UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

From hearing to feeling: Quantifying music-emotion and examining the different processing patterns in children with special educational needs (SEN)

Permalink

https://escholarship.org/uc/item/7qp131wc

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 47(0)

Authors

Yue, Cherry Wing Yin
O'Hanlon-Cheung, Jake Terence
Tong, Shelley Xiuli

Publication Date

2025

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at https://creativecommons.org/licenses/by/4.0/

Peer reviewed

eScholarship.org Powered by the California Digital Library
University of California

From hearing to feeling: Quantifying music-emotion and examining the different processing patterns in children with special educational needs (SEN)

Cherry Wing Yin Yue
The University of Hong Kong, Hong Kong, China

Jake O'Hanlon-Cheung
The University of Hong Kong, Hong Kong, China

Shelley Xiuli Tong
The University of Hong Kong, Hong Kong, China

Abstract

Music-emotion recognition, the ability to perceive emotions in music, has emerged as a means of understanding emotion beyond verbal language, specifically for individuals with special educational needs (SEN). However, there has been little focus on delineating emotion through quantified music features for a systematic comparison between different SEN groups. This study identified specific musical features and examined the different music-emotion processing patterns in 3-to 10-year-old Chinese children with and without SEN. Participants completed a forced-choice task by identifying four emotions involving happiness, sadness, anger, and fear from Western classical music. Through integrating a biologically-inspired filterbank into music information retrieval analysis, the result revealed that musical features, such as spectral density, contributed to human emotional recognition. In addition, children with SEN exhibited distinct confusion patterns in some emotion pairs compared to their typically developing counterparts. These findings demonstrated a novel approach to investigating musical-emotional recognition across the developmental span.

In D. Barner, N.R. Bramley, A. Ruggeri and C.M. Walker (Eds.), *Proceedings of the 47th Annual Conference of the Cognitive Science Society* ©2025 the author(s). This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY).