

Auditory emotion perception underpins both speech and music. It can support effective social interaction, contribute to psychological theory, and inform rehabilitation. This study examined the cognitive structure of perceived emotion in auditory stimuli---emotional expressions conveyed through song and speech---and investigated how acoustic features relate to emotion perception.

Emotion research often relies on basic emotion or dimensional models of affect. While influential, these frameworks assume that cognitive representations map directly onto the external world (Barrett, 2006). Increasing evidence instead highlights variability in emotional phenomena, suggesting that emotions may be structured differently across perceptual and cognitive contexts. By applying multidimensional scaling (MDS) across both modalities, the study provides a characterization of their underlying emotion spaces, offering clarity and identifying shared organization in emotion representation that have not previously been delineated.

To minimize linguistic influences, participants rated perceived emotional dissimilarity for paired Song ($n = 29$) and Speech ($n = 26$) excerpts from the RAVDESS corpus (Livingstone & Russo, 2018). MDS revealed four dimensions that adequately described perceived emotion structure in both modalities. In both song and speech, the first two dimensions aligned closely with Russell's (1980) circumplex model of affect, corresponding to valence and arousal.

Because emotion is communicated through acoustic properties (Banse & Scherer, 1996), and because speech and music share expressive cues (Juslin & Laukka, 2003), acoustic analyses were conducted using the revised Timbre Toolbox (Kazazis et al., 2021). To address the complex co-variation among acoustic features, we applied interpretable machine learning methods, including a decision-tree--based XGBoost model and accumulated local effects (ALE) plots. This allows for an understanding of non-linear relationships between numerous acoustic features and reveals multiple low-level acoustic features that contributed to communicating emotions. Leave-out-one cross-validation was used to tune and cross-validate the XGBoost models and performance was evaluated with R-square and root mean square error in a permutation test.

Permutation tests of R-square and RMSE in Song and Speech show that the XGBoost models for the low-level timbre features perform significantly above chance levels for all dimensions in Song and dimensions 1 and 4 in Speech. This suggests that whereas timbre features play a substantial role in communicating emotions in music, dynamic, time-varying cues may play a more central role in communicating emotions in speech.

V1_6

Predictors of musical identities and their relationship with self-concept clarity

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In Western cultures, "musician" is narrowly defined. This narrowness extends to music listening research, which often focuses on music genre preferences. However, musical identity involves more than talent or preferences and may relate to the ways people understand themselves more broadly. Dys et al. (2017) hypothesised that music identity may relate to self-concept clarity, or "the extent to which self-beliefs are clearly and confidently defined, internally consistent, and stable" (Campbell et al., 1996). Thus, this exploratory research asks, "What factors contribute to defining a person's musical identity, and how does the expression of musical identity relate to self-concept clarity?"

Australian residents were invited to complete an online, mixed-methods survey, which included measures of personality (Langford, 2003), self-concept clarity (Campbell et al., 1996), musical self-image (Krause & Hargreaves, 2013), musicianship and musical experience (Boer & Fischer, 2011; Krause et al., 2019; Kreutz et al., 2008), and the GOLD-MSI (Mullensiefen et al., 2014), OM-EIS (Dys et al., 2017) and Warrener et al.'s (2019) amended STOMP. Data collection is on-going.

Preliminary path analysis ($n = 183$, Mage = 27.65, 69.95% female) shows that formal training predicts practitioner identities while engagement and access to music in childhood predicts music consumer identities. Self-concept clarity correlates weakly with both types of identities ($r \sim .14$).

The present study extends research into musical identity to further explore the role of socio-cultural factors on the development and perception of musical identity, and the potential relationship between musical identity and self-concept clarity. Since musical identity influences how people engage in music throughout life, the findings have implications for how individuals shape their understanding of themselves in relation to music.

\ V2 - Friday, July 24, 9:45-10:30 AM

Gather (online) - Friday, July 24, 9:45-10:30 AM

V2_1

Effect of Community Choir Singing in People with Chronic Post-Stroke Aphasia: A Progress Update of a Multicenter Single-blind Randomized Trial

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