

# Language Change and Continuous Gender: Investigating Tyneside phonological changes in people of non-binary gender identities

Author: Rachel Barry

Student No. 140286092

School of English Literature, Language and Linguistics

Contact: R.Barry1@ncl.ac.uk

Supervisor: Joel Wallenberg

## 1. Introduction

In linguistic study, there is a significant portion of the population who are invariably excluded from gender and language research. Non-binary people do not fit the typical male or female binary genders, and identify somewhere along the scale which is gender identity. Omitting this group from studies of gender and language creates two problems: firstly, the exclusion of non-binary people from academic study perpetuates the myth that being non-binary is not a valid gender identity; and secondly, a huge portion of crucial information relating language and gender is not being investigated. By looking at language patterns in non-binary people, it will be made clearer whether gender has a direct effect on aspects of language usage, or whether the connection between gender and language is a common coincidence.

This research considers the correlation between gender and vowel length in Tyneside speakers. One aspect of this is to investigate the presence of the Scottish Vowel Length Rule (SVLR) in Tyneside. SVLR is a linguistic rule present in Scottish English, and some Tyneside English, whereby vowels are lengthened in certain contexts within a word. Milroy (1995, cited in Llamas *et al.* 2011: 1282) suggested that in Tyneside, there is 'a loss of the [SVLR] rule in the community', so I will be investigating this possible declination.

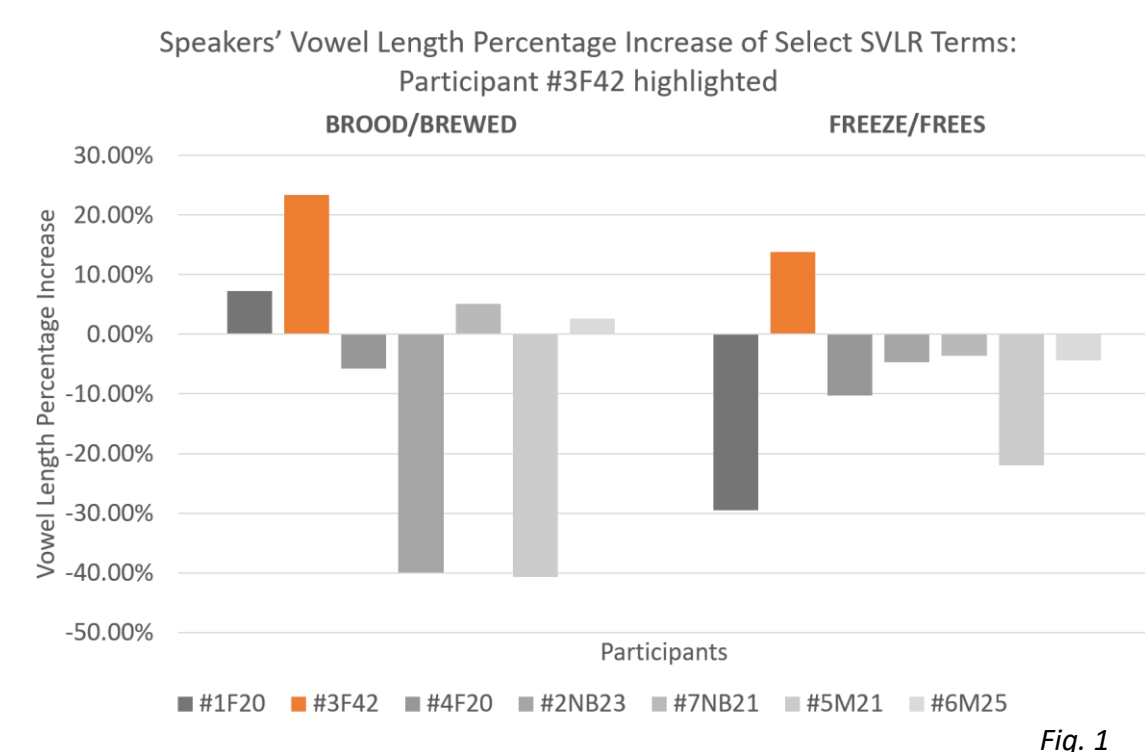
## 2. Aims

- Investigate the possible decline in use of the Scottish Vowel Length Rule in Tyneside
- Compare vowel length of non-binary people with that of male and female participants
- Explore to what extent gender identity influences vowel length patterns in Tyneside speakers

