MOVING TOWARDS CULTURAL SENSITIVITY IN THE VOICE STUDIO

Insights from emotion research

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Module 4: Independent Study Module BMPF7073D

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List of Abbreviations

BET Basic Emotion Theory
BE(s) Basic Emotion(s)
FE(s) Facial Expression(s)
f_0 Fundamental Frequency
VE(s) Vocal Expression(s)

Portfolio

How can emotion theory inform more culturally sensitive and less biased pedagogical practices in the multicultural voice studio?

Introduction

As a voice practitioner in a multilingual and multicultural environment, sensitivity to cultural variations in verbal and non-verbal communication is essential (le Roux, 2002). Research indicates that diverse cultural groups exhibit subtle differences in facial (FE) and vocal (VE) emotional expressions, which can influence vocal tone and may hinder understanding (Quené, Semin and Foroni, 2012; Carl, Icht and Ben-David, 2022; Miccolis, 2025). This variability raises a fundamental question: *Are emotions universal, or shaped by culture* (Barrett, 2006b)?

To address this question, this review examines how cultural factors influence emotional expression. Building on my recent research (Hirsch, 2025), which found cultural differences in smiling patterns may impact vocal tone, it acknowledges the symbiotic face-voice relationship in emotional expression (Miccolis, 2025). Drawing on perspectives from *Basic Emotion (BE), Dialect*, *Appraisal* and *Constructivist* theories (Ekman, 1992; Barrett, 2006b; Elfenbein, 2013), it explores how researchers' ontological views may shape study design, potentially influencing findings and interpretation (Cespedes-Guevara and Eerola, 2018; Cordaro et al., 2018; Barrett et al., 2019). Finally, in considering recent developments and limitations in cross-cultural emotion research, I also reflect on my own positionality.

My aim is to strengthen pedagogical practices through culturally sensitive vocal coaching, identifying practical strategies that enhance inclusivity, cultural awareness, and effective intercultural communication in both spoken and sung voice (Wang, 2022; Tui et al., 2023; Koo, 2025; Mushaathoni, 2025).

Planned Programme of Study

Context

Emotion research, primarily focused on FEs, with vocal studies and cross-cultural communication in speech and music less common (Altrov and Pajupuu, 2015; Laukka and Elfenbein, 2021), has expanded rapidly in recent decades, yet consensus remains elusive (van Rijn and Larrouy-Maestri, 2023).

Emerging from Darwin (1872) and gaining prominence through Ekmann's *Basic Emotion Theory (BET)* (1971), the assumption that emotions are universal has dominated the literature for decades, shaping research design, methods, and interpretation. However, its validity is increasingly challenged and even proponents disagree on the number and categories of BEs (Scholl, 2013; Zupan and Eskritt, 2022; Brooks et al., 2022).

Influenced by culture and language, subtle variations in emotional expression and their successful interpretation are often framed as 'in-group' advantages (Laukka and Elfenbein, 2021; Zhang and Pell, 2022; Liang et al., 2025), a phenomenon described by the *Dialect Theory of Emotion* (Elfenbein and Ambady, 2002). In the voice studio, misinterpretation of cues could hinder teacher-student interactions and affect performance outcomes; however, cross-cultural collaboration and exposure may foster understanding and improve communication (Altrov, 2013; Wood, Rychlowska and Niedenthal, 2016).

Russell's *Circumplex Model of Affect* (1980) moves beyond discrete emotion categories, positioning them along a valence-arousal continuum. Barrett extends this perspective with the *Conceptual Act Model*, arguing that emotions are socially constructed and categorised through individual experience, context and language concepts (Barrett, 2006a, 2006b). She suggests some individuals may be more adept at categorising emotions and challenges the assumption that emotions are biologically hardwired, emphasising variability across individuals and cultures. Barrett summarises: "*When combined, core affect and conceptual knowledge about emotion produce a highly flexible system that can account for individual variation in emotional granularity, cultural differences in emotion experience and the full richness and range of experience that composes human emotional life"* (2006b, p. 30).

In the voice studio, cultural differences in VEs and FEs may have significant implications for vocal pedagogy. Beyond affecting interpersonal relationships and the professional success of students and teachers through misinterpretation (Koo, 2025), cultural variations may subtly impact vocal tone (Miccolis, 2025). Russell and Barrett's theories underscore the need for pedagogy that recognises individual differences and the diverse cultural frameworks through which emotion is experienced and expressed. Their perspectives also encourage

reflection on how Western-based emotion theories, such as *BET*, may reinforce culturally biased practices in a Western-dominated industry (Ford, 2020), and how assumptions about 'universal' emotions may shape my own teaching.

Aims

This review explores the role of individual differences, language, and culture in emotional VE, aiming to inform culturally sensitive vocal coaching in multicultural and multilingual contexts. It seeks to support inclusivity and strengthen intercultural communication, acknowledging diverse expressive norms (Barrett et al., 2019; Leshin et al., 2024). Finally, it examines how cultural variations in encoding and decoding emotion influence cross-cultural communication in voice lessons and performance, supporting development of strategies fostering cross-cultural contact, collaboration and targeted training (Laukka et al., 2016; Ford, 2020; Mushaathoni, 2025).

Objectives

- Identify practical strategies for reflection and teaching.
- Develop awareness of cultural variation in emotions.
- Reflect on biases from prior assumptions.
- Highlight methodological limitations in emotion research.
- Explore the role of culture and collaboration in effective vocal communication.

Key Questions

- *What are recent developments in emotion research and theory?*
- *Could research designs bias cross-cultural emotion research?*
- *What gaps may exist in the field?*
- *How may findings impact VEs, voice pedagogy, and intercultural communication?*
- *What future research could help inform practical strategies for the voice studio?*

Expected Learning Outcomes

- Understanding diverse literature review methods and terminology.
- Deepening knowledge of emotion theories and cultural differences in emotional communication.
- Developing rigorous literature review skills.
- Structuring an effective research journal.
- Reflecting on and increasing awareness of cultural biases in my own practices.
- Identifying personal positionality in emotion research.

Activities To Be Undertaken

There will be several steps in the review process based on McColl-Kennedy et al. (2017):

1. Defining the research question.
2. Developing a rigorous methodology.
3. Data collection.
4. Analysis.
5. Synthesis – critical reflection, recommendations and conclusions.

Before data collection and analysis, it will be important to establish a system for tracking literature and recording accurate research notes (O'Leary, 2004). A *research journal* will track research progress and findings, complemented by detailed article annotations in Mendeley. Separate spreadsheets will support thematic coding based on themes arising from the literature (Braun and Clarke, 2006).

To support personal reflection, a *reflective journal* using the DEBRIEF model will be maintained throughout (Allan. H.S., 2011).

The review timeline will be guided by a comprehensive Gannt chart, providing a visual overview of steps and deadlines to ensure successful project completion (Wilson, 2003) *(Figure 1).*

Module 4 BMPF7073D

Independent Study Module (Extended)
Vanessa Eve Hirsch 2327695

Project Start: **Monday 18/08/2025**
Project Finish: **Monday 05/01/2026**

TASK	PROGRESS	START	END
Preparation			
Prepare Gannt Chart	100%	Friday 22/08/2025	Friday 22/08/2025
Select Research Question and Title	100%	Monday 18/08/25	Sunday 24/08/2025
Prepare Reflective Journal	100%	Friday 22/08/2025	Friday 22/08/2025
Book Tutorials	100%	Monday 25/08/2025	Monday 01/08/2025
Prepare Document in Word	100%	Friday 22/08/2025	Friday 22/08/2025
Define Search Terms	100%	Saturday 23/08/2025	Sunday 31/08/2025
Portfolio			
Write Introduction (200 Words)	100%	Sunday 24/08/2025	Saturday 01/11//2025
Write Planned Programme of Study (650 Words)	100%	Sunday 11/10/2025	Saturday 01/11//2025
Write Methodology (650 Words)	100%	Sunday 11/10/2025	Saturday 01/11//2025
Research Review Types and Select stlye	100%	Tuesday 26/08/2025	Saturday 01/11//2025
Primary Literature Research	100%	Monday 25/08/2025	Saturday 01/11//2025
Definining Positionality - Literature Constructionist Theory	100%	Monday 25/08/2025	Saturday 01/11//2025
DEADLINE Complete Portfolio Draft	100%	Sunday 23/11/2025	
Send Portfolio to Sophie for Feedback	100%	Sunday231/1/2025	
DEADLINE Final Draft Portfolio (actual deadline 08/12)	100%	Mondy 24/11/2025	
Report			
Write Introduction	100%	Monday 03/11/2025	Sunday 09/11/2025
Write Literature Review	100%	Monday 10/11/2025	Monday 17/11/2025
Review and Evaluate Literature	100%	Monday 10/11/2025	Monday 17/11/2025
Secondary Literature Research - Snowballing	100%	Monday 27/11/2025	Sunday 30/11/2025
Write Conclusion	100%	Monday 24/11/2025	Sunday 30/11/2025
Write Final Draft	100%	Monday 01/12/2025	Friday 05/12/2025
DEADLINE Final Draft Report (actual deadline 08/12)	100%	Saturday 06/12/2025	
Reflection			
Keep Reflective Journal	95%	Monday 25/09/2025	Monday 05/01//2026
Write Critical Refection	100%	Saturday 22/11/2025	Sunday 30/11/2025
Send Sections to Sophie for Review	100%		
Review Critical Reflection after Sophie Feedback	100%	Monday 01/12/2025	Saturday 06/12/2025
DEADLINE Final Draft Report (actual deadline 08/12)	100%	Sunday 07/12/2025	
Other			
Reference List Format and Check	100%	Monday 24/11/2025	Thursday 11 /12/2025
Proof Read	100%	Monday 24/11/2025	Thursday 11 /12/2025
Appendices	100%	Monday 24/11/2025	Thursday 11 /12/2025
List of Abbreviations and Terms	100%	Monday 24/11/2025	Thursday 11 /12/2025
List of Tables, Figures	100%	Monday 24/11/2025	Thursday 11 /12/2025
Review After Final Draft Feedback			
Review all sections above after Feedback	95%	Monday 08/12/2024	Sunday 04/01/2024
DEADLINE FINISHED ASSIGMENT		Monday 05/01/2026	

Figure 1. Gannt chart for project.

Methodology

This literature review was inspired by reading Barrett's *How Emotions Are Made: The Secret Life of the Brain* (2017), which aligns with a constructivist view of emotion. A preliminary Google Scholar search using "Lisa Feldman Barrett" and "emotions" identified a foundational 2006 paper (Barrett, 2006b). Consequently, this review focuses on developments in emotion theory published in peer-reviewed journal articles and book chapters after 2006, with earlier works included only when cited as seminal in the post-2006 literature.

To reduce bias arising from my current interest in a constructivist approach, and to ensure rigour, transparency and repeatability, a semi-systematic review method was adopted (Tranfield, Denyer and Smart, 2003; Snyder, 2019). This approach was selected to provide a broad, interdisciplinary overview of this complex field across multiple methodologies, to examine historical and recent theoretical developments, to identify gaps and future research directions, and to balance breadth with feasibility within the timeframe (Wong et al., 2013; Snyder, 2019).

Searches were conducted through the University of Wales Trinity Saint David (UWTSD) library system to ensure interdisciplinary coverage. The initial Boolean search query was:

> ("emotion theory" OR "theories of emotion" OR "emotional theory" OR "affective theory" OR "emotion model" OR "affective model")
> AND
> ("vocal expression" OR "vocal emotion" OR "voice expression" OR "emotional speech" OR "vocal affect" OR "speech prosody" OR "vocal tone" OR "paralinguistic cues")
> AND
> ("culture" OR "cross-cultural" OR "intercultural" OR "cultural differences" OR "cultural variation" OR "cultural context").

Filters were applied for English language peer-reviewed articles and book chapters. Five papers were returned; one was excluded for irrelevance. The remaining four and Barrett's paper (2006b) were read in full to gain an overview of the field *(Appendix 4, Table 1).*

A second search, using a revised and broader Boolean query that excluded direct emotion-theory terms, was conducted to capture cross-cultural research on vocal emotion:

("vocal expression" OR "vocal emotion" OR "voice expression" OR "emotional speech" OR "vocal affect" OR "speech prosody" OR "vocal tone" OR "paralinguistic cues")
AND
("culture" OR "cross-cultural" OR "intercultural" OR "cultural differences" OR "cultural variation" OR "cultural context").

This search returned 126 results; 59 remained after removing duplicates and irrelevant items. Abstract and discussion/conclusion sections were screened, and seven further articles were excluded due to low relevance or quality. The remaining 52 papers were read in full to confirm eligibility (Snyder, 2019) *(Appendix 4, Table 2)*. Given the size of the dataset, further database searches were not required.

To synthesis the material, a flexible combination of thematic analysis and hermeneutic reading was used. An initial round of hermeneutic reading was followed by detailed thematic analysis of the initial five key papers, which helped identify recurring themes (Braun and Clarke, 2006) *(Appendix 4, Table 1)*. These themes then informed a second cycle of hermeneutic engagement with the wider data set (Boell and Cecez-Kecmanovic, 2014) *(Appendix 4, Table 2).* A thematic overview was created for 30 of the 57 papers, of which 24 were primary studies, to gain a representative understanding of the field *(Appendix 4, Table 3 and 4)*. This process produced a narrative synthesis enabling clear identification of key theoretical debates, methodological approaches and key developments.

'Snowballing' (Greenhalgh and Peacock, 2005) was used to identify influential historical sources (McColl-Kennedy et al., 2017). Due to feasibility constraints, only the most relevant were read to provide contextual depth and often limited to abstracts and conclusions. Additional papers were consulted iteratively when gaps in conceptual understanding emerged *(Appendix 6, Table 1).*

Summary of Process

- ***Semi-systematic literature collection***
  Rigorous, transparent and repeatable but feasible.
- ***Hermeneutic and thematic analysis***
  Considering meaning and context while identifying recurring concepts, ideas and approaches across studies. Including 'snowballing' and hermeneutic iterative searches for literature to fill gaps arising from reading.
- ***Narrative synthesis*** –
  Providing a coherent overview of this broad and complex interdisciplinary field (Snyder, 2019).

Project Report: Literature Review

How can emotion theory inform more culturally sensitive and less biased pedagogical practices in the multicultural voice studio?

