

**The role of duration in speech plans uncovered
by startling auditory stimulus**
[語言反應長短之規劃：驚嚇刺激研究]

Chenhao Chiu [邱振豪]
National Taiwan University [國立臺灣大學]

Abstract

This study investigated how speech targets of different durations may be specified in speech plans and the release in response to startling auditory stimulus (SAS) triggering. In particular, we examined whether differentiated musical training background affects responses in terms of the preservation of duration. The results show that facilitated reaction time (RT) is only observed in SAS-induced responses shorter than 500 ms, suggesting that targets longer than 500 ms may not be as susceptible to SAS-induced rapid release. While both musically trained and untrained participants lacked accuracy in producing targets with fixed durations, they were able to differentiate syllable lengths, even though duration does not denote phonemic contrasts in Mandarin. The results also show a degree of compensation to elevated pitch level from musically trained participants, suggesting that they may have a higher sensitivity to pitch level even within a limited duration window.

Keywords: syllable duration, speech planning, startling auditory stimulus, the StartReact effect

關鍵詞：音節長度、言語規劃、驚嚇聽覺刺激、驚嚇初始反應

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