to restrict what data it collects (place, time, username, or topic). To get the most random sample of tweets, I gathered the most recent tweets and worked backwards, targeting only English tweets. I ended up with data from about 1.25 million tweets. Using this data, I formed a corpus from all the nouns and interjections in the gathered Twitter data with about two million tokens of 85,749 separate words.

Using this corpus, I looked for lexemes (the linguistic unit for all forms of a word) with the four most common diminutive suffixes (*-ie*, *-let*, *-ling*, *-ette*). I found 1,159 lexemes with the *-ie* suffix, 767 of them being hapaxes; 98 lexemes with the *-let* suffix, 51 of them being hapaxes; 312 lexemes with the *-ling* suffix, 147 of them being hapaxes; and 58 lexemes with the *-ette* suffix, 36 of them being hapaxes. With the above numbers, I calculated the productivity measures (see table 1, figures 2 and 3).

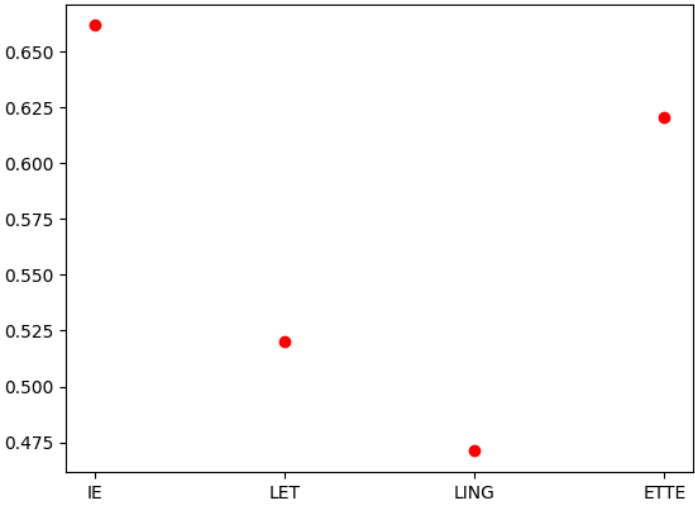
**Table 1**

*Suffix Productivity Measures*

|              | Total<br>Lexemes | Hapaxes | Category-conditioned<br>Productivity | Hapax-conditioned<br>Productivity |
|--------------|------------------|---------|--------------------------------------|-----------------------------------|
| <i>-ie</i>   | 1159             | 797     | 0.66178                              | 0.01469                           |
| <i>-let</i>  | 98               | 51      | 0.52041                              | 0.00098                           |
| <i>-ling</i> | 312              | 147     | 0.47115                              | 0.00281                           |
| <i>-ette</i> | 58               | 36      | 0.62069                              | 0.00069                           |

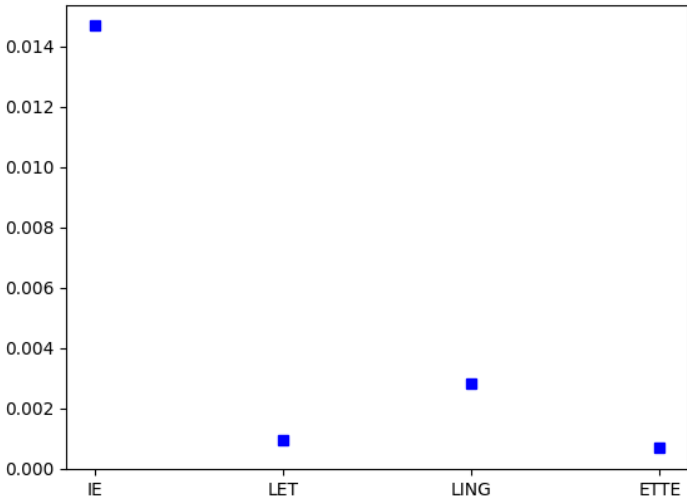
**Figure 1**

*Category-conditioned Productivity*



**Figure 2**

*Hapax-conditioned Productivity*



Overall, I found that *-ie* is the most productive diminutive suffix on Twitter in both measures of productivity; it also had the most words by far. Some of these words were words like *cookie*, which just happen to end in *-ie*. The suffix *-ling* had the second most total lexemes and hapaxes, which made its hapax-conditioned productivity higher, but it had the lowest category-conditioned hapaxes. Though *-ette* had the fewest number of total lexemes, a large amount of them were hapaxes, which gave it a high category-conditioned productivity. My tools for finding words with the diminutive affixes could be improved (e.g., I only found words that were spelled with an *-ie* not a *-y*, some *-ing* forms of verbs that end in *l* were included in the *-ling* suffix category, some nonwords were included, etc.), but in the end, we can tell even with imperfect tools that diminutive affixes are being used in creative and new ways in casual written language on the internet.