Introduction

Multicultural learning environments are increasingly common in a globalised world, making cultural sensitivity essential for fostering inclusion and understanding (Wilczewski and Alon, 2023). In the voice studio, students from diverse cultural backgrounds display variations in communication styles and norms of emotional expression in both speech and song. Reflecting on emotion theory may therefore help teachers recognise individual and cultural differences and understand their impact on voice pedagogy (Thompson and Balkwill, 2010; van Rijn and Larrouy-Maestri, 2023).

Emotion is experienced frequently, reports suggest 85 to 90 percent of the time (Cowie, Sussman and Ben-Ze'ev, 2011; Trampe, Quoidbach and Taquet, 2015), and is perceived through a dyadic process involving an encoder and a decoder (Barrett, 2006a; Morningstar et al., 2025). Vocal emotion is conveyed through variations in acoustic features such as fundamental frequency (f_o), volume, speech rate, and pausing, yet across cultures, miscommunication can occur when listeners interpret a vocalist's emotional message through their own cultural concepts, potentially misunderstanding the intended emotion (Carl, Icht and Ben-David, 2022). Culture-specific norms shape both the expression and interpretation of emotion, increasing the risk of misunderstanding in multicultural educational or performance settings (Keshtiari and Kuhlmann, 2016; Banasik-Jemielniak and Kałowski, 2022). Emotional exchange occurs throughout voice work, between teacher and student, among peers, and later between performers and audiences, and misunderstandings may have negative interpersonal or professional consequences (Wang, 2022).

Emotional communication is multichannel, incorporating posture, gesture, facial expressions (FEs), and prosody, all of which contribute to trust and connection (Semnani-Azad and Adair, 2013; Keltner et al., 2019). Accurate emotional interpretation supports well-being, empathy and collaboration (Trampe, Quoidbach and Taguet, 2015; Cheng et al., 2024), yet individuals tend to recognise emotions more readily within their own cultural groups (Elfenbein, 2013). Consequently, minority groups may be at a personal and professional disadvantage when vocal pedagogy does not incorporate culturally sensitive practices.

Western (classical) ideals continue to influence both performance and research in vocal pedagogy, potentially limiting culturally sensitive practices (Ford, 2020). Integrating multicultural perspectives in emotion research and voice teaching may enhance

understanding of cross-cultural vocal expression (VE) and foster more inclusive pedagogical approaches (Keshtiari and Kuhlmann, 2016; Koo, 2025).

This review examines emotional VE, a comparatively underexplored area relative to FEs (Altrov and Pajupuu, 2015). It explores the role of emotional expression in the multicultural voice studio, outlines key developments and debates in emotion theory, considers cultural influences on expression and interpretation, and evaluates how methodological biases and limitations shape current understanding. The review concludes by identifying research gaps and offering recommendations for culturally sensitive vocal pedagogy.

Review and Analysis

Emotional Expression in the Multicultural Voice Studio

Emotion is conveyed in voice and music through a process well captured by the Brunswikian Lens model (Brunswik, 1952), in which multiple cues, such as pitch, volume, voice quality, tempo and intonation, combine to express the encoder's emotional state (Cespedes-Guevara and Eerola, 2018; Duville, Alonso-Valerdi and Ibarra-Zarate, 2021; Cheng et al., 2024). Understanding these messages requires listening "*not only to what is said but also how it is said"* (Altrov, 2013, p.160). The decoder interprets the encoder's cues, and communication succeeds when both parties share sufficient cultural and experiential knowledge to understand each other's emotional language (Barrett, 2006a). Subtle cultural differences or linguistic accents can reduce both the speed and accuracy of interpretation, even among speakers of the same language (Pell and Skorup, 2008; Paulmann and Uskul, 2014; Eskritt and Zupan, 2023). Scherer (2003) expands Brunswik's model by incorporating environmental transmission and considering the psychological states of both encoder and decoder, offering a framework highly relevant for voice research and culturally sensitive practices in the voice studio *(Figure 1)*.

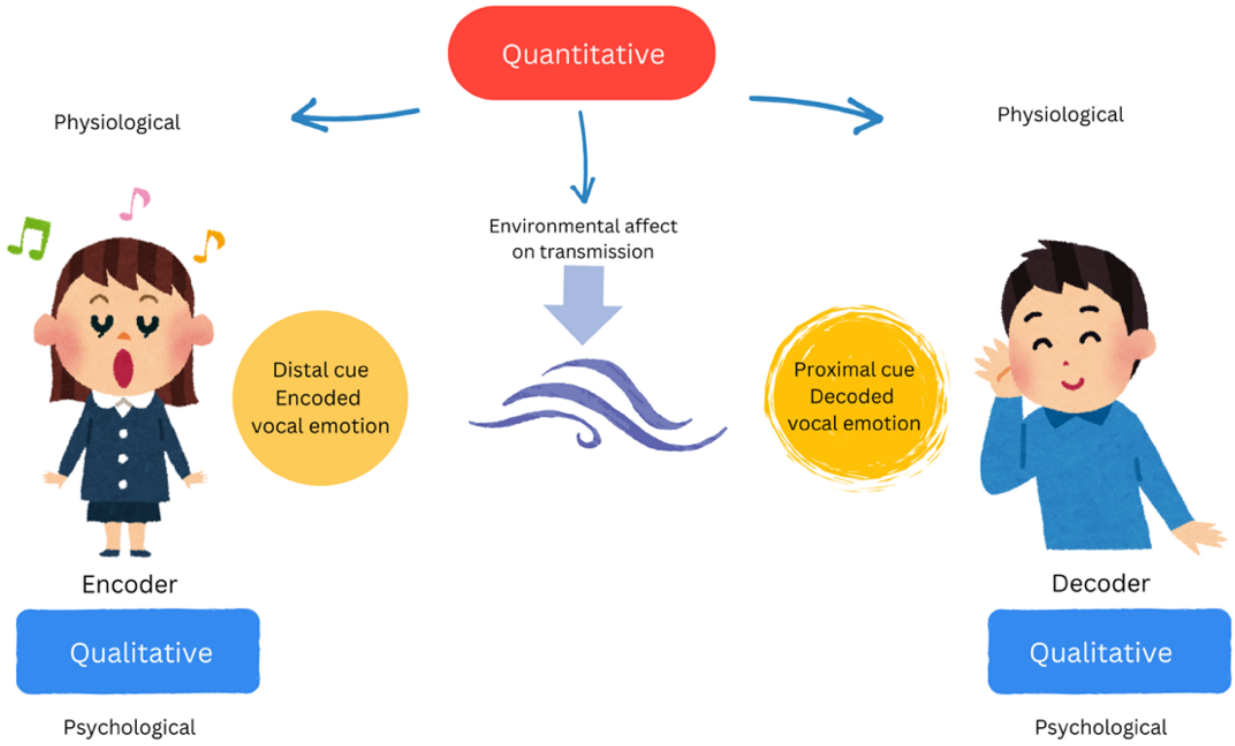

Figure 1. Modified Brunswikian lens adapted from Scherer (2003) (Appendix 3, Figure 1).

Music and speech prosody share acoustic patterns in emotional expression, particularly in intensity, rate and pitch height (Juslin and Laukka, 2003; Ilie and Thompson, 2006; Cespedes-Guevara and Eerola, 2018). Listeners additionally engage similar neural networks when interpretating emotion in both voice and music, which overlap with systems involved in social cognition (Escoffier et al., 2013). This highlights the importance for voice teachers to consider cultural influences on both singers and speakers, as well as their impact on cross-cultural social understanding.

Singers, actors, public speakers, and negotiators must learn to encode emotions clearly through multimodal vocal and nonverbal cues, including prosody and vocal bursts (Semnani-Azad and Adair, 2013; Cordaro et al., 2016; Ponsot et al., 2018). VE cues are generally decoded less reliably than FEs, partly because research stimuli often rely on exaggerated, prototypical, facial displays that inflate accuracy (Ekman and Friesen, 1978; Altrov and Pajupuu, 2015). FEs, however, support vocal decoding: listeners interpret vocal cues less accurately when the encoder's face is not visible, although some emotions may be conveyed more reliably through voice alone (Altrov and Pajupuu, 2015; Cordaro et al., 2018; Keltner et al., 2019).

In music performance, visual cues such as FEs and gestures strongly shape audience perception of emotional impact (Thompson, Russo and Quinto, 2008). Additionally, FE and VE communication are interdependent, and their symbiotic relationship influences vocal production through changes in the vocal tract length or volume (Miccolis, 2025). Culturally shaped expressive norms may, therefore, affect not only expression and interpretation but also the physical production of vocal sound.

Consequently, voice pedagogues who recognise how cultural norms and variations influence the encoding and decoding of emotion may be better equipped to support students in developing both vocal technique and effective cross-cultural communication, both in the studio and on stage.

Emotion Theory

To better understand the impact of cultural variation on emotional expression in the voice studio, it is essential to first consider emotion theory and how our personal ontology may shape pedagogical practices.

Emotion research is a rapidly developing field yet faces fundamental challenges. Despite extensive research, there is little consensus on what constitutes an emotion (Cespedes-Guevara and Eerola, 2018; Crivelli and Fridlund, 2019), and even proponents of the same theory often disagree on which emotion labels exist (Kreibig, 2010; Keltner et al., 2019). Evidence for discrete physiological, neural or expressive patterns associated with specific emotions remains inconsistent across both FE and speech prosody (Barrett, 2006b; Cespedes-Guevara and Eerola, 2018). Additionally, objective measurement of emotional experience is challenging, and research outcomes are influenced by methodological choices and researchers' ontological perspectives (Scherer, 2005; Pearlman, 2023). Cross-cultural studies are further impacted by the dominance of Western concepts and languages, shaping study design and influencing outcomes (Barrett, 2006b; Cespedes-Guevara and Eerola, 2018; Laukka and Elfenbein, 2021).

Individual experience of emotion varies by age, gender, language, situation and culture, and understanding individual differences is essential in multicultural teaching contexts, where misinterpretation can affect both communication and learning outcomes (Thompson and Balkwill, 2010; Wierzbicka, 2012; Keshtiari and Kuhlmann, 2016; van Rijn and Larrouy-Maestri, 2023).

Key Theories and Models

Universal and Dialect Theories

Universal Theory proposes emotions are measurable, discrete, universally experienced and interpreted and biologically hardwired (phylogenic), each associated with specific causes and affects (Juslin and Laukka, 2003; Barrett, 2006b; Cespedes-Guevara and Eerola, 2018; van Rijn and Larrouy-Maestri, 2023). Originating from the writings of Charles Darwin, this perspective gained prominence through Ekman's *Basic Emotion Theory* (*BET*) (1971), which described six universal BEs: *Happiness, Sadness, Anger, Fear, Disgust, and Surprise*, each corresponding to discrete FEs recognisable across cultures.

More recent research, however, reveals inconsistencies, with disagreement persisting over the number and categories of 'basic' emotions (Crivelli and Fridlund, 2019; Zupan and Eskritt, 2022; Brooks et al., 2022). Ekman himself later suggested the potential inclusion of additional emotions, such as Contempt, Surprise, Guilt, Shame, Embarrassment, Interest, Awe and Excitement (Ekman, 1992). *BET* has dominated emotion research for decades (Keltner et al., 2019), and Crivelli (2019, p. 163) has more recently argued that this Western biased theory *"constrains"* research. Correspondingly, despite some attempts to reduce its bias*, BET* perspectives were found to dominate this review's literature *(Table 1 and 2)*. Later sections of this review consider how this overrepresentation of Western *BET* emotional terms and may impact both emotion research and pedagogical practices in the voice studio.

An alternative perspective, *Dialect Theory,* proposes that while emotions may be universally recognised, cultural variations create 'in-group' advantages in decoding (Elfenbein and Ambady, 2002; Elfenbein, 2013). Studies indicate that emotion recognition is faster and more accurate within groups sharing similar cultural backgrounds, but that exposure to other cultures can improve cross-cultural recognition (Thompson and Balkwill, 2010; Zhang and Pell, 2022). These findings further highlight the importance of developing culturally responsive pedagogical methods to mitigate potential disadvantages within the voice studio.

Appraisal Theory

Appraisal models categorise emotions as discrete but not basic in a biological way (Barrett, 2006a). Building on William James' (1884) argument that emotions reflect the perception of bodily changes rather than causing them and first formalised by Lazarus (1966), *Appraisal Theory* proposes that emotions arise from evaluating events in relation to personal goals, beliefs, or well-being (Schmidt et al., 2010). Applying an appraisal lens in the voice studio would benefit students by encouraging focus on physiological characteristics of emotion rather than solely psychological constructs. This could support effective practical applications for vocal pedagogy, allowing quantitative measurement of physiological changes to be triangulated with self-reported emotional experience, thereby supporting the identification of cross-cultural similarities and differences in emotional expression.

