

Title:

The effects of a single self-generated syllabic prime on stuttering frequency.

Purpose:

While stuttering behaviors can be temporarily ameliorated, it remains unclear exactly how or why fluency is enhanced in those who stutter. Although research suggests that fluency can be enhanced in those who stutter via endogenous (self-generated) and exogenous (externally-generated) methodologies, it is unknown if there is a common invariant found within these two methodologies that is both necessary and sufficient to stimulate fluency enhancement. With previous research suggesting that stuttering moments represent a failure to initiate a speech gesture, it has been suggested that a common invariant within endogenous and exogenous fluency enhancement is the (speech-related) cognitive initiation of the speech gesture. Therefore, the purpose of this research is to test the effects of (speech-related) cognitive initiation (as approximated by a single self-generated syllabic prime) on stuttering frequency.

Method:

Speech-related cognitive initiation was approximated by a single self-generated syllabic prime. These primes took the form of forearm movement, tongue clicks, and silent oral opening frames; all primes were produced to fluidly initiate the production of the initial speech gesture of each breath group. Participants used this self-generated syllabic priming technique on all initial speech gestures of every breath group. The reading passages used in this study have been used in previous peer reviewed research.

Result:

Study results reveal a 42%, 47%, and 53% reductions of stuttered syllables occurring in the initiatory hand movement, initiatory tongue-click, and initiatory oral opening frame speaking conditions, respectively. A one factor repeated measure analysis of variance (ANOVA) was conducted on these data revealed a significant main effect of self-generated syllabic priming [$F(3,21) = 7.268$, Greenhouse-Geisser $p = .016$, $\eta^2 = .509$]. Post hoc orthogonal single df comparisons revealed a significant difference between the control and all three self-generated syllabic priming experimental speaking conditions ($p < .0001$); however, no significant difference in stuttering frequency was found between the initiatory hand movement when compared to the initiatory tongue-click and initiatory oral opening frame speaking conditions ($p = .655$).

Conclusion:

While effective, self-generated cognitive initiation strategies appear to be less efficient and effective at enhancing fluent speech than other methods of stuttering reduction, such as those invoking speech feedback. Subsequently, it appears that self-generated (speech-related) cognitive initiation does not serve as the common invariant that is responsible for enhanced fluency in those who stutter.

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