This file contains supplementary material to the paper:

Counting ‘uhm’s: how tracking the distribution of native and non-native disfluencies influences online language comprehension

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Figure S1. Raw reaction times (RTs) in ms from Experiment 1 (native speaker) as a function of the trial number, split by target frequency and listener group. The lines show the predicted RT as predicted by the Linear Mixed Effects Regression model.



Figure S2. Raw reaction times (RTs) in ms from Experiment 2 (native speaker, no item repetitions) as a function of the trial number, split by target frequency and listener group. The lines show the predicted RT as predicted by the Linear Mixed Effects Regression model.



Figure S3. Raw reaction times (RTs) in ms from Experiment 3 (non-native speaker) as a function of the trial number, split by target frequency and listener group. The lines show the predicted RT as predicted by the Linear Mixed Effects Regression model.

Table S1. List of items (*N* = 240). Freq = Frequency (retrieved from Severens et al., 2005) in counts per million. FreqGroup = Frequency category (LF = low-frequency; HF = high-frequency). Experiment indicates which 30 HF and 30 LF items were used in Experiment 1 and 3, and the new items used in Experiment 2.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Dutch label | English translation | Freq | FreqGroup | Experiment |
| 1 | hand | hand | 1028.0165 | HF | 1, 2, 3 |
| 2 | deur | door | 376.0106 | HF | 1, 2, 3 |
| 3 | arm | arm | 266.0113 | HF | 1, 2, 3 |
| 4 | tafel | table | 247.0017 | HF | 1, 2, 3 |
| 5 | voet | foot | 225.0091 | HF | 1, 2, 3 |
| 6 | auto | car | 208.0175 | HF | 1, 2, 3 |
| 7 | kerk | church | 205.0218 | HF | 1, 2, 3 |
| 8 | hond | dog | 167.9964 | HF | 1, 2, 3 |
| 9 | stoel | chair | 151.008 | HF | 1, 2, 3 |
| 10 | muur | wall | 146.9941 | HF | 1, 2, 3 |
| 11 | boom | tree | 136.9935 | HF | 1, 2, 3 |
| 12 | trap | stairs | 116.0112 | HF | 1, 2, 3 |
| 13 | bank | bench | 113.9987 | HF | 1, 2, 3 |
| 14 | fles | bottle | 111.9954 | HF | 1, 2, 3 |
| 15 | neus | nose | 100.9951 | HF | 1, 2, 3 |
| 16 | koning | king | 100 | HF | 1, 2, 3 |
| 17 | bloem | flower | 93.994 | HF | 1, 2, 3 |
| 18 | tand | tooth | 89.002 | HF | 1, 2, 3 |
| 19 | telefoon | telephone | 84.004 | HF | 1, 2, 3 |
| 20 | trein | train | 81.0028 | HF | 1, 2, 3 |
| 21 | baby | baby | 78.9951 | HF | 1, 2, 3 |
| 22 | sigaret | cigarette | 73.9946 | HF | 1, 2, 3 |
| 23 | vis | fish | 72.9962 | HF | 1, 2, 3 |
| 24 | kom | bowl | 70.0003 | HF | 1, 2, 3 |
| 25 | schoen | shoe | 67.9986 | HF | 1, 2, 3 |
| 26 | maan | moon | 64.998 | HF | 1, 2, 3 |
| 27 | ster | star | 60.9958 | HF | 1, 2, 3 |
| 28 | bus | bus | 57.9963 | HF | 1, 2, 3 |
| 29 | regen | rain | 55.0047 | HF | 1, 2, 3 |
| 30 | brug | bridge | 51.9996 | HF | 1, 2, 3 |
| 31 | bij | bee | 3796.6455 | HF | 2 |
| 32 | man | man | 1189.8713 | HF | 2 |
| 33 | vrouw | woman | 899.912 | HF | 2 |
| 34 | weg | road | 882.0636 | HF | 2 |
| 35 | oog | eye | 819.9739 | HF | 2 |