Circumplex Appraisal Model

As laid out in the work of James Russell (1980), this model posits that emotions are not discrete but rather exist along a continuous circumplex dimension defined by two axes, valence and arousal *(Figure 2).*

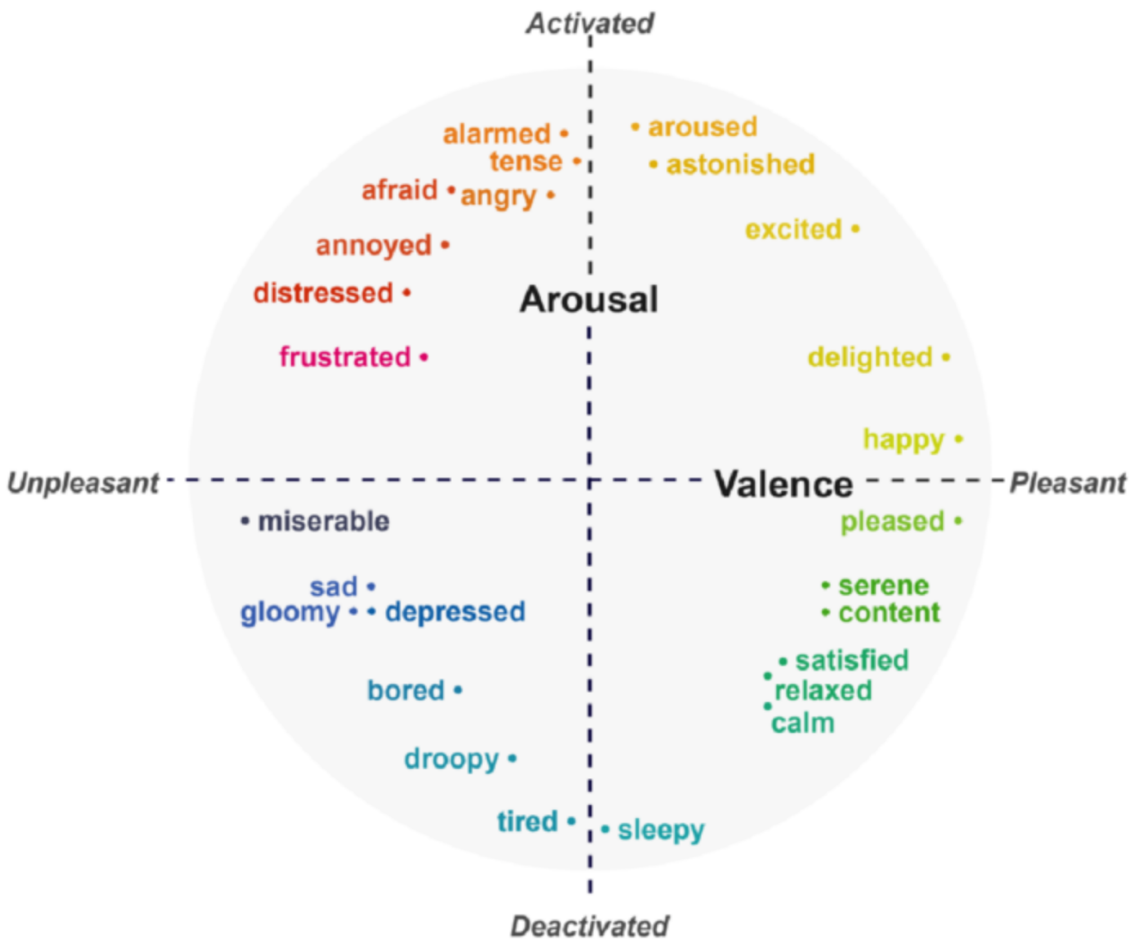

Figure 2. Russell's Circumplex Appraisal model (Yamane, Mishra and Goodwin, 2025).

Constructivist - Conceptual Act Theory

Building on *Appraisal Theory* and Russell's circumplex model, *Constructivist Theory* posits that language, culture and individual experience shape how physiological responses to situational demands are categorised as emotions. Unlike BE approaches, constructivists view emotions as ontogenic rather than fixed, universal categories (Barrett, 2006b).

A key proponent, Lisa Feldmann-Barrett, argues that conceptual knowledge plays a central role in constructing emotional experiences through categorisation, influencing both the perception of one's own emotions and the interpretation of others' (Barrett, 2006a). Like Russell, she posits that emotions are interpreted from affective states defined by valence and arousal, rather than as discrete, universal categories. Barrett (2006b) further argues that individuals vary in emotional 'granularity', but that the ability to conceptualise emotions can be developed through training. Techniques such as real-time emotion recording, for example, can enhance recognition of nuanced, context-dependent emotional states (Hoemann, Barrett and Quigly, 2021).

In the voice studio, these insights have practical applications. Cultural and linguistic differences in emotion labelling between students and teachers may lead to misunderstandings or misalignments in emotional expression. Employing strategies, such as real-time emotion recording, to enhance awareness of one's own affective states, reflect on and refine VE production, and improve interpretation of others' emotional expression is therefore crucial, particularly in multicultural settings.

Constructivist Theory, gaining momentum in emotion research, challenges traditional assumptions of universal emotion cues (Cespedes-Guevara and Eerola, 2018; Crivelli and Fridlund, 2019) and has significant pedagogical implications. By adopting a lens of socially and psychologically constructed emotion, voice teachers can critically reflect on assumptions embedded in Western-centred practices, tailor instruction to students' individual experiences and cultural backgrounds, and foster more culturally sensitive and inclusive vocal training (Ford, 2020).

Culture and Emotional Expression

Thompson and Balkwill (2010, p. 757) define culture as *"the set of behaviours, beliefs, social structures and technologies of a population that are passed down from generation to generation"*. Researchers generally agree that culture shapes both emotional expression and perception, whether viewed through a *Constructivist* (Barrett, 2006b; Cespedes-Guevara and Eerola, 2018) or *Dialect Theory* (Laukka and Elfenbein, 2021) lens, with some even proposing the existence of culture-specific emotions (Thompson and Balkwill, 2010; Wierzbicka, 2012).

Emotions are social phenomena, with cultural norms guiding their display and interpretation, helping maintain positive social interactions (Thompson and Balkwill, 2010; Ramirez-Marin and Brett, 2011). However, when experiencing or interpreting emotion, individuals may be influenced by multiple cultural and subcultural factors, not necessarily tied to one region, and shared symbols and images further impact categorisation (Cespedes-Guevara and Eerola, 2018). Cultural dimensions, such as those proposed by Hofstede (1980; 2001) significantly influence expression *(Figure 3).* Collectivist cultures often prioritise social harmony, context sensitivity, and emotion regulation whereas individualist cultures emphasise personal emotional experience and expression (Keshtiari and Kuhlmann, 2016). Consistent with this, Elfenbein and Ambady (2002) argue that members of culturally similar groups are more accurate at decoding each other's emotional expressions, with recognition declining as cultural differences increase (Liu et al., 2021; Cheng et al., 2024). Social conventions, such as 'saving face' in Asia, further shape expression, particularly in high-power-distance or high-context cultures (Danielewicz-Betz, 2016).

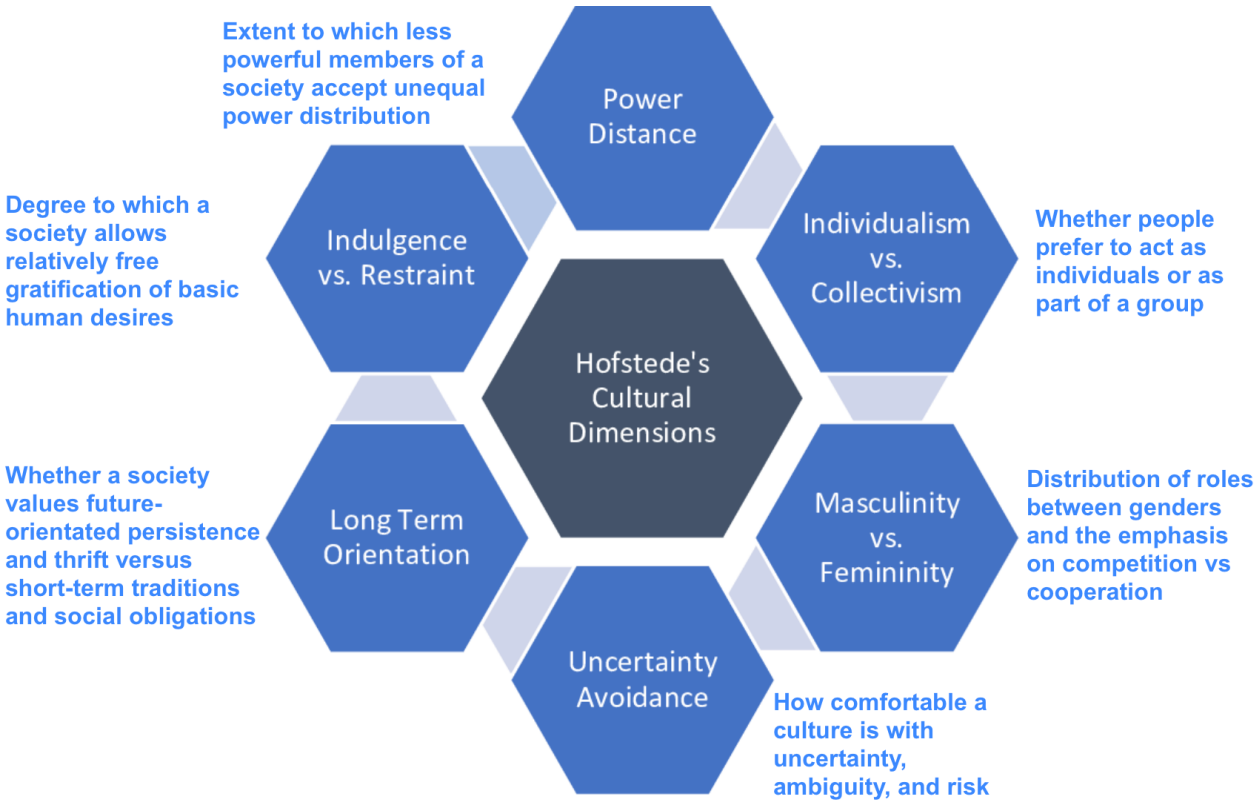

Figure 3. Hofstede's cultural dimensions (Vizmonte and Ligot, 2024).

Barrett (2006b) suggests that core affective states, based on universal physiological reactions of valence and arousal, provide a pan-cultural framework for categorising emotions shaped by whether a situation is helpful or threatening. Research supports this view, with valence and arousal being recognised more consistently across cultures than discrete emotions (Juslin and Laukka, 2003; Cespedes-Guevara and Eerola, 2018). Thompson and

Balkwill (2010) explain cultural variations through the *Cue Redundancy* model, in which shared psychophysical cues, supporting survival responses such as fighting, fleeing or freezing, enable cross-cultural recognition, while culturally learned patterns lead to socially constructed interpretations *(Figure 4 and 5).* Focusing on valence and arousal may therefore help culturally sensitive voice teachers identify pan-cultural emotion concepts despite differences in linguistic labelling, while still accounting for and recognising cultural variation.

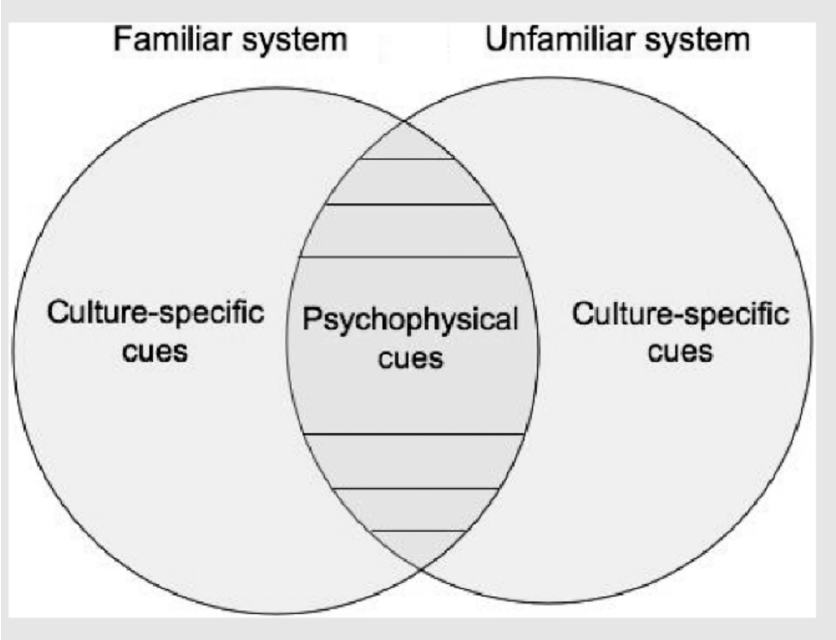

Figure 4. Cue Redundancy model 1 (Thompson and Balkwill, 2010).

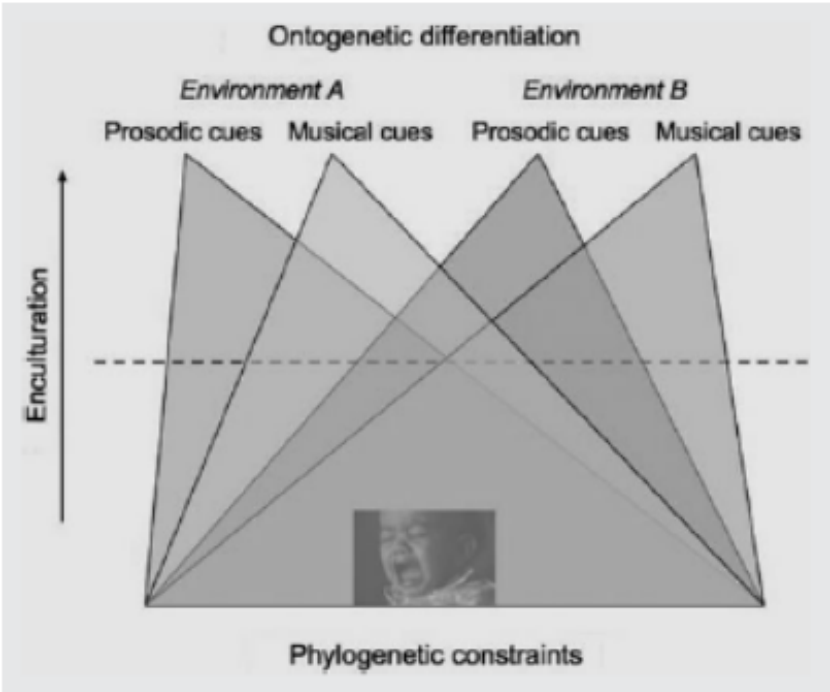

Figure 5. Cue Redundancy model 2 (Thompson and Balkwill, 2010).

Research indicates that some emotions are more accurately recognised across cultures than others, particularly when BEs are tested (Laukka et al., 2013; Cordaro et al., 2018; Keltner et al., 2019; Liang et al., 2025). Pell et al. (2009), for example report that VE exhibits pan-cultural features in the experience of BEs, producing specific acoustic effect. However, they also found that socio-cultural effects were greater during spontaneous emotional expression than during posed ones. This could indicate that acted VE and FE, often used for research stimuli and involving exaggerated stereotypical representations of 'basic' emotions but lacking ecological validity, may be more easily recognised across cultures (Cespedes-Guevara and Eerola, 2018).

According to Semnani-Azad and Adair (2013), in multicultural environments limited knowledge of social meanings associated with paralanguage can mean cultural variations in vocal cues may impact communication quality. They therefore suggest being mindful of cultural differences in vocal cues when interpreting emotions of others.