## Finding the Effect of Frequency on Meaning for the *-ie* Suffix

The other aspect of diminutive affixes that can differ across affixes and contexts is meaning. Sometimes one affix can carry different meanings in different words, like the *-ette* in *bachelorette* making the base feminine while the *-ette* in *kitchenette* simply makes the base smaller. Some of these differences can be explained by the frequency of the word. More frequent words are more likely stored and accessed as full words (not parsed into base and affix), giving them more ability to shift away from the original or prototypical meaning of the affix, assuming there is a prototypical meaning.

To look at this effect more closely, I used data from a survey put together by me and my classmates that was taken by more than a thousand participants about the suffixes *-ie*, *-let*, *-ling*, and *-ette*. The survey took thirteen words that occur with each suffix in the Corpus of Contemporary American English (COCA) and thirteen base words that do not appear with the suffix and added the *-ie* affix to them (nonce words). It then took these twenty-six words and asked survey responders which of six possible meanings (small, cute, endearing, demeaning, feminine, or young/offspring) the words best corresponded with. From a cursory look at the data, it seemed that *-ie* had the most variety across answers, and from the previous section, I knew *-ie* was the most productive suffix, so I chose to focus on the *-ie* suffix. I predicted that the



more frequently existing *-ie* words would differ from the prototypical meaning of the affix more than the less frequently existing *-ie* words.

To determine the prototypical meaning, I looked at the perceived meaning of nonce words with the *-ie* affix. Table 2 shows the counts and percentages of these responses. Because responders had likely never heard these nonce words before taking the survey, the words were likely unlexicalized and instead accessed as separate base and affix. Because the affix was accessed separately, it would have the most prototypical meaning. I decided that data received from the nonce words would be the base that I compared with the real words that included the *-ie* suffix. A chi-square test of association showed a significant difference between real and nonce *-ie* word response (see table 4 on the next page).

**Table 2**  
*Responses for -ie Nonce Words*

| Responses       | Counts | % of Total |
|-----------------|--------|------------|
| cute            | 1153   | 37.5%      |
| demeaning       | 589    | 18.7%      |
| endearing       | 654    | 20.4%      |
| female/feminine | 107    | 3.4%       |
| small           | 550    | 17.4%      |
| young/offspring | 83     | 2.6%       |

**Table 3**  
*Responses for -ie Real Words*

| Responses       | Counts | % of Total |
|-----------------|--------|------------|
| cute            | 1145   | 36.2%      |
| demeaning       | 479    | 15.1%      |
| endearing       | 845    | 26.7%      |
| female/feminine | 80     | 2.5%       |
| small           | 523    | 16.5%      |
| young/offspring | 90     | 2.8%       |

**Table 4**

*Chi-square Test Results for Real and Nonce to Response*

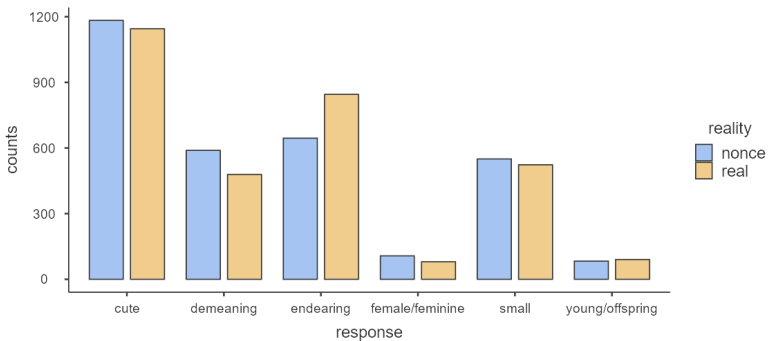
| $\chi^2$ Tests |        |    |       |
|----------------|--------|----|-------|
|                | Values | df | p     |
| $\chi^2$       | 43.7   | 5  | <.001 |
| N              | 6319   |    |       |

Results showed that overall frequency split into two (high and low) affected distance from prototypical meaning. At least visually from figure 3, we can see that high-frequency (more than thirteen occurrences in COCA) real words with the *-ie* suffix differed from low-frequency words (less than thirteen occurrences in COCA). A chi-square test of association showed a significant difference between high and low frequency words ( $p < 0.001$ ,  $\chi^2 = 200$ ).

