Sorting Musical Expression: Characterization of Descriptions of Expressive Piano Performances

Carlos Cancino-Chacón[1,4], Silvan Peter[1], Shreyan Chowdhury[1], Anna Aljanaki[2] and Gerhard Widmer[1,3]

[1]*Institute of Computational Perception, Johannes Kepler University Linz, Austria*
[2]*Institute of Computer Science, University of Tartu, Estonia*
[3]*LIT AI Lab, Linz Institute of Technology, Linz, Austria*
[4]*RITMO Centre for Interdisciplinary Studies in Time, Rhythm and Motion, University of Oslo, Norway*
[1]carlos_eduardo.cancino_chacon@jku.at, [2]silvan.peter@jku.at

Background

Research on musical expression in Western classical music has commonly focused on what pieces express through attributes of their musical structure. In recent times, however, there has been an increased interest in investigating the role of performance and listening. Much research has focused on expressed emotion; however, the expressive character of a performance, as intended by performers and perceived by listeners, may include non-emotional aspects as well. In this study, we took an empirical approach to investigating how people describe expressive qualities and character they perceive in a musical performance.

Aims

This study aims to find dimensions of perceived expressive character of piano performances that can be attributed to performance, as perceived by listeners and described in natural language.

Method

In a first experiment, the *Con Espressione* Game (CEG), we collected descriptions of piano performances through an online questionnaire. Participants listened to different performances, by famous pianists, of each of 9 excerpts of classical piano pieces (Bach, Mozart, Beethoven, Schumann, Liszt and Brahms). These excerpts and performances were selected by an expert from the Anton Bruckner Private University of Music, Linz, with the purpose of being different from each other. For a more detailed description of the collected data, we refer the reader to Cancino-Chacón et al., (2020). Participants described the performance in free text (preferably adjectives, as many as they liked), concentrating on the performative aspects and not on the piece itself.

In a second experiment, we asked two groups of expert musicians to independently complete a pile sorting task, in order to identify the main dimensions of expressive character. The groups sorted 150 of the most frequently used terms that had been collected through the CEG. The number of piles as well as the types of similarity within the piles were left open.

Results

We collected descriptions from 194 participants (88% with musical training, 49% frequently listen to classical music, 71% play the piano) in the online questionnaire (1,500+ performance descriptions, 3,000+ terms). Analysis shows that, for a given piece, listener descriptions are more similar for a specific pianist than between pianists, indicating a certain consistency in perception. On the other hand, we could not observe a significant difference in similarity between the performance of a piece by different pianists, and the performances of different pieces. Regarding the pile sorting task, groups 1 and 2 sorted the terms into 25 and 19 piles, respectively. We computed the Szymkiewicz-Simpson coefficient to estimate the overlap between the piles, and found a 62% average maximal overlap of the piles of group 1 with the piles of group 2 and 65% of the piles of group 2 with the piles of group 1. Interestingly, both groups named a pile after Glenn Gould, but there was no overlap of terms between these piles. Multidimensional scaling (MDS) revealed that piles often refer to either specific emotions (e.g., melancholy, anxious), an expressive technique (e.g., *staccato, marcato*), a period/composer/performer styles (impressionistic, Gould, Beethoven), motion metaphors (weightless), or level of musical training (amateur, professional). An interactive visualization of the MDS analysis can be found in the following link (https://sildater.github.io/expressivity/).

Conclusions

Our findings provide a basis for identification of high-level descriptors of performance style, which we intend to use in expressivity-aware models of musical machine listening and performance.

References

Cancino-Chacón, C., Peter, S., Chowdhury, S., Aljanaki, A. & Widmer, G. (2020). On the Characterization of Expressive Performance in Classical Music: First Results of the *Con Espressione* Game. In *Proceedings of the 21th International Society for Music Information Retrieval Conference* (pp. 613-620). Montreal, Canada.

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