Language, accents and dialects influence how we experience emotion, with second-language speakers, even highly proficient ones, often differing from native speakers, and with language playing a central role in the development of emotional concepts (Gentner and Goldin-Meadow, 2003; Barrett, 2006a; Jiang et al., 2015; Laukka et al., 2016; Eskritt and Zupan, 2023). Individuals interpret emotions more accurately and quickly in their native language (Zhang and Pell, 2022; Lyakso et al., 2023; Liang et al., 2025) and cross-cultural understanding may be limited when different languages lack equivalent emotional terms (Wierzbicka, 2012). Voice teachers should therefore consider how vocalising in a foreign language may colour VEs in ways that depart from native language norms and therefore contribute to cross-linguistic variations in vocal technique (Scherer et al., 2017).

Exposure to other cultures improves cross-cultural emotion recognition (Elfenbein, 2013; Zhang and Pell, 2022; Cruz, Rosa, Bem-Haja, 2025). Creating opportunities for intercultural contact or training, including language acquisition, can therefore support communication, empathy and cross-cultural cooperation (Laukka et al., 2016; Cheng et al., 2024). The multicultural voice studio provides a particularly rich context for such learning, and intentional integration of cross-cultural emotion training, language development, and mentoring would maximise these benefits (Altrov, 2013; Hagenauer, Gläser-Zikuda and Volet, 2016).

Methodological Challenges and Limitations in Emotion Research

The development of an affective, culturally inclusive vocal pedagogy for emotional expression fundamentally depends on the quality of research in this field. Methodological choices play a decisive role in shaping research outcomes, particularly in studies involving group comparisons (Liang 2025). Research on cross-cultural emotion perception in speech and music faces substantial methodological challenges, ranging from the practical difficulties of accessing remote and culturally diverse populations to ensuring that experimental stimuli are both ecologically valid and representative of everyday emotional expression (Bryant and Barrett, 2008). These issues are clearly reflected in the dataset reviewed here, in which studies can be broadly categorised into three theoretical camps:

- *Basic Emotion Theory* (*BET*) and *Dialect Theory* (Keltner et al., 2019; Cosme et al., 2022).
- *Constructivist* models, including the *Conceptual Act Theory* (Barrett, 2006b; Gendron et al., 2014; Cespedes-Guevara and Eerola, 2018).
- *Appraisal-based* or *Semantic-space* approaches (Semnani-Azad and Adair, 2013; Laukka et al., 2016; Cowen et al., 2019).

Although researchers generally report empirical results that align with the ontological assumptions of their theoretical camp, the reviewed literature suggests that methodological decisions may impact findings. Researcher paradigm and design choices could potentially obscure genuine cultural variability and consequently shape, even misleadingly, our understanding of how humans perceive emotion across cultures (Barrett, 2006a).

Across the reviewed studies, three recurring themes emerged as particularly problematic for emotion research and for understanding its implications for voice pedagogy.

Emotion Categories: Influence of Strong Western Bias, Basic Emotion and Forced-Choice Design

While the review dataset is limited to English language publications and therefore more likely to reflect Western perspectives, it is nevertheless concerning that many studies approached cross-cultural emotion research through a distinctly Western lens. Historically, emotion research has focused disproportionately on Western populations (Liu, Rigoulot, and Pell, 2015) and the papers reviewed here similarly show a strong dependence on Western BE categories (*Table 1 and 2)*. Studies generally used three to five emotions drawn from Ekman's original six BEs (Anger, Fear, Sadness, Happiness, Surprise and Disgust) (1971), though several studies also included additional 'basic' categories such as Neutral, Pride, Relief, and Interest. A few outlier studies incorporated all six Ekman BEs, and one even a

wide range of 30 categories. The category variation reflected in this review mirrors the variability in how emotions are labelled across research *(Table 2)*. In this dataset, a Western BE framework was applied even when participants originated from non-Western cultures, with emotion labels later translated into local languages, for example Laukka et al. (2013) or Liang et al. (2025). This approach assumes that equivalent conceptual categories exist across languages and cultures. A view challenged, however, by Gendron et al. (2014), who found that members of the remote Himba community did not describe emotions using Western psychological terms, but instead labelled vocalisations using behavioural action terms, for example describing 'Fearful' as 'Scream'.

This reliance on BE categories in research design will most likely impact empirical outcomes. Ekman's original list included only one positive emotion, meaning that any shifts towards positive valence are likely to be categorised by participants as 'Happiness' (Eskritt and Zupan, 2023). Additionally, further doubts about universality are raised as some 'basic' emotions have been recognised more reliably in research than others (van Rijn and Larrouy-Maestri, 2023). Acoustic VE research employing discrete BE labels and exclusively Western participants may reinforce Western-biased pedagogical assumptions about the universality of VE (Juslin and Laukka, 2003; Scherer et al., 2017). As cross-cultural recognition of emotions may depend more on valence and arousal than on discrete categories (Scherer, 2005), this suggests defining standardised acoustic vocal patterns based on Western labels may not fully reflect cultural variations in voice research and pedagogy.

In reviewing a representative sample of 30 papers from this 57-paper data set, 24 were primary studies. All were shaped by BE categories, either by applying discrete Western emotion labels consisting entirely or in part of BEs (22 of 24, 91.7 percent), or openly following a *BET* influenced framework as an overarching paradigm *(Table 1 and 2).* This influence of *BET* was even evident in studies claiming allegiance to *Constructivist* or *Appraisal* approaches, for example Gendron et al. (2014) or Cowen et al. (2019). As a result, participants may be forced into a *BET* conceptual framework that does not align with their own emotion labels or cultural schemas.

This approach likely inflates recognition accuracy creating a misleading impression of universality, particularly in forced-choice paradigms where participants must choose from a limited set of researcher-provided discrete labels, thus favouring *BET* and *Dialect* theories (Gendron et al., 2014; Laukka and Elfenbein, 2021). In some reviewed papers, participants were restricted to as few as three 'basic' labels, raising questions about whether the findings reflect discrete BE categories or rather broader valence-arousal distinctions (Altrov, 2013; Altrov and Pajupuu, 2015; Nakai et al., 2023) (*Table 2).* Studies which offer free-labelling or

open-response paradigms, such as Gendron et al. (2014), tend generally to find much lower recognition rates and culturally divergent descriptions of emotions (Gendron, 2017). Moreover, studies removing explicit emotion labels tend to find that cross-cultural recognition drops to chance or near-chance levels, implying that emotion recognition is guided by conceptual knowledge rather than 'natural kind' emotions (Barrett, 2006a).

	Paper	Author	Year
1	Watch your tone … relational paralinguistic messages in negotiation: The case of East and West	Semnani-Azad, Z., Adair, W. L.	2013
2	Modelling individual and cross-cultural variation in the mapping of emotions to speech prosody	van Rijn, P., Larrouy-Maestri, P.	2023
3	Evidence for cultural dialects in vocal emotion expression: Acoustic classification within and across five nations	Laukka, P., Neiberg, D., & Elfenbein, H. A.	2014
4	Investigating cross-cultural vocal emotion recognition with an affectively and linguistically balanced design	Liang, Y., Goudbeek, M., Konopka, A., Choi, J., & Broersma, M.	2025
5	More than accuracy: Nonverbal dialects modulate the time course of vocal emotion recognition across cultures	Jiang, X., Paulmann, S., Robin, J., & Pell, M. D.	2015
6	Cultural differences in vocal emotion recognition: A behavioural and skin conductance study in Portugal and Guinea-Bissau	Cosme, G., Tavares, V., Nobre, G., Lima, C., Sá, R., Rosa, P., & Prata, D.	2022
7	The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures	Cowen, A. S., Laukka, P., Elfenbein, H. A., Liu, R., & Keltner, D.	2019
8	Cultural differences in vocal expression analysis: Effects of task, language, and stimulus-related factors	Zhang, S., & Pell, M. D.	2022
9	Emotion perception from vocal cues: Testing the influence of emotion intensity and sex on in-group advantage	Eskritt, M., & Zupan, B.	2023
10	Vocal emotion recognition across disparate cultures	Bryant, G. A., & Barrett, H. C.	2008
11	The children's emotional speech recognition by adults: Cross-cultural study on Russian and Tamil language	Lyakso, E., Ruban, N., Frolova, O., & Mekala, M. A.	2023
12	Unattended emotional prosody affects visual processing of facial expressions in Mandarin-speaking Chinese: A comparison with English-speaking Canadians	Liu, P., Rigoulot, S., Jiang, X., Zhang, S., & Pell, M. D.	2021
13	Recognizing emotions in a foreign language	Pell, M. D., Monetta, L., Paulmann, S., & Kotz, S. A.	2009
14	Algorithmic voice transformations reveal the phonological basis of language-familiarity effects in cross-cultural emotion judgments	Nakai, T., Rachman, L., Arias Sarah, P., Okanoya, K., & Aucouturier, J.-J.	2023
15	Cracking the social code of speech prosody using reverse correlation	Ponsot, E., Burred, J. J., Belin, P., & Aucouturier, J.-J.	2018
16	Cultural relativity in perceiving emotion from vocalizations	Gendron, M., Roberson, D., van der Vyver, J. M., & Barrett, L. F.	2014
17	The expression and recognition of emotions in the voice across five nations: A lens model analysis based on acoustic features	Laukka, P., Elfenbein, H. A., Thingujam, N. S., Rockstuhl, T., Iraki, F. K., Chui, W., & Althoff, J.	2016
18	Cross-cultural emotional prosody recognition: Evidence from Chinese and British listeners	Paulmann, S., & Uskul, A. K.	2014
19	Universal and culture-specific factors in the recognition and performance of musical affect expressions	Laukka, P., Eerola, T., Thingujam, N. S., Yamasaki, T., & Beller, G.	2013
20	The influence of language and culture on the understanding of vocal emotions	Altrov, R., & Pajupuu, H.	2015
21	Aspects of cultural communication in recognizing emotions	Altrov, R.	2013
22	The voice of emotion in Chinese and Italian young adults	Anolli, L., Lei Wang, Mantovani, F., & De Toni, A.	2008
23	A cross-linguistic validation of the test for rating emotions in speech: Acoustic analyses of emotional sentences in English, German, and Hebrew	Carl, M., Icht, M., & Ben-David, B. M.	2022
24	Mexican emotional speech database based on semantic, frequency, familiarity, concreteness, and cultural shaping of affective prosody	Duville, M. M., Alonso-Valerdi, L. M., & Ibarra-Zarate, D. I.	2021

Table 1. Primary studies, influenced by BE, 24 of 24 (30 paper representative sample).

	Paper	Author	Year	Emotion Categories
1	Modelling individual and cross-cultural variation in the mapping of emotions to speech prosody	van Rijn, P., Larrouy-Maestri, P.	2023	Surprise, Anger, Sadness, Happiness, Disgust, Fear
2	Evidence for cultural dialects in vocal emotion expression: Acoustic classification within and across five nations	Laukka, P., Neiberg, D., & Elfenbein, H. A.	2014	Anger, Contempt, Fear, Happiness, Interest, Neutral, Sexual Lust, Pride, Relief, Sadness, Shame
3	Investigating cross-cultural vocal emotion recognition with an affectively and linguistically balanced design	Liang, Y., Goudbeek, M., Konopka, A., Choi, J., & Broersma, M.	2025	Joy, Pride, Tenderness, Relief, Anger, Fear, Sadness, Irritation
4	More than accuracy: Nonverbal dialects modulate the time course of vocal emotion recognition across cultures	Jiang, X., Paulmann, S., Robin, J., & Pell, M. D.	2015	Fear, Anger, Happiness, Sadness, Neutral
5	Cultural differences in vocal emotion recognition: A behavioural and skin conductance study in Portugal and Guinea-Bissau	Cosme, G., Tavares, V., Nobre, G., Lima, C., Sá, R., Rosa, P., & Prata, D.	2022	Amusement, Relief, Pleasure, Sadness, Fear, Anger
6	The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures	Cowen, A. S., Laukka, P., Elfenbein, H. A., Liu, R., & Keltner, D.	2019	Adoration, Amusement, Anger, Awe, Confusion, Contempt, Contentment, Desire, Disappointment, Disgust, Distress, Ecstasy, Elation, Embarrassment, Fear, Guilt, Interest, Pain, Pride, Realisation, Relief, Romantic Love, Sadness, Serenity, Shame, Surprise (Negative), Surprise (Positive), Sympathy, Triumph, Neutral
7	Cultural differences in vocal expression analysis: Effects of task, language, and stimulus-related factors	Zhang, S., & Pell, M. D.	2022	Anger, Fear, Happiness, Sadness
8	Emotion perception from vocal cues: Testing the influence of emotion intensity and sex on in-group advantage	Eskritt, M., & Zupan, B.	2023	Happiness-Contentment, Surprise-Interest, Anger-Irritation, Fear-Anxiety
9	Vocal emotion recognition across disparate cultures	Bryant, G. A., & Barrett, H. C.	2008	Angry, Happy, Sad, Fearful, Disgust
10	The children's emotional speech recognition by adults: Cross-cultural study on Russian and Tamil language	Lyakso, E., Ruban, N., Frolova, O., & Mekala, M. A.	2023	Joy, Neutral, Sadness, Anger
11	Unattended emotional prosody affects visual processing of facial expressions in Mandarin-speaking Chinese: A comparison with English-speaking Canadians	Liu, P., Rigoulot, S., Jiang, X., Zhang, S., & Pell, M. D.	2021	Fear, Anger, Happy, Neutral
12	Recognizing emotions in a foreign language	Pell, M. D., Monetta, L., Paulmann, S., & Kotz, S. A.	2009	Anger, Disgust, Fear, Sadness, Happiness, Pleasant Surprise, Neutral

13	Algorithmic voice transformations reveal the phonological basis of language-familiarity effects in cross-cultural emotion judgments	Nakai, T., Rachman, L., Arias Sarah, P., Okanoya, K., & Aucouturier, J.-J.	2023	Happy, Sad, Afraid, Identical
14	Cultural relativity in perceiving emotion from vocalizations	Gendron, M., Roberson, D., van der Vyver, J. M., & Barrett, L. F.	2014	Amusement, Anger, Disgust, Fear, Relief, Sadness, Sensory Pleasure, Surprise, Triumph
15	The expression and recognition of emotions in the voice across five nations: A lens model analysis based on acoustic features	Laukka, P., Elfenbein, H. A., Thingujam, N. S., Rockstuhl, T., Iraki, F. K., Chui, W., & Althoff, J.	2016	Anger, Contempt, Fear, Happiness, Interest, Lust, Pride, Relief, Sadness, Shame, Neutral
16	Cross-cultural emotional prosody recognition: Evidence from Chinese and British listeners	Paulmann, S., & Uskul, A. K.	2014	Anger, Disgust, Fear, Happiness Neutral Tone of Voice, Sadness, Surprise
17	Universal and culture-specific factors in the recognition and performance of musical affect expressions	Laukka, P., Eerola, T., Thingujam, N. S., Yamasaki, T., & Beller, G.	2013	Affection, Anger, Fear, Happiness, Humour, Longing, Peacefulness, Sadness, Solemnity, Spirituality, Neutral
18	The influence of language and culture on the understanding of vocal emotions	Altrov, R., & Pajupuu, H.	2015	Joyful, Angry, Sad, Neutral
19	Aspects of cultural communication in recognizing emotions	Altrov, R.	2013	Joy, Anger, Sadness, Neutrality
20	The voice of emotion in Chinese and Italian young adults	Anolli, L., Lei Wang, Mantovani, F., & De Toni, A.	2008	Joy, Sadness, Anger, Fear, Contempt, Pride, Guilt, Shame, Neutral
21	A cross-linguistic validation of the test for rating emotions in speech: Acoustic analyses of emotional sentences in English, German, and Hebrew	Carl, M., Icht, M., & Ben-David, B. M.	2022	Anger, Happiness, Sadness, Neutral
22	Mexican emotional speech database based on semantic, frequency, familiarity, concreteness, and cultural shaping of affective prosody	Duville, M. M., Alonso-Valerdi, L. M., & Ibarra-Zarate, D. I.	2021	Anger, Disgust, Fear, Happiness, Neutral, Sadness

Table 2. Emotion labels applied in 22 of 24 primary studies (30 paper representative sample).