But to go further than two groups, I performed a chi-square test of association for each of the thirteen real words with the *-ie* suffix (*auntie, baggie, beastie, bunkie, drinkie, eggie, goodie, guardie, swirlie, wolfie, workie*) against the data from nonce word responses. Table 5 shows the results from these tests. I then graphed these results against the words' frequencies in COCA (see figure 4). A linear regression test on these results had a p-value of less than 0.001 and an r-squared value 0.727, showing a significant pattern. On a macro level, we see that frequency affects perceived meaning.

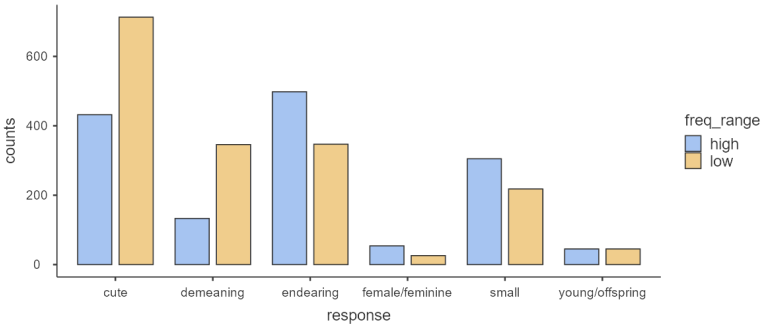
**Figure 3**

*Responses of Nonce and Real Words with the -ie Suffix*



**Figure 4**

*Comparing High and Low Frequency Real -ie Words*



Words with higher frequency had higher chi-square results, meaning they differed more from the nonce word responses—the “prototypical” responses. As I predicted, being more frequent, and thus more lexicalized, meant that the words strayed further from their prototypical meanings.

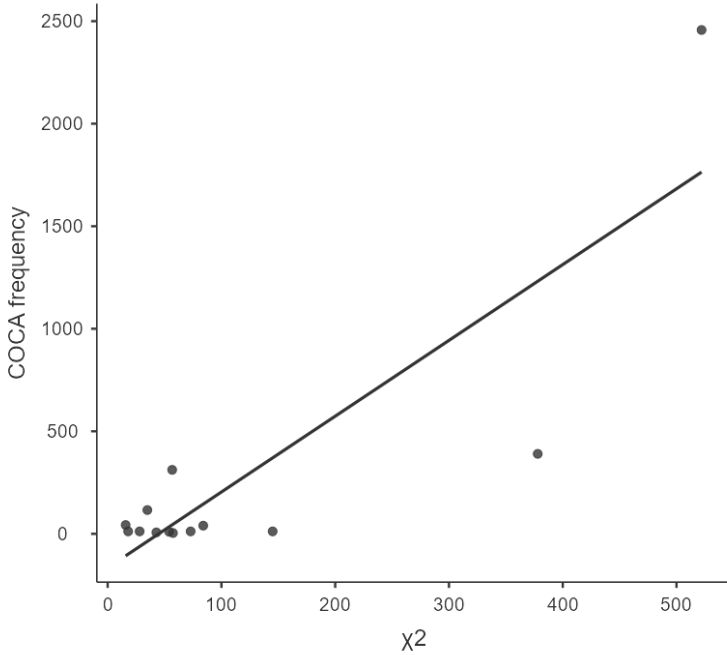
**Table 5**

*Results from Chi-square Tests for Each Real Word against Nonce Word Data*

| Word    | $\chi^2$ | p      | COCA Frequency |
|---------|----------|--------|----------------|
| auntie  | 522      | <0.001 | 2457           |
| baggie  | 378      | <0.001 | 390            |
| beastie | 34.9     | <0.001 | 116            |
| bunkie  | 72.9     | <0.001 | 12             |
| drinkie | 18       | 0.003  | 12             |
| eggie   | 42.8     | <0.001 | 7              |
| goodie  | 56.7     | <0.001 | 312            |
| guardie | 28.1     | <0.001 | 12             |
| mousie  | 15.8     | 0.008  | 43             |
| plushie | 145      | <0.001 | 12             |
| swirlie | 54.1     | <0.001 | 10             |
| wolfie  | 84       | <0.001 | 40             |