## 3. Findings

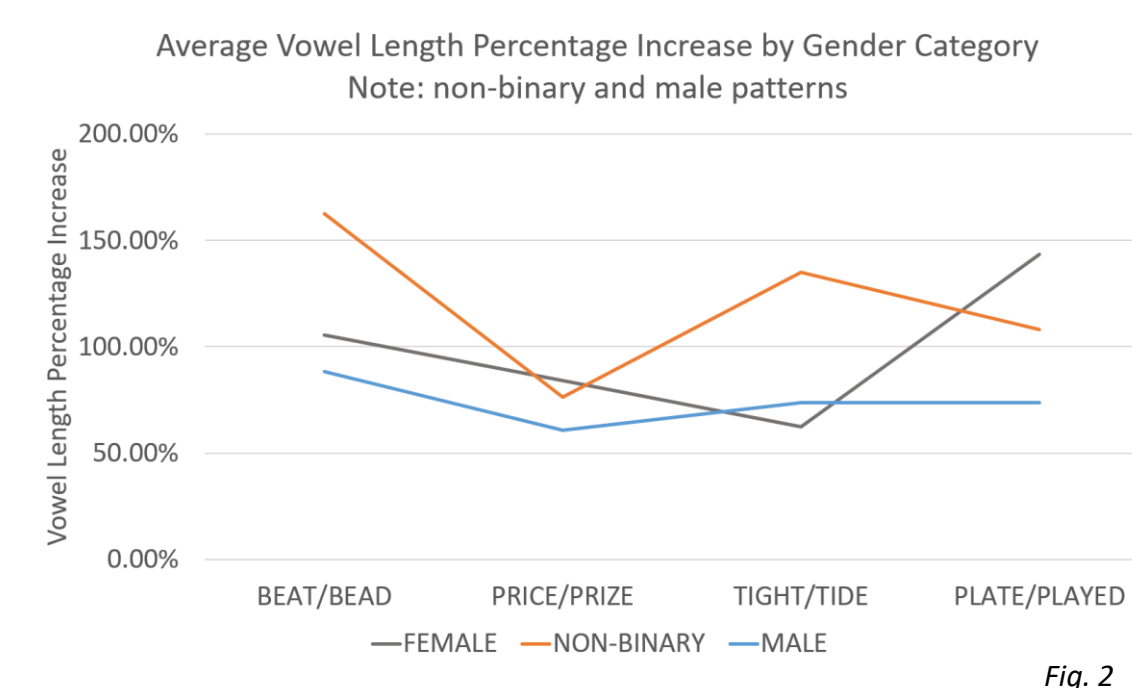
### 3.1 The Scottish Vowel Length Rule is in decline

During my investigation of the presence of SVLR in Tyneside, there appeared to be no correlation with gender. In addition, speakers often shortened vowels which would have been lengthened by this rule. The exception is speaker #3F42, which is highlighted in *fig. 1*.



This speaker has a significant percentage of increase in vowel length in two of the four minimal pairs used in this study. As this speaker is in her 40s while the rest of the participants are within the 18-25 age bracket, this could suggest a decrease in the occurrence of SVLR in the last few decades. Of course, a larger study would be required to confirm this conclusion.

### 3.2 The correlation between male and non-binary speakers

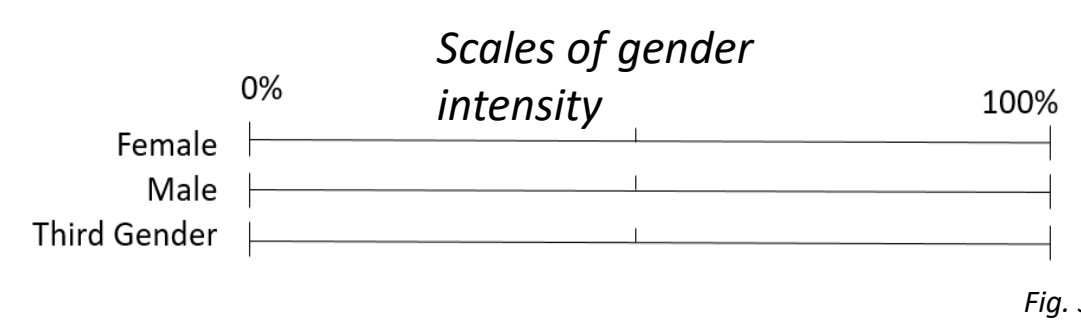


Perhaps the most noteworthy finding of this study is that, as demonstrated in *fig. 2*, there appears to be a pattern in the vowel lengths of male and non-binary speakers. In these non-SVLR word pairs, the non-binary participants appear to follow male

