

## **The Relationship between Rhythmic Complexity and Listening Engagement as a Proxy for Perceptual Interest**

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**Abstract :** Although it has been confirmed by multiple studies, the inverted-U relationship between stimulus complexity and preference (liking) remains contentious. Research aimed at substantiating the model are largely reliant upon anecdotal self-assessments of subjects and basic measures of complexity, leaving potential confounds unresolved. This study attempts to address the topic by assessing listening time as a behavioral correlate of liking (with the assumption that engagement prolongs listening time) and by looking for latent factors underlying several measures of rhythmic complexity. Participants listened to groups of rhythms, stopping each one when they started to lose interest and were asked to rate each rhythm in each group in terms of interest, complexity, and preference. Subjects were not informed that the time spent listening to each rhythm was the primary measure of interest. The hypothesis that listening time does demonstrate the same inverted-U relationship with complexity as verbal reports of liking was confirmed using a variety of metrics for rhythmic complexity, including meter-dependent measures of syncopation and meter-independent measures of entropy.

**Keywords :** complexity, entropy, rhythm, syncopation

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