**Figure 5**

*Graph of Results in Table 5*



| Word   | $\chi^2$ | p      | COCA Frequency |
|--------|----------|--------|----------------|
| workie | 57.4     | <0.001 | 4              |

On a micro scale, we see that the two most frequent words (*auntie*, *baggie*) have the highest chi-square values. While the nonce words' highest response was “cute” (37%) followed by endearing, demeaning, and small (all around 20%), *auntie*'s most frequent response was “endearing” (74%) with “feminine” coming in second with eighteen percent. This result may be because people view the word *auntie* first as a female person that they love, before they see it as *aunt* plus *ie*. *Baggie* differed from the prototypical meaning by getting a large majority of “small” as its meaning. The words with the lowest frequencies (*workie*, *eggie*) have lower chi-square values but not the lowest.

The two words with the lowest chi-square values (thus closest to prototypical responses for meaning) were *drinkie* and

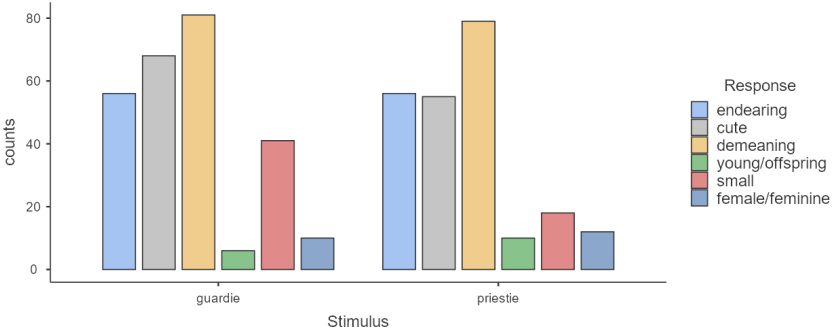
*mousie*. *Drinkie* was on the lower end of frequency, and many of the COCA were names or centered around alcohol, which might mean many responders had never heard the word *drinkie* before, making it similar to the nonce words. *Mousie* is a clearer exception to the rule because though it has a high frequency its affix has not strayed from the prototypical meanings. Perhaps because we so often add *-ie* to the end of animal names, we recognize it as a productive affix with animals, and it keeps its prototypical meaning.

*Guardie* had the third lowest chi-square value and was interesting to look at because it has a semantically similar word in the nonce words: *priestie*. Both are occupation words plus *-ie*. Though *guardie* had a significant difference in responses compared to all the nonce words, a chi-square test of association showed no significant difference between responses to *guardie* and to *priestie* ( $p = 0.091$ ,  $\chi^2 = 9.51$ ). This result shows that while frequency has an effect on perceived meaning of the affix, the semantic meaning of the base may have a larger impact. Most of the nonce words were made from common objects, so semantic meaning may have impacted results outside of *guardie* and *priestie*.

Overall, from the results of this study we can see that more frequent words differ from the prototypical meaning of the diminutive affix *-ie* (as determined by its meaning in nonce words) while less frequent words differed less, though still significantly.

**Figure 6**

*Responses for Meaning of Guardie and Priestie*



Further study would benefit from using more words as well as sorting them by the semantic meaning of their base.

## Conclusion

This article, looking at the productivity of diminutive affixes in the first section and looking at different meanings of the specific diminutive affix *-ie*, shows the variation that English has in its diminutive language. While *-ie* was the most productive affix in the Twitter data, evidence of neologisms with all four studied affixes was found. Further study could find more detail about when and how these affixes were used on Twitter. When looking further at *-ie* through a survey, more frequent words were found to vary from the prototypical meaning more than less frequent words, giving *-ie* a range of meanings depending on frequency. While diminutive affixation is not as common in English as it is in other languages, there is still much that can be studied about it.

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