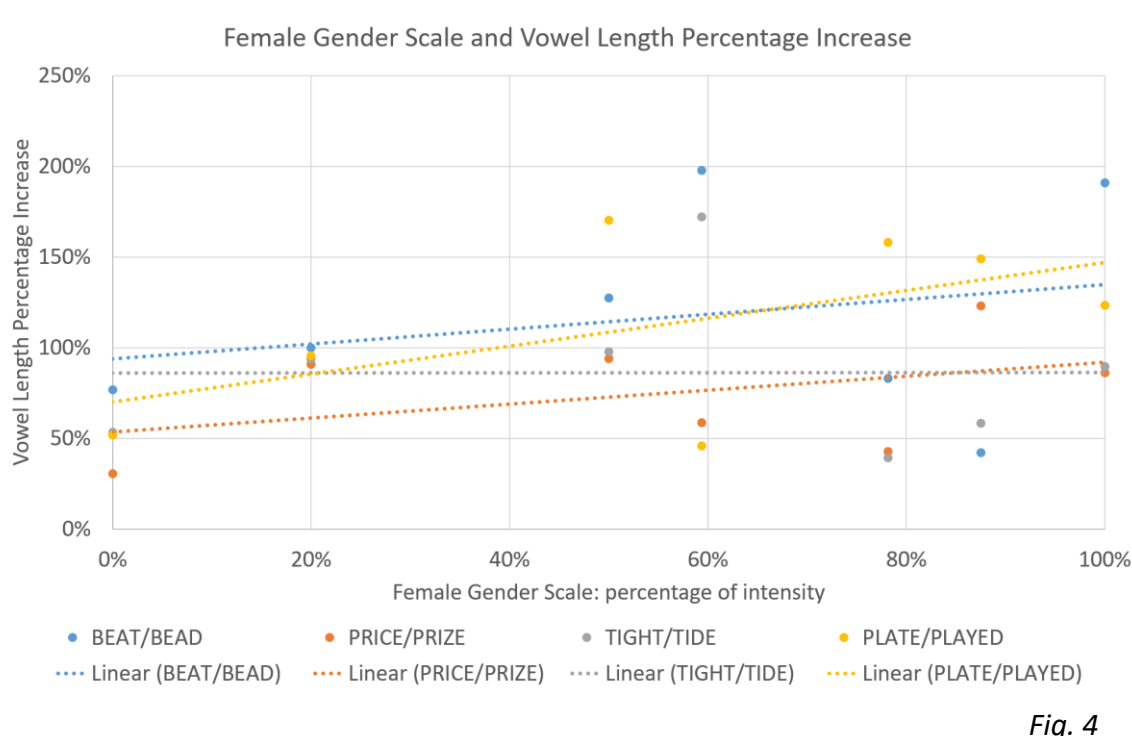
patterns of vowel length, but in an exaggerated way. My theory for this is that, as the non-binary participants recruited were all assigned the sex 'female' at birth, they are imitating male speech patterns in order to be perceived by others as less 'feminine', and present themselves as their non-binary gender identity. *Fig. 2* demonstrates clearly that there is a pattern present, and that investigation into vowel length patterns in non-binary speakers is essential for linguistic research.