| 36 | huis | house | 629.9411 | HF | 2 |
| 37 | net | net | 461.9552 | HF | 2 |
| 38 | boek | book | 386.9901 | HF | 2 |
| 39 | stad | city | 322.9982 | HF | 2 |
| 40 | bed | bed | 299.9853 | HF | 2 |
| 41 | brief | letter | 199.9862 | HF | 2 |
| 42 | schouder | shoulder | 190.9853 | HF | 2 |
| 43 | hart | heart | 190.0203 | HF | 2 |
| 44 | been | leg | 188.0182 | HF | 2 |
| 45 | raam | window | 173.9803 | HF | 2 |
| 46 | paard | horse | 158.0156 | HF | 2 |
| 47 | vinger | finger | 157.0001 | HF | 2 |
| 48 | glas | glass | 153.003 | HF | 2 |
| 49 | dokter | doctor | 145.0107 | HF | 2 |
| 50 | steen | rock | 117.0038 | HF | 2 |
| 51 | blad | leaf | 113.9987 | HF | 2 |
| 52 | papier | paper | 113.0056 | HF | 2 |
| 53 | soldaat | soldier | 113.0056 | HF | 2 |
| 54 | zak | bag | 113.0056 | HF | 2 |
| 55 | oor | ear | 110.0018 | HF | 2 |
| 56 | vuur | fire | 103.992 | HF | 2 |
| 57 | vogel | bird | 96.0064 | HF | 2 |
| 58 | bureau | desk | 88.0035 | HF | 2 |
| 59 | traan | tear | 77.0016 | HF | 2 |
| 60 | spoor | railway | 72.9962 | HF | 2 |
| 61 | slot | lock | 71.9946 | HF | 2 |
| 62 | kat | cat | 71.9946 | HF | 2 |
| 63 | brood | bread | 70.0003 | HF | 2 |
| 64 | ei | egg | 67.9986 | HF | 2 |
| 65 | boot | boat | 67.0039 | HF | 2 |
| 66 | vloer | floor | 67.0039 | HF | 2 |
| 67 | rook | smoke | 65.9933 | HF | 2 |
| 68 | bord | plate | 64.003 | HF | 2 |
| 69 | dak | roof | 57.0033 | HF | 2 |
| 70 | hals | neck | 57.0033 | HF | 2 |
| 71 | berg | mountain | 55.0047 | HF | 2 |
| 72 | tak | branch | 54.0008 | HF | 2 |
| 73 | kaas | cheese | 53.0029 | HF | 2 |
| 74 | vliegtuig | airplane | 51.9996 | HF | 2 |
| 75 | radio | radio | 51.9996 | HF | 2 |
| 76 | spiegel | mirror | 51.0035 | HF | 2 |
| 77 | jas | coat | 49.0004 | HF | 2 |
| 78 | koffer | suitcase | 49.0004 | HF | 2 |
| 79 | sleutel | wrench | 49.0004 | HF | 2 |
| 80 | sleutel | key | 49.0004 | HF | 2 |
| 81 | fiets | bicycle | 47.9954 | HF | 2 |
| 82 | wolk | cloud | 47.9954 | HF | 2 |
| 83 | kast | dresser | 47.9954 | HF | 2 |
| 84 | bar | bar | 47.9954 | HF | 2 |
| 85 | zon | sun | 46.0045 | HF | 2 |
| 86 | priester | priest | 46.0045 | HF | 2 |
| 87 | gordijn | curtains | 44.9987 | HF | 2 |
| 88 | stuur | steeringwheel | 44.0048 | HF | 2 |
| 89 | mes | knife | 41.0015 | HF | 2 |
| 90 | hoed | hat | 41.0015 | HF | 2 |
| 91 | poot | paw | 40.0037 | HF | 2 |
| 92 | doos | box | 39.0032 | HF | 2 |
| 93 | schilderij | painting | 38.0014 | HF | 2 |
| 94 | klok | clock | 36.9999 | HF | 2 |
| 95 | kasteel | castle | 35.9998 | HF | 2 |
| 96 | touw | rope | 35.9998 | HF | 2 |
| 97 | ring | ring | 34.0016 | HF | 2 |
| 98 | horloge | watch | 34.0016 | HF | 2 |
| 99 | teen | toe | 34.0016 | HF | 2 |
| 100 | plank | shelf | 34.0016 | HF | 2 |
| 101 | kip | chicken | 32.9989 | HF | 2 |
| 102 | staart | tail | 31.9963 | HF | 2 |
| 103 | lamp | lamp | 31.0027 | HF | 2 |
| 104 | hek | fence | 31.0027 | HF | 2 |
| 105 | duim | thumb | 29.9985 | HF | 2 |
| 106 | vlag | flag | 29.0001 | HF | 2 |
| 107 | roos | rose | 29.0001 | HF | 2 |