Use of Posed vs. Real Emotions: Heavy Reliance on Actors

The use of acted/posed stimuli, whether VE or FE, may further influence research findings (Laukka and Elfenbein, 2021). In the 30-paper representative sample, 17 of 24 primary studies (70,83 percent) employed this approach when creating research stimuli *(Table 3).* Acted emotion tends to produce exaggerated, stereotypical vocal portrayals, potentially easier to categorise but not reflecting the more subtle or mixed emotion expressions encountered in everyday life (Altrov and Pajupuu, 2015; van Rijn and Larrouy-Maestri, 2023). In vocal research, acted VE may exaggerate cues associated with valence or arousal, particularly when response options are restricted to 'basic' emotions located at polarised ends of the circumplex model (Cespedes-Guevara and Eerola, 2018).

This issue is compounded when researchers pre-select only the 'best' portrayals, those considered most recognisable, as in Altrov (2013), Paulmann and Uskul (2014), Laukka et al. (2016) or Carl, Icht and Ben-David (2022). Such researcher judgement in the selection of samples may increase the likelihood of findings supporting universality while potentially filtering out culturally specific or ambiguous expressions (Cespedes-Guevara and Eerola, 2018).

Reliance on acted emotions and 'best' portrayal selections in vocal research may encourage vocalists to reproduce exaggerated, stereotypical expressions that lack subtle cultural nuances, perpetuated through pedagogy that overlooks cultural variations (Altrov and Pajupuu, 2015; van Rijn and Larrouy-Maestri, 2023). In voice work this may reduce authenticity in performance and, when emotional cues are oversimplified, may increase the risk of pedagogical misalignment. Additionally, vocalists from diverse cultural backgrounds may feel misrepresented or constrained when teaching prioritises such filtered expressions.

	Paper	Author	Year	Real or Posed Emotions
1	Modelling individual and cross-cultural variation in the mapping of emotions to speech prosody	van Rijn, P., Larrouy-Maestri, P.	2023	Actors - Corpora relied heavily on actors
2	Evidence for cultural dialects in vocal emotion expression: Acoustic classification within and across five nations	Laukka, P., Neiberg, D., & Elfenbein, H. A.	2014	Actors - Short phrase standardised verbal content
3	Investigating cross-cultural vocal emotion recognition with an affectively and linguistically balanced design	Liang, Y., Goudbeek, M., Konopka, A., Choi, J., & Broersma, M.	2025	Actors - Pseudo-phrases
4	More than accuracy: Nonverbal dialects modulate the time course of vocal emotion recognition across cultures	Jiang, X., Paulmann, S., Robin, J., & Pell, M. D.	2015	Actors - Lay
5	Cultural differences in vocal emotion recognition: A behavioural and skin conductance study in Portugal and Guinea-Bissau	Cosme, G., Tavares, V., Nobre, G., Lima, C., Sá, R., Rosa, P., & Prata, D.	2022	Acted Stimuli
6	The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures	Cowen, A. S., Laukka, P., Elfenbein, H. A., Liu, R., & Keltner, D.	2019	Actors
7	Cultural differences in vocal expression analysis: Effects of task, language, and stimulus-related factors	Zhang, S., & Pell, M. D.	2022	Actors - Lay
8	Emotion perception from vocal cues: Testing the influence of emotion intensity and sex on in-group advantage	Eskritt, M., & Zupan, B.	2023	Acted
9	Vocal emotion recognition across disparate cultures	Bryant, G. A., & Barrett, H. C.	2008	Imitated - image stimuli
10	The children's emotional speech recognition by adults: Cross-cultural study on Russian and Tamil language	Lyakso, E., Ruban, N., Frolova, O., & Mekala, M. A.	2023	Acted (and spontaneous)
11	Unattended emotional prosody affects visual processing of facial expressions in Mandarin-speaking Chinese: A comparison with English-speaking Canadians	Liu, P., Rigoulot, S., Jiang, X., Zhang, S., & Pell, M. D.	2021	Posed - Facial expressions and pseudo-utterances from databses
12	Recognizing emotions in a foreign language	Pell, M. D., Monetta, L., Paulmann, S., & Kotz, S. A.	2009	Posed - Pseudo-utterances
13	Cultural relativity in perceiving emotion from vocalizations	Gendron, M., Roberson, D., van der Vyver, J. M., & Barrett, L. F.	2014	Posed - Highly caricatured vocalisations

14	The expression and recognition of emotions in the voice across five nations: A lens model analysis based on acoustic features	Laukka, P., Elfenbein, H. A., Thingujam, N. S., Rockstuhl, T., Iraki, F. K., Chui, W., & Althoff, J.	2016	Actors - Databases
15	Cross-cultural emotional prosody recognition: Evidence from Chinese and British listeners	Paulmann, S., & Uskul, A. K.	2014	Acted - Vocal expression
16	A cross-linguistic validation of the test for rating emotions in speech: Acoustic analyses of emotional sentences in English, German, and Hebrew	Carl, M., Icht, M., & Ben-David, B. M.	2022	Acted - Sentences
17	Mexican emotional speech database based on semantic, frequency, familiarity, concreteness, and cultural shaping of affective prosody	Duville, M. M., Alonso-Valerdi, L. M., & Ibarra-Zarate, D. I.	2021	Actors - Databases

Table 3. Posed/acted stimuli used in 17 of 24 primary studies (30 paper representative sample).

Acculturation and Language/Cultural Familiarity

Further major methodological weaknesses in the dataset were inconsistent and often inadequate cultural sampling, and potential acculturation effects. Fifteen of the 24 representative primary studies reviewed (62,5 percent), described their samples as ‘cross-cultural’, yet only included participants living in Western countries or drawn from culturally and linguistically similar cultures, bilingual speakers, or individuals with substantial exposure to English or Western norms *(Table 4)*. Acculturation is known to reduce cultural differences in emotional communication and recognition, thereby shrinking ‘in-group’ advantages (Elfenbein, 2013; Zhang and Pell, 2022; Cruz, Rosa, Bem-Haja, 2025). Such familiarity may inflate emotion categorisation accuracy in research, limiting the extent to which studies are able to capture genuine cross-cultural differences.

Within the context of a multicultural voice studio, exposure to a host culture and language may facilitate cross-cultural emotional understanding. However, cultural sensitivity is required to avoid overriding cues rooted in the vocalist’s own culture of origin.

	Paper	Author	Year	Acculturation or Shared Language
1	Watch your tone … relational paralinguistic messages in negotiation: The case of East and West	Semnani-Azad, Z., Adair, W. L.	2013	Chinese living in Canada for less than 10 years.
2	Evidence for cultural dialects in vocal emotion expression: Acoustic classification within and across five nations	Laukka, P., Neiberg, D., & Elfenbein, H. A.	2014	Exposure to other culture potentially can not be ruled out and only English speakers.
3	More than accuracy: Nonverbal dialects modulate the time course of vocal emotion recognition across cultures	Jiang, X., Paulmann, S., Robin, J., & Pell, M. D.	2015	Hindi participants living in Canada between 0.5-7 years. Some exposure to English culture in India.
4	The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures	Cowen, A. S., Laukka, P., Elfenbein, H. A., Liu, R., & Keltner, D.	2019	Some potential acculturation. Only considered English speakers who may share prosodic cues.
5	Cultural differences in vocal expression analysis: Effects of task, language, and stimulus-related factors	Zhang, S., & Pell, M. D.	2022	Recruited and tested in Montreal, Canada. Most Chinese participants also spoke English. International students or immigrants who had recently moved to Montreal but none longer than 2 years. Hindi included which was not familiar to either group.
6	Emotion Perception From Vocal Cues: Testing the Influence of Emotion Intensity and Sex on In-Group Advantage.	Eskritt, M., & Zupan, B.	2023	English only tested.
7	Vocal emotion recognition across disparate cultures	Bryant, G. A., & Barrett, H. C.	2008	Exposure to Spanish language/culture although exposure to Western media low.
8	The children's emotional speech recognition by adults: Cross-cultural study on Russian and Tamil language	Lyakso, E., Ruban, N., Frolova, O., & Mekala, M. A.	2023	English shared language.
9	Unattended emotional prosody affects visual processing of facial expressions in Mandarin-speaking Chinese: A comparison with English-speaking Canadians	Liu, P., Rigoulot, S., Jiang, X., Zhang, S., & Pell, M. D.	2021	Living in Canada but for less than 2 years.
10	Recognizing emotions in a foreign language	Pell, M. D., Monetta, L., Paulmann, S., & Kotz, S. A.	2009	Some exposure to English and other European languages.

11	Cracking the social code of speech prosody using reverse correlation	Ponsot, E., Burred, J. J., Belin, P., & Aucouturier, J.-J.	2018	Only French people tested.
12	Cultural relativity in perceiving emotion from vocalizations	Gendron, M., Roberson, D., van der Vyver, J. M., & Barrett, L. F.	2014	Acculturation can not be ruled out owing to shared English language influence.
13	Cross-cultural emotional prosody recognition: Evidence from Chinese and British listeners	Paulmann, S., & Uskul, A. K.	2014	Chinese living in the UK for less than 1.5 years on average. Chinese participants were slightly more accurate at recognising emotions displayed by a member of another cultural group. Findings consistent with the suggestion that individuals who live in a foreign country should show a lower 'in-group' advantage than those who do not. Some came from countries where English widely used like Hong Kong .
14	Aspects of cultural communication in recognizing emotions	Altrov, R.	2013	Russians living in Estonia have exposure to Estonian culture and language.
15	A cross-linguistic validation of the test for rating emotions in speech: Acoustic analyses of emotional sentences in English, German, and Hebrew	Carl, M., Icht, M., & Ben-David, B. M.	2022	English and German cultures and language. Close cultural relationship .

Table 4. Acculturation or cultural/linguistic similarities found in sampling in 15 of 24 primary studies (30 paper representative sample).

Research Gaps and Future Directions

Studies of VE of emotion have historically been limited, with research on FEs far outnumbering work on VEs, a disparity confirmed by Laukka and Elfenbein (2021) in a meta-analysis of 37 cross-cultural studies. Cespedes-Guevara and Eerola (2018) additionally observe that research focusing on characteristics linked to valence and arousal has produced more consistent evidence of cross-cultural universality, arguing that cross-cultural communication of emotion in both music and vocalisations relies primarily on these valence- and arousal-related acoustic cues.

Although universal physiological responses associated with behavioural responses such as fight or flight may be perceived as emotional, it remains empirically unresolved whether such responses correspond to discrete emotion categories (Thompson and Balkwill, 2010; Cheng et al., 2024). Additionally, robustness of findings related to valence and arousal aligns more closely with dimensional or constructivist models of emotion (Barrett, 2006a). Consequently, future research on vocal emotion should adopt designs that allow participants to freely scale emotional responses along valence and arousal dimensions, alongside open-ended, free-choice responses in their native language. Where feasible, fully crossed 'many-to-many' designs would be preferable, as they yield richer data in studies involving language and culture (Laukka and Elfenbein, 2021).

To advance a more culturally nuanced understanding of emotion, it is most likely necessary to move beyond the dominant influence of *BET*. While aspects of *BET* and *Dialect Theory* may hold merit, an overreliance on Western discrete emotion frameworks risks constraining new insights, particularly if emotions are not in fact universal.

Duville, Alonso-Valerdi and Ibarra-Zarate (2021) suggest that cross-cultural findings can be strengthened through development of larger databases tailored to specific cultures and languages. This approach may also address another persistent limitation in the field, namely the use of small encoder or decoder sample sizes (Cespedes-Guevara and Eerola, 2018). Expanding datasets could further reduce the impact of factors like sex, linguistic background, and individual differences, including religion, which may distort cross-cultural findings (Anolli et al., 2008; Keshtiari and Kuhlmann, 2016; Zhang and Pell, 2022).

Employing stimuli that are phonological similar across languages may help mitigate linguistic effects (Liang et al., 2025). In addition, greater use of naturalistic, spontaneous speech, offering greater ecological validity, should be explored, particularly in cases where cultures do not share comparable prosodic characteristics (Cowen et al., 2019; Laukka and Elfenbein, 2021).

To clarify the role of culture in VE of emotion, future research may benefit from novel methodological approaches that do not rely on Western emotion categories for interpretation. Such approaches may include reverse correlation (Ponsot et al., 2018), semantic space modelling (Cowen et al., 2019), bone conduction technology (Hosain et al., 2024) and the use of large culture-specific corpora (Vryzas et al., 2021). Moreover, research should ideally be conducted within the culture's home country to minimise acculturation effects (Zhang and Pell, 2022).