### 3.3 Gender identity directly affects vowel length

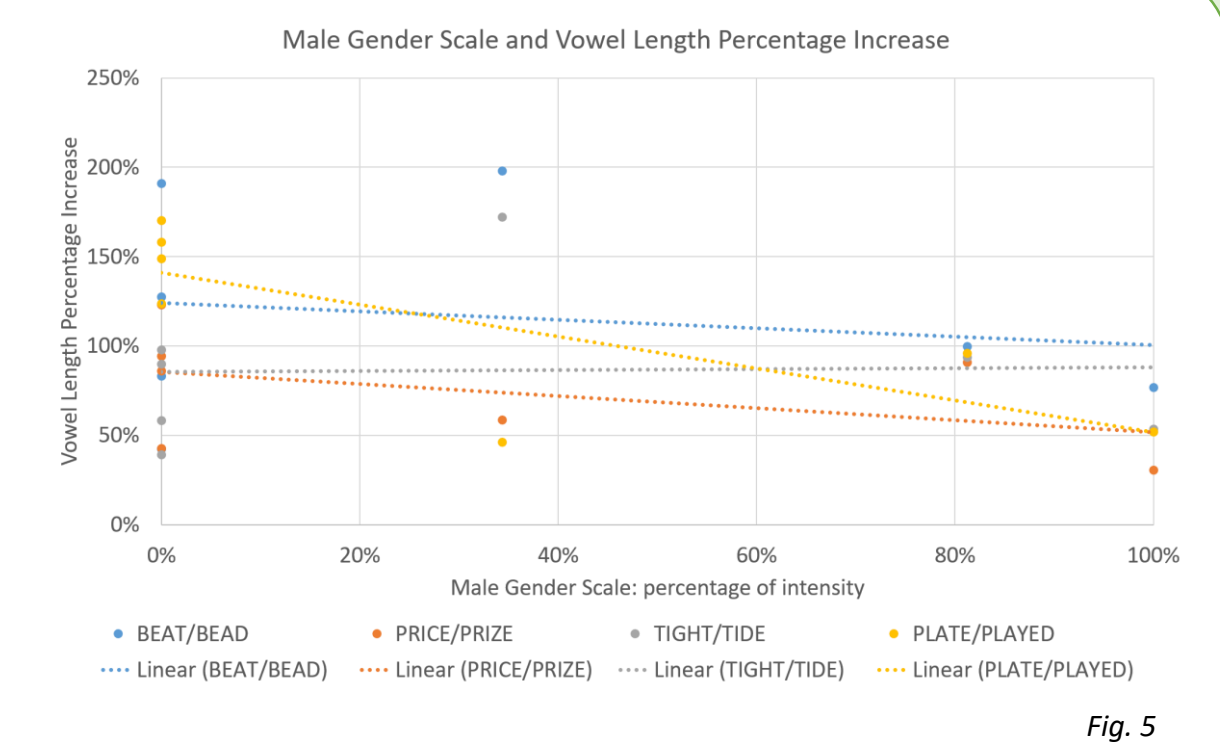
Gender identity is a spectrum, and as such is difficult to quantify. I created 'gender scales' (*fig. 3*) to measure the intensity each participant identified with 'Male', 'Female' and 'Third Gender'. Participants marked a point on each measured scale (in this study, 16cm) which is then converted into a percentage out of 100% for each category.



By plotting the intensity of gender against the non-SVLR vowel length measurements, it became clear that the higher intensity a participant marked the 'female' aspect of their gender identity, the longer their vowels were pronounced (*fig. 4*). The trend lines demonstrate that this pattern is consistent with most vowels, with the exception of the TIGHT/TIDE word pair. Comparing this to *fig. 5*, a stark contrast becomes apparent.



The higher intensity participants marked their gender identity on the 'male' scale, the shorter their vowels were in the word pairs. The trend lines marked here show a small but significant correlation, and when in comparison to the 'female' scale results in *fig. 4* there is clearly a conclusion to be drawn: the intensity of male or female gender intensity has a **direct effect** on vowel length in Tyneside speakers. No conclusion could be drawn from the third gender scale.



## 4. Conclusions

- There may have been a decline in the presence of the Scottish Vowel Length Rule in Tyneside over time. However, my data shows no correlation between speaker gender identity and use of the Scottish Vowel Length Rule.
- Non-binary people assigned female at birth appear to imitate male vowel lengthening patterns in non-SVLR word pairs in an exaggerated way.
- Gender identity has a direct correspondence to percentage of vowel length increase in male and female speakers, with greater female intensity equating to longer vowels and greater male intensity equating to shorter vowels in non-SVLR word pairs.
- As this is a preliminary study, further research with larger groups of participants is needed for solid conclusions to be drawn.

## 5. Acknowledgements

Llamas, C., D. Watt, P. French and L. Roberts. 2011. 'Effects of the Scottish Vowel Length Rule on vowel quantity in Tyneside English'. *Proceedings of the 17th International Congress of Phonetic Sciences*: 1282-1285.

Milroy, J. 1995. 'Investigating the Scottish Vowel Length Rule in a Northumbrian dialect'. *Newcastle & Durham Working Papers in Linguistics* 4: 187-196.

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