| 108 | bot | bone | 29.0001 | HF | 2 |
| 109 | aardappel | potato | 28.0027 | HF | 2 |
| 110 | sigaar | cigar | 28.0027 | HF | 2 |
| 111 | laars | boot | 27.0022 | HF | 2 |
| 112 | slang | snake | 27.0022 | HF | 2 |
| 113 | schaap | sheep | 26.0016 | HF | 2 |
| 114 | appel | apple | 23.9994 | HF | 2 |
| 115 | eend | duck | 23.9994 | HF | 2 |
| 116 | kaars | candle | 22.9985 | HF | 2 |
| 117 | varken | pig | 22.9985 | HF | 2 |
| 118 | konijn | rabbit | 22.9985 | HF | 2 |
| 119 | emmer | bucket | 21.9988 | HF | 2 |
| 120 | muis | mouse | 20.9991 | HF | 2 |
| 121 | vleermuis | bat | 6.0007 | LF | 1, 2, 3 |
| 122 | vlieger | kite | 6.0007 | LF | 1, 2, 3 |
| 123 | krokodil | alligator | 5.0003 | LF | 1, 2, 3 |
| 124 | weegschaal | scale | 5.0003 | LF | 1, 2, 3 |
| 125 | aardbei | strawberry | 5.0003 | LF | 1, 2, 3 |
| 126 | slak | snail | 5.0003 | LF | 1, 2, 3 |
| 127 | kruiwagen | wheelbarrow | 5.0003 | LF | 1, 2, 3 |
| 128 | tandenborstel | toothbrush | 4.0004 | LF | 1, 2, 3 |
| 129 | dolfijn | dolphin | 4.0004 | LF | 1, 2, 3 |
| 130 | puzzel | puzzle | 4.0004 | LF | 1, 2, 3 |
| 131 | cactus | cactus | 2.9999 | LF | 1, 2, 3 |
| 132 | palmboom | palmtree | 2.9999 | LF | 1, 2, 3 |
| 133 | stofzuiger | vacuum cleaner | 2.9999 | LF | 1, 2, 3 |
| 134 | zaag | saw | 2.9999 | LF | 1, 2, 3 |
| 135 | eekhoorn | squirrel | 2.9999 | LF | 1, 2, 3 |
| 136 | eskimo | eskimo | 2.9999 | LF | 1, 2, 3 |
| 137 | ventilator | fan | 1.9999 | LF | 1, 2, 3 |
| 138 | pompoen | pumpkin | 1.9999 | LF | 1, 2, 3 |
| 139 | naaimachine | sewingmachine | 1.9999 | LF | 1, 2, 3 |
| 140 | ananas | pineapple | 1.9999 | LF | 1, 2, 3 |
| 141 | schommel | swing | 1.9999 | LF | 1, 2, 3 |
| 142 | trechter | funnel | 1.9999 | LF | 1, 2, 3 |
| 143 | accordeon | accordion | 1 | LF | 1, 2, 3 |
| 144 | neushoorn | rhino | 1 | LF | 1, 2, 3 |
| 145 | iglo | igloo | 1 | LF | 1, 2, 3 |
| 146 | eenhoorn | unicorn | 1 | LF | 1, 2, 3 |
| 147 | stethoscoop | stethoscope | 1 | LF | 1, 2, 3 |
| 148 | gieter | wateringcan | 1 | LF | 1, 2, 3 |
| 149 | typemachine | typewriter | 1 | LF | 1, 2, 3 |
| 150 | sneeuwman | snowman | 1 | LF | 1, 2, 3 |
| 151 | tractor | tractor | 4.0004 | LF | 2 |
| 152 | microscoop | microscope | 4.0004 | LF | 2 |
| 153 | wasbak | sink | 4.0004 | LF | 2 |
| 154 | thermometer | thermometer | 2.9999 | LF | 2 |
| 155 | hangmat | hammock | 2.9999 | LF | 2 |
| 156 | spuit | syringe | 2.9999 | LF | 2 |
| 157 | scharnier | hinge | 2.9999 | LF | 2 |
| 158 | vuurtoren | lighthouse | 2.9999 | LF | 2 |
| 159 | rits | zipper | 2.9999 | LF | 2 |
| 160 | magneet | magnet | 2.9999 | LF | 2 |
| 161 | kever | bug | 2.9999 | LF | 2 |
| 162 | kalkoen | turkey | 2.9999 | LF | 2 |
| 163 | spinneweb | spiderweb | 2.9999 | LF | 2 |
| 164 | egel | hedgehog | 2.9999 | LF | 2 |
| 165 | schorpioen | scorpion | 2.9999 | LF | 2 |
| 166 | pincet | tweezers | 1.9999 | LF | 2 |
| 167 | hoefijzer | horseshoe | 1.9999 | LF | 2 |
| 168 | lama | llama | 1.9999 | LF | 2 |
| 169 | waterput | well | 1.9999 | LF | 2 |
| 170 | hoef | hoof | 1.9999 | LF | 2 |
