

# A Comparison of Hedged and Non-Hedged NLG Texts

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## 1. Background

In recent years there has been a growing interest in “affective” NLG. Affective NLG has been described as “NLG that relates to, arises from or deliberately influences emotions...” [1]. However, an outstanding issue is how NLG systems should communicate emotionally sensitive information. This is particularly important for the BabyTalk Family project [2] which aims to produce textual summaries on the condition of neonatal babies for parents.

## 2. Hedging

One strategy of adding empathetic phrases such as “*unfortunately*” is through the use of hedge phrases. Hedging allows speakers/writers to mitigate and soften the force of their utterances [3]. Of particular interest is the use of evaluative adverbs as the modifying device combined with aspects of Indirectness and Mitigation as the Hedging strategies.

## 3. Approach

1. An NLG system was created that could generate short texts with hedges on a set of exam results.
2. Participants were given a questionnaire that assessed their preference between hedged and non-hedged text.

A comparison between the non-hedged and hedged text is shown below:

“You can get a Master’s Degree. You got CAS 18 in CS5037, CS5038, CS5052, and CS5549. Average CAS results were achieved in CS5540 and CS5541. You got CAS 9 in CS5548 and CS5942. You got CAS 19 in CS5035.”

“You can get a Master’s Degree. *Fortunately*, you got CAS 18 in CS5037, CS5038, CS5052, and CS5549. *Thankfully*, average CAS results were achieved in CS5540 and CS5541. *Unfortunately*, you got CAS 9 in CS5548 and CS5942. *Happily*, the CAS result for CS5035 was 19.”

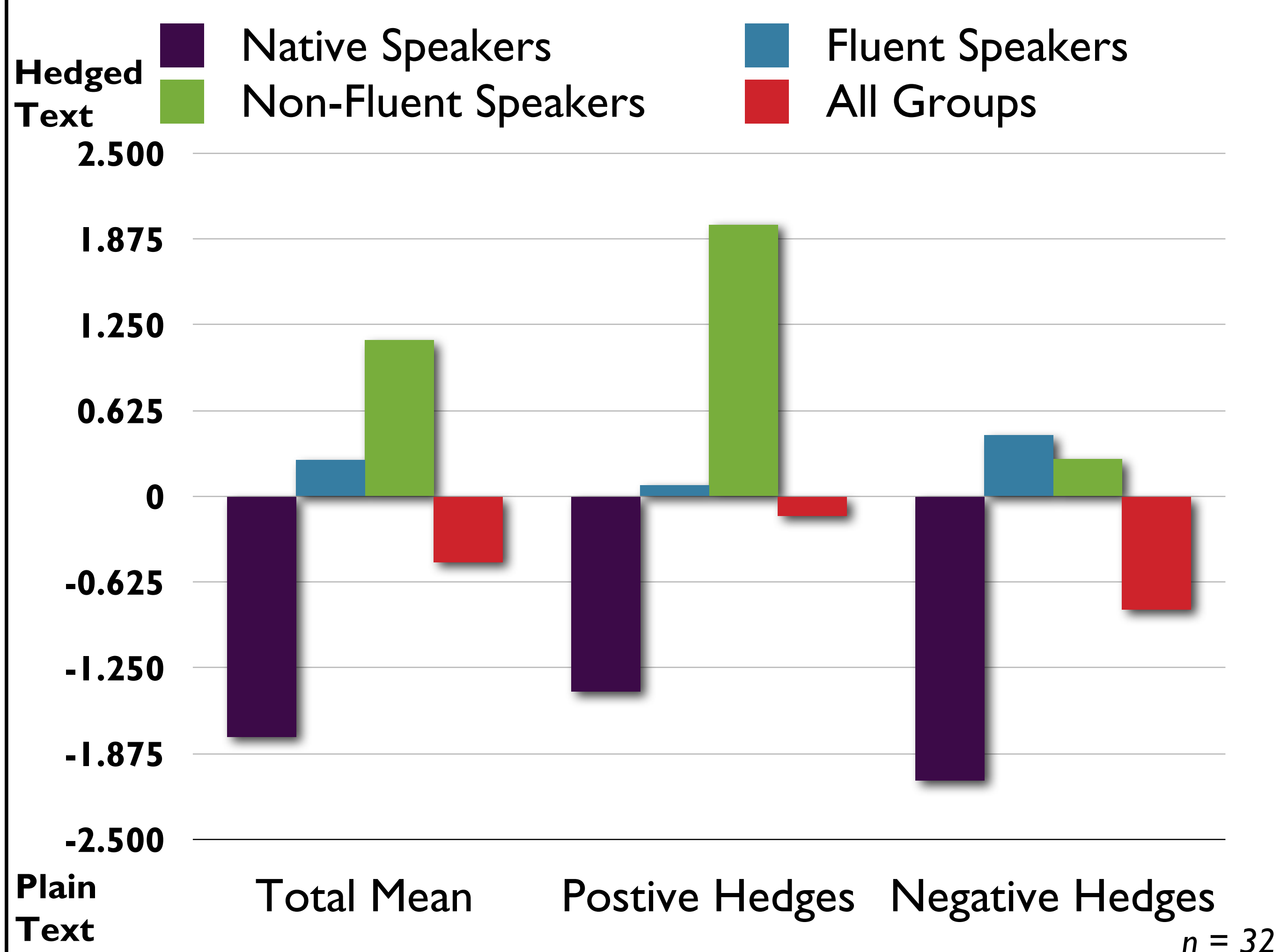
“Unfortunately, ...”

“Regrettably, ...”

“Fortunately, ...”

## 4. What did experiment reveal?

Each participant was categorised into three different groups based upon their level of English language proficiency: Native speakers – Native English Speakers, Fluent Speakers – Non-native, but fluent speakers of English and Non-fluent speakers – Non-native, non-fluent speakers of English.

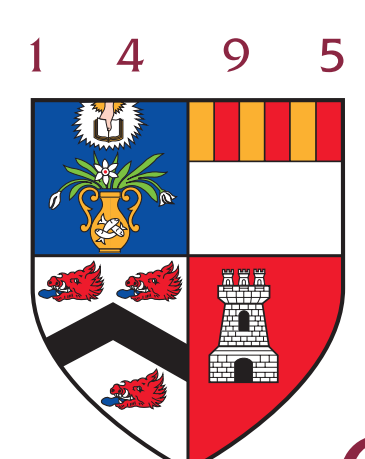


## 5. Conclusions

- There was a statistically significant result that showed non-native speakers more likely to prefer text with hedges than native speakers.
- This difference in hedged text preference could be due to the differing cultural expectations between non-native and native speakers [4].
- Native speakers commented on how they felt the addition of the hedges added opinion into the text. Whereas the non-native speakers felt that the hedges made the text more “humanised”.

## 6. Further Work

1. The impact that culture has on hedging preference.
2. To define a model for the placement and frequency of hedges in NLG text in the context of communicating emotional charged information.



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