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What's Different About Improvised Rap?

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Abstract

Rap lyrics are a popular and understudied domain of human culture. In particular, improvised rap lyrics provide a unique window into the cognitive and linguistic constraints of creative language production. Although the vast majority of rap lyrics are written (premeditated), improvising lyrics has long been a core element of hip-hop culture. Very few efforts have investigated the neural underpinnings of improvised rap, and none so far have focused on the language output itself. This project compares phonemic, rhyme, and semantic features of written and improvised rap lyrics from 7 expert rappers in order to uncover related phonological structures. Here, I demonstrate that the phonemes of these two modes of production seem to be drawn from different distributions. In addition, across various metrics, improvised lyrics from these experts display smaller phonological structures and less variation than written lyrics from those same artists, all while consistently exhibiting large rhyming patterns (3+ syllable).