| 171 | kurketrekker | corkscrew | 1.9999 | LF | 2 |
| 172 | schommelstoel | rockingchair | 1.9999 | LF | 2 |
| 173 | hark | rake | 1.9999 | LF | 2 |
| 174 | sprinkhaan | grasshopper | 1.9999 | LF | 2 |
| 175 | asperge | asparagus | 1.9999 | LF | 2 |
| 176 | microfoon | microphone | 1.9999 | LF | 2 |
| 177 | duikboot | submarine | 1.9999 | LF | 2 |
| 178 | draaimolen | carousel | 1.9999 | LF | 2 |
| 179 | wafel | waffle | 1.9999 | LF | 2 |
| 180 | strijkijzer | iron | 1 | LF | 2 |
| 181 | popcorn | popcorn | 1 | LF | 2 |
| 182 | mixer | mixer | 1 | LF | 2 |
| 183 | paperclip | paperclip | 1 | LF | 2 |
| 184 | radijs | radish | 1 | LF | 2 |
| 185 | wereldbol | globe | 1 | LF | 2 |
| 186 | muizeval | mousetrap | 1 | LF | 2 |
| 187 | strijkplank | ironingboard | 1 | LF | 2 |
| 188 | tuinslang | hose | 1 | LF | 2 |
| 189 | saxofoon | saxophone | 1 | LF | 2 |
| 190 | denneappel | pinecone | 1 | LF | 2 |
| 191 | rolschaats | rollerskate | 1 | LF | 2 |
| 192 | pelikaan | pelican | 1 | LF | 2 |
| 193 | spaarvarken | piggybank | 1 | LF | 2 |
| 194 | tennisracket | tennisracket | 1 | LF | 2 |
| 195 | selderij | celery | 1 | LF | 2 |
| 196 | wasknijper | clothespin | 1 | LF | 2 |
| 197 | box | speaker | 1 | LF | 2 |
| 198 | eland | moose | 1 | LF | 2 |
| 199 | stinkdier | skunk | 1 | LF | 2 |
| 200 | riek | pitchfork | 1 | LF | 2 |
| 201 | blikopener | canopener | 1 | LF | 2 |
| 202 | palet | palette | 1 | LF | 2 |
| 203 | spatel | spatula | 1 | LF | 2 |
| 204 | boormachine | drill | 1 | LF | 2 |
| 205 | pollepel | ladle | 1 | LF | 2 |
| 206 | slijper | pencilsharpener | 1 | LF | 2 |
| 207 | glijbaan | slide | 1 | LF | 2 |
| 208 | step | step | 1 | LF | 2 |
| 209 | wigwam | teepee | 1 | LF | 2 |
| 210 | artisjok | artichoke | 1 | LF | 2 |
| 211 | aambeeld | anvil | 1 | LF | 2 |
| 212 | broodrooster | toaster | 1 | LF | 2 |
| 213 | drumstel | drumkit | 1 | LF | 2 |
| 214 | gewei | antlers | 1 | LF | 2 |
| 215 | houweel | pickaxe | 1 | LF | 2 |
| 216 | kinderbed | crib | 1 | LF | 2 |
| 217 | lieveheersbeestje | ladybug | 1 | LF | 2 |
| 218 | luipaard | leopard | 1 | LF | 2 |
| 219 | vingerhoed | thimble | 1 | LF | 2 |
| 220 | walrus | walrus | 1 | LF | 2 |
| 221 | zaklamp | flashlight | 1 | LF | 2 |
| 222 | dwarsfluit | flute | 1 | LF | 2 |
| 223 | veiligheidsspeld | safetypin | 1 | LF | 2 |
| 224 | bever | beaver | 1 | LF | 2 |
| 225 | banjo | banjo | 1 | LF | 2 |
| 226 | platenspeler | recordplayer | 1 | LF | 2 |
| 227 | wasbeer | raccoon | 1 | LF | 2 |
| 228 | rugbybal | football | 1 | LF | 2 |
| 229 | notenbalk | staff | 1 | LF | 2 |
| 230 | brandkraan | fire hydrant | 1 | LF | 2 |
| 231 | spinnewiel | spinningwheel | 1 | LF | 2 |
| 232 | springtouw | jumprope | 1 | LF | 2 |
| 233 | statief | tripod | 1 | LF | 2 |
| 234 | krik | jack | 1 | LF | 2 |
| 235 | katapult | slingshot | 1 | LF | 2 |
| 236 | jojo | yoyo | 1 | LF | 2 |
| 237 | zeppelin | zeppelin | 1 | LF | 2 |
| 238 | struisvogel | ostrich | 1 | LF | 2 |
| 239 | kado | present | 0 | LF | 2 |
| 240 | skateboard | skateboard | 0 | LF | 2 |