One strategy, to reduce reliance on discrete 'basic' emotion labels, could be to map emotions along valence and arousal dimensions using conceptual categories drawn from the encoder or decoder's native language. This approach could facilitate comparison across culturally and linguistically diverse emotion concepts, allowing areas of overlap to be identified and supporting a more nuanced understanding of cross-cultural emotion perception (Barrett, 2006b; Cespedes-Guevara and Eerola, 2018).

The 57 Boolean sourced papers reviewed in this dataset highlighted numerous research gaps and methodological recommendations within the field of emotion research. While some of these issues may have been addressed in subsequent years, *Table 5* summarises the key recommendations chronologically.

Paper	Author	Year	Gaps/Recommendations
Solving the emotion paradox categorisation of the experience of emotion	Barrett, L. F.	2006	Field still focuses heavily on basic emotion models despite contradictory evidence.
Are emotions natural kinds?	Barrett, L. F.	2006	Need idiographic (individual-level) research, using ecologically valid samples employing real rather than acted emotion.
Recognizing emotions in a foreign language	Pell, M. D., Monetta, L., Paulmann, S., & Kotz, S. A.	2009	Need to study Influence of intonation, timing, and prosodic constraints across languages.
Oxford University Press; Handbook of music and emotion: Theory, research, applications, chapter: Cross-cultural similarities and differences	Thompson, W. F., & Balkwill, L.-L	2010	Lack of studies on mixed emotions, enculturation effects, psychophysical vs. cultural cues, brainstem involvement, and relative portrayability of emotions in speech vs. music.
In the eye of the beholder? Universality and cultural specificity in the expression and perception of emotion	Scherer, K. R., Clark-Polner, E., & Mortillaro, M.	2011	Need research combining vocal and facial expression.
Watch your tone … relational paralinguistic messages in negotiation: The case of East and West	Semnani-Azad, Z., Adair, W. L.	2013	Very limited work on relationship-building mechanisms, lack of studies on vocal paralanguage, need research in mainland China. Research needed on cross-cultural and L2 paralanguage adaptation.
Universal and culture-specific factors in the recognition and performance of musical affect expressions	Laukka, P., Eerola, T., Thingujam, N. S., Yamasaki, T., & Beller, G.	2013	Need comparative studies directly comparing speech vs. music emotional expression.
Cultural relativity in perceiving emotion from vocalizations	Gendron, M., Roberson, D., van der Vyver, J. M., & Barrett, L. F.	2014	Emotion models from Western contexts may not generalise to all cultures.
More than accuracy: Nonverbal dialects modulate the time course of vocal emotion recognition across cultures	Jiang, X., Paulmann, S., Robin, J., & Pell, M. D.	2015	Need work on language–culture interaction, proficiency effects, emotional set selection effects.
The expression and recognition of emotions in the voice across five nations: A lens model analysis based on acoustic features	Laukka, P., Elfenbein, H. A., Thingujam, N. S., Rockstuhl, T., Iraki, F. K., Chui, W., & Althoff, J.	2016	Need open-ended responses, and non-professional/naturalistic portrayals.
Heterogeneity of long-history migration predicts emotion recognition accuracy	Wood, A., Rychlowska, M., & Niedenthal, P. M.	2016	Mechanisms linking migration history and emotion processing not yet established, need research in this direction.
The effects of culture and gender on the recognition of emotional speech: Evidence from Persian speakers living in a collectivist society	Keshtiari, N., & Kuhlmann, M.	2016	Insufficient research on gender × culture combined effects.

Music communicates affects, not basic emotions – A constructionist account of attribution of emotional meanings to music	Cespedes-Guevara, J., Eerola, T.	2018	Need studies using real emotions (not acted), and cross-cultural music samples using robust methods.
Cracking the social code of speech prosody using reverse correlation	Ponsot, E., Burred, J. J., Belin, P., & Aucouturier, J.-J.	2018	Methods should be tested across cultures.
The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures	Cowen, A. S., Laukka, P., Elfenbein, H. A., Liu, R., & Keltner, D.	2019	Need prosody research in non-English speaking contexts.
Cross-cultural emotion recognition and in-group advantage in vocal expression: A meta-analysis	Laukka, P., & Elfenbein, H. A.	2021	Need clarification on whether positive emotions are less variable than negative ones.
Comment: Advances in studying the vocal expression of emotion: Current contributions and further options	Scherer, K. R.	2021	Need work on aesthetic emotions, limited neuroscience, integrated physiological and acoustic and perceptual analyses, and controlled synthesis methods.
Cultural differences in vocal expression analysis: Effects of task, language, and stimulus-related factors	Zhang, S., & Pell, M. D.	2022	Need studies conducted in home countries, and consider regional and religious variation.
Socio-cultural and individual factors in verbal irony use and understanding: What we know, what we don't know, what we want to know	Banasik-Jemielniak, N., & Kałowski, P.	2022	Intercultural irony understudied, limited research in non-English languages.
Validation of affective sentences: Extending beyond basic emotion categories	Zupan, B., & Eskritt, M.	2022	Limitations of research are dominance of English-speaking Western samples and wide age spans.
Emotion perception from vocal cues: Testing the influence of emotion intensity and sex on in-group advantage	Eskritt, M., & Zupan, B.	2023	Need research on how emotion experience, social categories, and emotional understanding shape perception.
Cross-regional cultural recognition of adolescent voice emotion	Cheng, S., Li, Y., Wang, Y., & Zhang, Y.	2024	Few adolescent studies, lack of inter-cultural (within-country) comparisons, limited tone vs. non-tone language work.
EmoBone: A multinational audio dataset of emotional bone conducted speech	Hosain, Md. S., Sugiura, Y., Rahman, M. S., & Shimamura, T.	2024	Emotion recognition in bone-conducted speech is unexplored.
Investigating cross-cultural vocal emotion recognition with an affectively and linguistically balanced design	Liang, Y., Goudbeek, M., Konopka, A., Choi, J., & Broersma, M.	2025	Need to study how arousal, valence, and emotion 'basicness' affect recognition.
Expresser effects in research on emotion communication: Expanding our understanding of inter-individual differences in nonverbal expression of emotion	Morningstar, M., Nault, D. R., Lundell-Creagh, R., & daSilva, E. B.	2025	Lack of encoder-focused design, need larger encoder samples, dynamic cues, and encoder info is rarely modeled.
Emotional processing and acculturation	Cruz, A., Rosa, C., & Bem-Haja, P.	2025	Lack of studies on arousal/valence in L2 learners, need for work on prosody × content interactions.

Table 5. Summary of research gaps and recommendations from 57 reviewed papers.

Potential Strategies for Culturally Sensitive Voice Studio Practices

These findings have direct implications for voice pedagogy, both in terms of vocal technique and interpersonal communication, and suggest several strategies for fostering culturally sensitive practices in the voice studio.

Valance and Arousal

Reflective Journals

Maintaining reflective journals structured to focus on valence and arousal, more reliably recognised across cultures than discrete emotions, could help deepen intercultural understanding of emotion (Russell, 1980; Juslin and Laukka, 2003; Cespedes-Guevara and Eerola, 2018). Furthermore, using a DEBRIEF model to structure the journal may help teachers and students identify personal biases, beliefs and assumptions (Allan. H.S., 2011).

Visual Emotion Mapping

Pupils and teachers, particularly visual learners, could use a visual mapping tools to track emotions along valence-arousal dimensions, supporting the development of cross-cultural emotional granularity and the identification of overlaps without imposing Western emotion categories (Barrett, 2006a; Wierzbicka, 2012; Fahim et al., 2021). Apps like *MoodMap* (Rivera Pelayo, 2015) could similarly facilitate self-reflection, intercultural learning, and comparison of VEs across cultures.

Acoustic Measurement

Recording and analysing acoustic valence-arousal vocal cues could provide visual and quantitative feedback on cross-cultural emotional expression, helping teachers guide vocal tone and prosody (Coutinho and Dibben, 2013). Tools like *Praat* or *VoceVista* could allow live feedback on VEs of emotion, and databases of multicultural cues could help inform guidelines for expressing emotions to listeners from different cultural backgrounds (Duville, Alonso-Valerdi and Ibarra-Zarate, 2021; Kossaifi et al., 2021; Vryzas et al., 2021). Prosodic prototypes could also be used to modulate intended personality impressions in voice performance in a *"principled way"* (Ponsot et al., 2018, p. 3972).

Open dialogue and Self-Report

Following Barrett's (2006b, p. 24) assertion that *"if we want to know if a person is experiencing an emotion, we have to ask them"*, vocalists could be encouraged to verbalise their emotional intentions using self-report tools simplified through valence-arousal frameworks. Promoting open dialogue to enhance intercultural communication would require willingness and trust from all participants, and defining an ethical protocol would help ensure the well-being of everyone involved (Costley and Gibbs, 2006).

Cross-cultural contact and Language Acquisition

Exposure to other cultures, cultural training and language acquisition have been found to enhance emotion recognition (Altrov, 2013; Laukka et al., 2016; Zhang and Pell, 2022). Integrating language learning and cultural immersion activities in the voice studio may improve both accuracy and sensitivity in VE and interpretation of emotion.

Training and Awareness

Semnani-Azad and Adair (2013, p. 84) suggest that combining training with being "*mindful of a cultural lens*" can be useful to foster relationships and better interpret vocal cues in cross-cultural interaction. Additionally, Scherer (2021) recommends adopting a *Modified Brunswikian* Lens *(Figure 1)* which promotes awareness of the role of both encoder and decoder in communication alongside environmental factors affecting transmission.

In the multicultural voice studio, developing awareness of culture-specific VE cues, including pitch, volume, tempo, timbre, may help strengthen emotional communication (Thompson and Balkwill, 2010). Cross-cultural VE training should be combined with awareness of cultural norms in FE. Not only may VEs be more accurately recognised when accompanied by the corresponding FEs (Altrov and Pajupuu, 2015), but the symbiotic relationship between voice and face also highlights the importance of closely monitoring FE to gauge both positive and negative effects on vocal tone (Miccolis, 2025) *(Appendix 7).*

Reflection on Personal Ontology

Teachers and students should be encouraged to reflect on their personal ontological assumptions about emotion, particularly how cultural differences may shape its expression (Barrett, 2006b). Engaging with existing literature, such as *How emotions are made: The secret life of the brain* (Barret, 2017) or *Theories of Emotions: Expressing, Feeling, Acting* (Campeggiani, 2023), alongside development and application of workbooks and short courses could foster open-minded awareness, encourage culturally sensitive practices and support well-being in the voice studio (Hagenauer et al., 2016).

Ethical Considerations

All interventions should prioritise 'beneficence' and 'non-maleficence', carefully considering risks such as triggering trauma, and avoiding promoting feelings of exclusion or targeting through feelings of cultural 'otherness' (Soto and Levenson, 2009; Hepworth, Day and Poate-Joyner, 2025). Clear protocols, ethical safeguards, and continued open dialogue will be essential when implementing culturally sensitive emotion practices in the voice studio and ensuring the well-being of both student and teacher (Barker et al., 2025; Hepworth, Day and Poate-Joyner, 2025).

Conclusion & Recommendations

Future research on emotional expression, whether vocal or facial, would benefit from approaches that reduce bias and broaden the cultural lens through which emotions are studied (Cowen et al., 2024). Greater attention to spontaneous speech, with larger and more varied participant datasets, and open-ended response formats would provide a fuller picture of emotional life (Angkasirisan, 2025). Rather than assuming emotions fall into fixed categories, studies could explore how they unfold along a continuum (Cowen et al., 2019). It is also important to consider the impact of individual differences, such as sex, cultural background, language, and levels of emotional granularity, while drawing on larger, more diverse participant groups to balance their effects (Barrett, 2006a; Keshtiari and Kuhlmann, 2016). Researchers must remain mindful of translation issues (van Rijn and Larrouy-Maestri, 2023), the influence of Western frameworks, and assumptions about universality (Allan. H.S., 2011; Hepworth, Day and Poate-Joyner, 2025). Such research shifts would support a more culturally informed understanding of emotion for application in voice pedagogy.

While this review has limitations, time restrictions allowed in-depth analysis of only part of the dataset *(Appendix 4, Table 3),* and my prior positionality towards *Constructivist* theories risks introducing researcher bias, it nevertheless highlights valuable directions for further research. Culturally sensitive vocal pedagogy would benefit from the following:

- Developing strategies which implement continuum-based models despite their complexity compared with discrete emotion labels.
- Ensuring emotion labels resonate with all students.
- Expanding awareness of and access to non-Western-centric emotional vocal models.
- Limiting reliance on stereotypical acted emotions to avoid exaggerated expression and promote cultural nuance.
- Supporting practitioners and students in reflection on their own cultural and ontological assumptions.

My future research will focus on developing strategies to support these aims, such as a culturally reflective, continuum-based emotion journal, visual maps or digital applications, and identification of opportunities for cross-cultural exchange. These should be practically tested to inform and advance practices that foster culturally sensitive approaches to voice pedagogy.

Critical Reflection

Having successfully applied the DEBRIEF reflective model in Module 1 to structure my reflective journal (Allan. H.S., 2011), I decided to adopt the same framework in this module. An extension of the Kolb's experiential learning model, DEBRIEF introduces intermediate reflective stages which acknowledge the role of emotion in learning (Kolb and Kolb, 2018):

1. **D**escribe events as factually as possible.
2. **E**valuate.
3. **B**ring out emotions, beliefs and assumptions that may cloud judgement.
4. **R**eview and analyse considering previous experience.
5. **I**dentify lessons learned.
6. **E**stablish follow-up actions.
7. **F**eedback on actions.

Acknowledging emotions, beliefs and assumptions enabled me to identify potential biases and emotional barriers that could hinder my research. This reflexive process revealed how my initial positionality, aligned with Barrett's (2017) *Psychological Constructivist* view of emotion, risked biasing this review. To mitigate this risk and support rigour, transparency and repeatability (Snyder, 2019), I realised that careful methodological selection would be essential.

Following an initial unstructured exploration of the literature, I recognised that a scattergun approach would not yield a high-quality, reproducible review which avoided bias (Haddaway et al., 2020). Subsequently, after researching various methodologies, I adopted a semi-systematised review, which balanced objectivity with feasibility given the time constraints of this module (Tranfield, Denyer and Smart, 2003). To further support methodological rigour and repeatability, I decided to maintain a detailed research journal documenting search dates, inclusion criteria, results, identified research gaps, citations for 'snowballing', and emerging insights (Greenhalgh and Peacock, 2005; Carcary, 2021). This approach ensured accurate and systematic monitoring of the large dataset.

