

Testing a conflict-based theory of self-monitoring for speech errors

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This paper reports an experimental test of a theory of self-monitoring proposed by Nozari, Dell and Schwartz (2011). The theory presupposes that multiple items generated by the speech production system may be active simultaneously, correct and incorrect items competing for the same slot. In case of error, conflict information is passed on to an executive control center, leading to detection. When the overall conflict in the system increases, distinguishing between correct and error trial becomes more difficult, which in turn may result in (1) more errors being made, and (2) fewer errors being detected. We test this theory with data obtained in two experiments eliciting segmental speech errors in Dutch CVC CVC word pairs, as reported in Nootboom & Quené (accepted for publication). The two experiments accidentally differed in overall conflict. All of the stimuli in the first experiment, with least overall conflict, were also used in the second experiment. There overall conflict was much higher because of the inclusion of a condition eliciting errors against the relatively weak voiced-voiceless feature in initial stop consonants, leading to more errors against this feature, and to fewer errors being detected. The crucial comparison is between the conditions with identical stimuli. There we find significantly fewer errors being detected in the second than in the first experiment. This supports a conflict-based theory of speech error detection.

References

- Nootboom S.G. & Quené. H. (accepted for publication). Repairing segmental speech errors. Competition as a source of repairs. *Journal of Memory and Language*.
- Nozari, N., Dell, G., & Schwartz, M. (2011). Is comprehension necessary for error detection? A conflict-based account of monitoring in speech production. *Cognitive Psychology* 63, 1–33.