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Authors

Bourne, Janet
Chun, Elliot

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Using Analogical Processing to Categorize Musical Patterns

Janet Bourne

Bates College, Lewiston, Maine, USA

Elliot Chun

Bates College, Lewiston, Maine, USA

Abstract: Participants often categorize musical melodies ("themes") based on perceptual features (e.g. loudness, fastness) instead of structural or relational features (e.g. pitch, rhythm) (Lamont & Dibben, 2001; Ziv & Eitan, 2007). In the present study, we investigate whether within-category analogical comparison (Markman & Gentner, 1993) influences participants to categorize musical themes based on relational features, a prediction from structure-mapping theory (Gentner, 1983). Participants completed a forced-choice triad task where they had to choose whether one theme (relational match) or another (perceptual match) best fit the target theme. In a "no-compare" condition (between-subjects), participants heard one target theme. In a "compare" condition, participants heard and compared two target themes. Initial results indicate that participants who compared two themes chose more relational matches. We found this result for Western Classical themes and popular music chord progressions. These results and their implications are discussed with respects to analogical processing and musical categorization.