Using a hermeneutic approach, I initially read 57 Boolean-sourced papers to understand each study both individually and in relation to the wider emotion literature, following an iterative cycle (Boell and Cecez-Kecmanovic, 2014). After the first cycle, it became evident a more structured thematic analysis would be required to identify overarching themes (Braun and Clarke, 2006). As comprehensive coding of all papers proved too time-consuming within the available timeframe, I decided to undertake an in-depth analysis of only the first five key papers, four from the initial Boolean search and one 'pearl' (Schlosser et al., 2006) from

Barrett (2006b). I then used a visual mind-map to identify relationships between themes, supporting thematic grouping and subsequent essay structure (Braun and Clarke, 2006).

Returning to a second hermeneutic cycle which included 'snowballed' literature, I reviewed the 57 studies through the lens of these identified key themes. This enabled a more focused and productive analysis of the literature while remaining open to additional literature when gaps in my understanding emerged *(Appendix 6, Table 1).*

Realising the information contained in these papers was vast, I developed a spreadsheet to extract data related to the key themes from a representative sample of the first 30 papers *(Appendix 4, Table 3)*. Although time consuming, this thematic synthesis proved invaluable for creating a broad overview, identifying research gaps, methodological challenges, and reflecting on future directions (Thomas and Harden, 2008).

This module deepened my understanding of how to conduct high-quality literature reviews and introduced me to a range of methodologies and terminologies. It also strengthened my understanding of emotion theories, their historical development, and interconnections, enhancing my ability to engage critically with emotion literature across disciplines.

Through reflection supported by my DEBRIEF reflective journal, I have developed an increased awareness of subtle cultural and individual differences in emotional expression, both in students and myself, and now commit to applying a multicultural lens in my voice studio. I recognise that my earlier assumptions perpetuated a 'one-size-fits-all' pedagogical approach for emotional expression and interpretation, in which Western ideals unconsciously shaped my teaching practices (Ford, 2020). Moving forward, I aim to more critically consider how cultural variation influences communication and vocal technique, refining my pedagogical methods to promote cross-cultural understanding and acceptance.

One of my goals for this module was to clarify my positionality in emotion theory. While I continue to favour *Constructivist* perspectives, engagement with *Dialect Theory* has provided valuable complementary insights for my teaching practices (Barrett, 2006a; Laukka, Neiberg and Elfenbein, 2014). I recognise that these theories are not wholly opposed, sharing several key views:

- Emotion perception and expression are culturally influenced.
- Valence and arousal are central dimensions of emotional experience.
- Shared cultural or linguistic backgrounds enhance understanding of others' emotions.

My future research should therefore explore intersections between these approaches while remaining open to novel methods and emotion concepts and avoiding uncritical replication of historical research designs. Whereas I previously viewed emotions as discrete, and universally measurable, I now understand them as culturally, linguistically, and experientially shaped concepts, categorised within a continuous circumplex semantic space defined by valence and arousal (Barrett, 2006a).

Although this review focused primarily on VEs, emotional communication is multimodal. Consequently, my future research should additionally examine interactions between facial, vocal and postural expressions to better capture the complexity of cultural variations in emotional expression (Scherer, Clark-Polner, Mortillaro, 2011; Keltner et al., 2019; Miccolis, 2025).

Another priority for future work would be the development of valence-arousal reflective tools that avoid imposing Western emotion categories, while still supporting the identification of shared or overlapping emotional concepts across cultures (Barrett, 2006a; Wierzbicka, 2012). Such tools should also consider how cultural differences in expression may affect vocal technique, both positively and negatively (Miccolis, 2025) (*Appendix 7)*.

Overall, I have met my learning goals for this module. I have developed a more critical and nuanced understanding of emotion theories and cultural variations in communication, strengthened my ability to conduct methodologically rigorous literature reviews, and developed an effective research journal structure. Engaging in critical reflection has increased my awareness of personal cultural biases and clarified my positionality within emotion research. I am drawn towards both *Constructivist* and *Dialect* perspectives and recognise the value of both in developing culturally sensitive practices within the voice studio. My learning journey will continue beyond this module through continued research and development of inclusive vocal pedagogies which include reflection, dialogue and reciprocal respect between teacher and student.

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Appendices

Appendix 1: Glossary of Terms

Acculturation
The process of adapting to or adopting elements of another culture while maintaining aspects of one's original culture.

Affect
A neurophysical state defined by two core dimensions of valence and arousal, contributing to the subjective experience of feeling or emotion.

Affective state
A temporary emotional state.

Appraisal Theory
A theory suggesting that emotions arise from an individual's evaluation of events in relation to their goals, beliefs, or well-being.

Arousal
The physiological and psychological activation associated with emotions, ranging from calm to excited.

Basic Emotion
A fundamental discrete emotion thought to be universal, such as those described in Ekman's original six: happiness, sadness, anger, fear, disgust, and surprise (Ekman, 1971).

Basic Emotion Theory
The idea that certain emotions are innate, biologically hardwired, and expressed universally.

Beneficence/Non-Beneficence
Ethical principles referring to doing good (beneficence) and avoiding harm (non-beneficence) in research or practice.

Boolean term
Keywords used in database searches combined with AND, OR, or NOT to refine search results.

Circumplex Model of Emotion
A model organizing emotions along continuous dimensions, typically valence (pleasant-unpleasant) and arousal (high-low).

Collectivist
Describes cultures that prioritise group goals, harmony, and social interdependence over individual interests.

Conceptual Act Model
A constructivist approach suggesting emotions are shaped by language, culture, and personal experience rather than being biologically fixed (Barrett, 2006a).

Constructionist
An approach emphasizing that phenomena, including emotions, are shaped by social, cultural, and linguistic contexts.

Constructivist
Similar to constructionist; stresses that individuals actively construct knowledge and understanding from experience.

Core Affect
The basic neurophysiological state of pleasantness or unpleasantness and activation or deactivation, forming the foundation for emotions prior to interpretation by the individual.

Cue Redundancy Model
A model suggesting that certain emotional signals, like facial expressions, vocal tones, and bodily cues, are rooted in universal, biologically basic responses, but their interpretation can diverge depending on cultural norms and context (Thompson and Balkwill, 2010).

Decoder
A person interpreting or perceiving the emotional signals of another.

Dialect Theory
Suggests that while emotions may be universal, cultural differences shape how they are expressed and recognised, creating 'in-group' advantages (Elfenbein and Ambady, 2002).

Dyadic process
Interaction or communication occurring between two people.

Encoder
A person expressing or transmitting emotional signals.

Fully crossed 'Many-to-Many' design
A research design in which emotional signals from encoders in each cultural group are assessed by decoders from all cultural groups. This design maximises data richness and allows comparison of in-group and cross-cultural emotion recognition.

Fundamental Frequency (f_0)
The lowest frequency of a periodic sound wave, produced by the vibration of the vocal folds, determining the perceived pitch of speech or singing.

Gannt Chart
A visual timeline used to plan and track tasks or stages in a project.

Granularity
The level of detail with which emotions are perceived, experienced, or described.

Hermeneutics
A method of interpretation that seeks to understand the meaning of texts, contexts, or experiences by considering the interplay between the part and the whole. In research, it involves an iterative process of reading, reflecting, and re-reading, allowing the researcher to interpret the material within its broader cultural, historical, or theoretical context. This approach emphasises the subjective understanding of both the author and the interpreter, making it particularly useful for qualitative studies and literature reviews where meaning and context are central.

Hofstede Cultural Dimensions
A framework describing cultural differences across dimensions such as individualism vs. collectivism or power distance (Hofstede, 2001).

Individualist
Describes cultures that emphasize personal autonomy, individual rights, and self-expression.

Narrative synthesis
Combining findings from multiple studies into a coherent, story-like explanation rather than statistically.

Ontogenic
Developing within an individual over their lifetime.

Ontological
The nature of being or reality, considering what is ‘real’ or ‘true’. When studying emotions across cultures, ontological assumptions affect how we define, observe, and interpret feelings in different contexts.

Paralanguage
Nonverbal elements of speech, such as tone, pitch, and rhythm, that convey emotion.

Pearl literature
Highly relevant key papers identified as especially useful during a literature search.

Phylogenic
Traits or behaviours shaped by evolution across a species.

Prosody
The rhythm, stress, intonation, and melody of speech that contribute to meaning and emotion.

Psychophysical
Referring to the study of how physical properties of stimuli, such as sound, light, or touch, are related to the way they are perceived and experienced by the mind. In emotion research, psychophysical approaches explore how measurable features of vocal or facial expressions correspond to perceived emotional states.

Psychological Constructivist
A perspective viewing emotions and knowledge as actively constructed by individuals from experience.

Reverse correlation
A method in vocal research that identifies which acoustic features listeners use to perceive emotions by analysing their responses to systematically manipulated or varied stimuli (Ponsot et al., 2018).

Semantic space
A conceptual framework in which words, ideas, or emotions are mapped according to their meanings and relationships to one another. In this space, concepts that are more similar in meaning are positioned closer together, allowing researchers to visualise and analyse patterns of understanding, categorization, and interpretation across individuals or cultures. In cross-cultural emotion research, semantic spaces can help reveal how different languages or cultural groups organise and relate emotional concepts.

Semi-systematic literature review
A review method combining systematic search strategies with flexibility to capture broader, relevant literature.

Snowballed Literature
Papers found by examining references in key studies rather than through database searches.

Symbiotic
A mutually beneficial relationship where two elements influence and support each other.

Thematic analysis
A method of analysis examining qualitative data by identifying and organising recurring patterns or themes. Data are coded into meaningful units, which are then grouped into broader themes reflecting common ideas, concepts, or experiences. In cross-cultural emotion research, thematic analysis can help uncover shared or divergent patterns in how different cultures express and interpret emotions.

Triangulated
Using multiple methods, data sources, or theories to increase the credibility of research findings.

Universal Emotion Theory
The view that emotions are biologically universal and experienced by all humans.

Valence
The pleasantness or unpleasantness of an emotion.

Vocal burst
Short, nonverbal vocal sounds such as laughs, cries, or screams that convey emotion.

Appendix 2: List of Abbreviations

BET Basic Emotion Theory
BE(s) Basic Emotion(s)
FE(s) Facial Expression(s)
f_0 Fundamental Frequency
VE(s) Vocal Expression(s)

Appendix 3: Figures

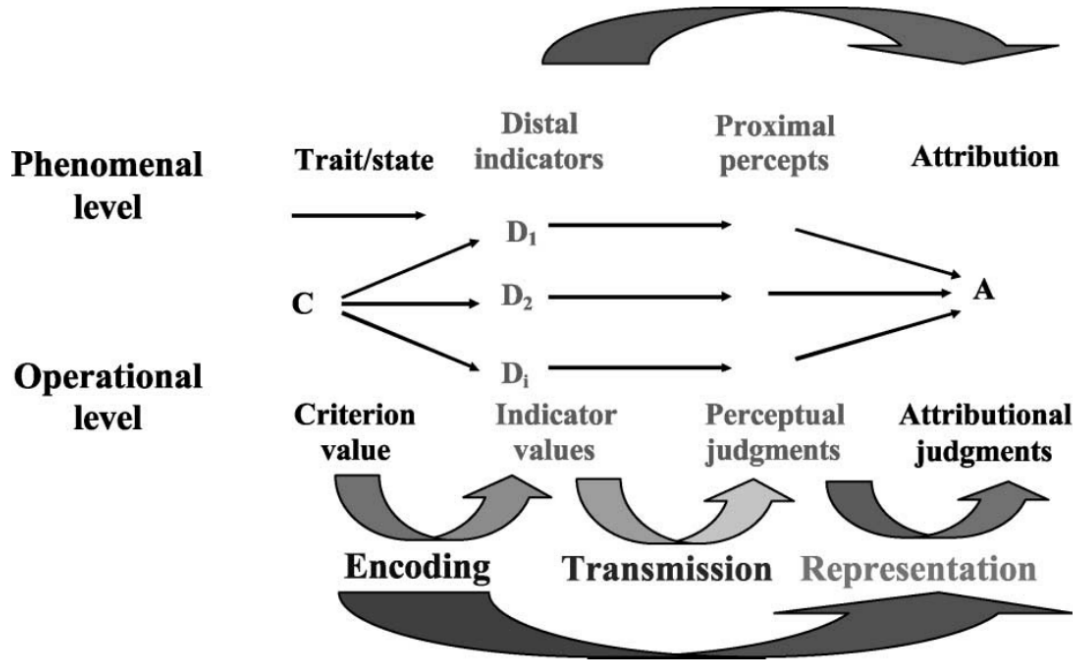

Figure 1. Brunswikian Lens model, vocal emotion communication (Scherer, 2003).

Appendix 4: Tables

	Title	Author(s)	Year
1	Solving the emotion paradox categorisation of the experience of emotion	Barrett, L. F.	2006
2	What Basic Emotion Theory really says for the twenty-first century study of emotion	Keltner, D., Tracy, JL., Sauter, D., Cowen, A.	2019
3	Music communicates affects, not basic emotions – A constructionist account of attribution of emotional meanings to music	Cespedes-Guevara, J., Eerola, T.	2018
4	Watch your tone … relational paralinguistic messages in negotiation: The case of East and West	Semnani-Azad, Z., Adair, W. L.	2013
5	Oxford University Press; Handbook of music and emotion: Theory, research, applications, chapter: Cross-cultural similarities and differences, pp. 755–788	Thompson, W. F., & Balkwill, L.-L	2010

Table 1. Boolean search 1 and Barrett 'pearl' (Barrett, 2006b).

	Title	Author(s)	Year
1	Modelling individual and cross-cultural variation in the mapping of emotions to speech prosody	van Rijn, P., Larrouy-Maestri, P.	2023
2	Evidence for cultural dialects in vocal emotion expression: Acoustic classification within and across five nations	Laukka, P., Neiberg, D., & Elfenbein, H. A.	2014
3	Investigating cross-cultural vocal emotion recognition with an affectively and linguistically balanced design	Liang, Y., Goudbeek, M., Konopka, A., Choi, J., & Broersma, M.	2025
4	More than accuracy: Nonverbal dialects modulate the time course of vocal emotion recognition across cultures	Jiang, X., Paulmann, S., Robin, J., & Pell, M. D.	2015
5	Cross-cultural emotion recognition and in-group advantage in vocal expression: A meta-analysis.	Laukka, P., & Elfenbein, H. A.	2021
6	Cultural differences in vocal emotion recognition: A behavioural and skin conductance study in Portugal and Guinea-Bissau	Cosme, G., Tavares, V., Nobre, G., Lima, C., Sá, R., Rosa, P., & Prata, D.	2022
7	The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures	Cowen, A. S., Laukka, P., Elfenbein, H. A., Liu, R., & Keltner, D.	2019
8	Cultural differences in vocal expression analysis: Effects of task, language, and stimulus-related factors	Zhang, S., & Pell, M. D.	2022
9	Emotion perception from vocal cues: Testing the influence of emotion intensity and sex on in-group advantage	Eskritt, M., & Zupan, B.	2023
10	Vocal emotion recognition across disparate cultures	Bryant, G. A., & Barrett, H. C.	2008
11	The children's emotional speech recognition by adults: Cross-cultural study on Russian and Tamil language	Lyakso, E., Ruban, N., Frolova, O., & Mekala, M. A.	2023
12	Unattended emotional prosody affects visual processing of facial expressions in Mandarin-speaking Chinese: A comparison with English-speaking Canadians	Liu, P., Rigoulot, S., Jiang, X., Zhang, S., & Pell, M. D.	2021
13	Recognizing emotions in a foreign language	Pell, M. D., Monetta, L., Paulmann, S., & Kotz, S. A.	2009
14	Algorithmic voice transformations reveal the phonological basis of language-familiarity effects in cross-cultural emotion judgments	Nakai, T., Rachman, L., Arias Sarah, P., Okanoya, K., & Aucouturier, J.-J.	2023
15	Cracking the social code of speech prosody using reverse correlation	Ponsot, E., Burred, J. J., Belin, P., & Aucouturier, J.-J.	2018
16	Cultural relativity in perceiving emotion from vocalizations	Gendron, M., Roberson, D., van der Vyver, J. M., & Barrett, L. F.	2014
17	The expression and recognition of emotions in the voice across five nations: A lens model analysis based on acoustic features	Laukka, P., Elfenbein, H. A., Thingujam, N. S., Rockstuhl, T., Iraki, F. K., Chui, W., & Althoff, J.	2016

18	Cross-cultural emotional prosody recognition: Evidence from Chinese and British listeners	Paulmann, S., & Uskul, A. K.	2014
19	Universal and culture-specific factors in the recognition and performance of musical affect expressions	Laukka, P., Eerola, T., Thingujam, N. S., Yamasaki, T., & Beller, G.	2013
20	Heterogeneity of long-history migration predicts emotion recognition accuracy	Wood, A., Rychlowska, M., & Niedenthal, P. M.	2016
21	The influence of language and culture on the understanding of vocal emotions	Altrov, R., & Pajupuu, H.	2015
22	Aspects of cultural communication in recognizing emotions	Altrov, R.	2013
23	The voice of emotion in Chinese and Italian young adults	Anolli, L., Lei Wang, Mantovani, F., & De Toni, A.	2008
24	A cross-linguistic validation of the test for rating emotions in speech: Acoustic analyses of emotional sentences in English, German, and Hebrew	Carl, M., Icht, M., & Ben-David, B. M.	2022
25	Mexican emotional speech database based on semantic, frequency, familiarity, concreteness, and cultural shaping of affective prosody	Duville, M. M., Alonso-Valerdi, L. M., & Ibarra-Zarate, D. I.	2021
26	Emotivity in the voice: Prosodic, lexical, and cultural appraisal of complaining speech	Mauchand, M., & Pell, M. D.	2021
27	Emotion in the voice influences the way we scan emotional faces	Rigoulot, S., & Pell, M. D.	2014
28	Emozionalmente: A crowdsourced corpus of simulated emotional speech in Italian	Catania, F., Wilke, J. W., & Garzotto, F.	2025
29	Implicit processing of emotional prosody in a foreign versus native language	Pell, M. D., & Skorup, V.	2008
30	Socio-cultural and individual factors in verbal irony use and understanding: What we know, what we don't know, what we want to know	Banasik-Jemielniak, N., & Kałowski, P.	2022
31	The effects of culture and gender on the recognition of emotional speech: Evidence from Persian speakers living in a collectivist society	Keshtiari, N., & Kuhlmann, M.	2016
32	Comment: Advances in studying the vocal expression of emotion: Current contributions and further options	Scherer, K. R.	2021
33	In the eye of the beholder? Universality and cultural specificity in the expression and perception of emotion	Scherer, K. R., Clark-Polner, E., & Mortillaro, M.	2011
34	Cross-regional cultural recognition of adolescent voice emotion	Cheng, S., Li, Y., Wang, Y., & Zhang, Y.	2024
35	Neurocognitive dynamics of prosodic salience over semantics during explicit and implicit processing of basic emotions in spoken words	Lin, Y., Fan, X., Chen, Y., Zhang, H., Chen, F., Zhang, H., Ding, H., & Zhang, Y.	2022
36	Study of feature combination using HMM and SVM for multilingual Odiya speech emotion recognition	Swain, M., Sahoo, S., Routray, A., Kabisatpathy, P., & Kundu, J. N.	2015

37	Detecting affiliation in colaughter across 24 societies	Bryant, GA. Fessler, DM. T., Fusaroli, R., Clint, E., Aarøe, L., Apicella, C. L., Petersen, MB., Bickham, S.T., Bolyanatz, A., Chavez, B., De Smet, D., Díaz, C., Fančovičová, J., Fux, M., Giraldo-Perez, P., Hu, A., Kamble, S.V., Kameda, T., Li, N. P., Luberti, F.R., Prokop, P., Quintelier, K., Scelza, B. A., Shin, H.J.,Soler, M., Stieger, S., Toyokawa, W., van den Hende, E. A., Viciana-Asensio, H., Yildizhan, S. E., Yong, J.C., Yuditha, T., Zhou, Y.	2016
38	Introducing the geneva multimodal expression corpus for experimental research on emotion perception	Bänziger, T., Mortillaro, M., & Scherer, K. R.	2012
39	Are emotions natural kinds?	Barrett, L. F.	2006
40	Validation of affective sentences: Extending beyond basic emotion categories	Zupan, B., & Eskritt, M.	2022
41	Expresser effects in research on emotion communication: Expanding our understanding of inter-individual differences in nonverbal expression of emotion	Morningstar, M., Nault, D. R., Lundell-Creagh, R., & daSilva, E. B.	2025
42	Face saving discursive strategies of negation: A Saudi-Japanese comparison	Danielewicz-Betz, A.	2016
43	Interpreting cues of goodness: Thin sliced judgment of Malaysians and Chinese towards political leaders	Hashmi, M. A., Tamam, E., Waheed, M., & Ahmad, A. M.	2016
44	The role of the extracurricular musical activities in the formal and non-formal education, as an intercultural mediation alternative	Paşca, E. M.	2011
45	Cultural dependency analysis for understanding speech emotion	Kamaruddin, N., Wahab, A., & Quek, C.	2012
46	EmoBone: A multinational audio dataset of emotional bone conducted speech	Hosain, Md. S., Sugiura, Y., Rahman, M. S., & Shimamura, T.	2024
47	The socio-emotional basis of human interaction and communication: How we construct our social world	Scholl, W.	2013
48	Deep learning reveals what vocal bursts express in different cultures	Brooks, J. A., Tzirakis, P., Baird, A., Kim, L., Opara, M., Fang, X., Keltner, D., Monroy, M., Corona, R., Metrick, J., & Cowen, A. S.	2023
49	Recording and validation of audiovisual expressions by faces and voices	Takagi, S., Hiramatsu, S., Veld, E. M. J. H. in't, de Gelder, B., & Tanaka, A.	2011
50	A web crowdsourcing framework for transfer learning and personalized speech emotion recognition	Vryzas, N., Vrysis, L., Kotsakis, R., & Dimoulas, C.	2021
51	Emotional processing and acculturation	Cruz, A., Rosa, C., & Bem-Haja, P.	2025
52	Between face and voice: Semiotic relationships	Miccolis, A.	2025

Table 2. Boolean search 2.

	Title	Author(s)	Year
1	Solving the emotion paradox categorisation of the experience of emotion	Barrett, L. F.	2006
2	What Basic Emotion Theory really says for the twenty-first century study of emotion	Keltner, D., Tracy, JL., Sauter, D., Cowen, A.	2019
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Table 3. Representative sample, first 30 papers.

	Paper	Author	Year
1	Watch your tone … relational paralinguistic messages in negotiation: The case of East and West	Semnani-Azad, Z., Adair, W. L.	2013
2	Modelling individual and cross-cultural variation in the mapping of emotions to speech prosody	van Rijn, P., Larrouy-Maestri, P.	2023
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Table 4. Representative sample, 24 primary studies.

Appendix 5: Research Subquestions

1. *Which recent developments in emotion theory research might impact culturally sensitive teaching in the voice studio?*
2. *How might dominance of Basic Emotion Theory limit cross-cultural understanding of vocal expression?*
3. *What research gaps might hinder inclusive approaches to emotion in vocal pedagogy?*
4. *How can reflection on emotion theory enhance voice teachers', pupils' and performers' ability to interpret and express emotion across cultures?*
5. *What practical strategies could support culturally sensitive emotional communication in voice work?*

Appendix 6: Transparency and Reproducibility

Use of AI

AI has been employed in this study for the following purposes:

Canva AI

Image creation *(Report, Figure 1).*

ChatGPT

- Clarification of unknown academic terms.
- Summarising notes from Hofstede Cultural Dimensions for image *(Report, Figure 3)*.
- Assistance in drafting glossary definitions.
- Searching for additional academic papers related to text passages extracted from sourced papers.

Snowballed and Supplementary Papers

Emotion, Culture and Voice		
Angkasirisan, T.	2025	Naturalistic multimodal emotion data with deep learning can advance the theoretical understanding of emotion
Barker, D., Tippireddy, M.K.R., Farhan, A., Ahmed, B.	2025	Ethical considerations in emotion recognition research
Barrett, L.F	2017	How emotions are made: The secret life of the brain
Barrett, L.F., Adolphs, R., Marsella, S., Martinez, A.M., Pollak, S.D.	2019	Emotional expressions reconsidered: Challenges to inferring emotion from human facial movements
Campeggiani, P	2023	Theories of emotions: expressing, feeling, acting
Cordaro, D.T., Keltner, D., Tshering, S., Wangchuk, D., Flynn, L.M.	2016	The voice conveys emotion in ten globalized cultures and one remote village in Bhutan
Cordaro, D.T., Sun, R., Keltner, D., Kamble, S., Huddar, N., McNeil, G.	2018	Universals and cultural variations in 22 emotional expressions across five cultures
Coutinho, E., Dibben, N.	2013	Psychoacoustic cues to emotion in speech prosody and music
Cowen, A.S., Laukka, P., Elfenbein, H.A., Liu, R., Keltner, D.	2019	The primacy of categories in the recognition of 12 emotions in speech prosody across two cultures
Cowen, A.S., Brooks, J.A., Prasad, G., Tanaka, M., Kamitani, Y., Kirilyuk, V., Somandepalli, K., Jou, B., Schroff, F., Adam, H., Sauter, D., Fang, X., Manokara, K., Tzirakis, P., Oh, M., Keltner, D.	2024	How emotion is experienced and expressed in multiple cultures: a large-scale experiment across North America, Europe, and Japan
Cowie, R., Sussman, N., Ben-Ze'ev, A.	2011	Emotion: concepts and definitions
Crivelli, C., Fridlund, A.J.	2019	Inside-out: From basic emotion theory to the behavioral ecology view
Darwin, C.	1872	The expression of the emotions in man and animals
Ekman, P.	1971	Universals and cultural differences in facial expressions of emotion
Ekman, P., Friesen, W. V.	1978	Manual for the facial action coding system
Ekman, P.	1992	An argument for basic emotions
Elfenbein, H.A., Ambady, N.	2002	On the universality and cultural specificity of emotion recognition: A meta-analysis
Elfenbein, H.A.	2013	Nonverbal dialects and accents in facial expressions of emotion
Escoffier, N., Zhong, J., Schirmer, A., Qiu, A.	2013	Emotional expressions in voice and music: Same code, same effect?
Ford, B.	2020	Can culturally specific perspectives to teaching Western classical music benefit international students? A Call to re-examine "What the teacher does."
Gendron, M.	2017	Revisiting diversity: cultural variation reveals the constructed nature of emotion perception
Gentner, D., Goldin-Meadow, S. (Eds.)	2003	Language in mind
Hoemann, K., Barrett, L.F., Quigley, K.S.	2021	Emotional granularity increases with intensive ambulatory assessment: Methodological and individual factors influence how much
Hofstede, G.	2001	Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations, 2nd ed.
Ilie, G., Thompson, W.F	2006	A comparison of acoustic cues in music and speech for three dimensions of affect
Juslin, P.N., Laukka, P	2003	Communication of emotions in vocal expression and music performance: Different channels, same code?
Kossaifi, J., Walecki, R., Panagakis, Y., Shen, J., Schmitt, M., Ringeval, F., Han, J., Pandit, V., Toisoul, A., Schuller, B., Star, K., Hajiyev, E., Pantic, M	2021	SEWA DB: A rich Database for audio-visual emotion and sentiment research in the wild
Koo, S.L.	2025	Culture and the art of making oral presentations
Kriebig, S.D.	2010	Autonomic nervous system activity in emotion: A review
Lazarus, R.S.	1966	Psychological stress and the coping process
le Roux, J.	2002	Effective educators are culturally competent communicators
Leshin, J., Carter, M.J., Doyle, C.M., Lindquist, K.A.	2024	Language access differentially alters functional connectivity during emotion perception across cultures
Liu, P., Rigoulot, S., Pell, M.D	2015	Culture modulates the brain response to human expressions of emotion: Electrophysiological evidence
Pearlman, W.	2023	Emotional sensibility: Exploring the methodological and ethical implications of research participants' emotions
Quené, H., Semin, G.R., Foroni, F.	2012	Audible smiles and frowns affect speech comprehension

Ramirez-Marin, J.Y., Brett, J.M.	2011	Relational construal in negotiation: Propositions and examples from Latin and Anglo Cultures
Russell, J.A.	1980	A circumplex model of affect
Scherer, K.	2003	Vocal communication of emotion: A review of research paradigms
Scherer, K.R.	2005	What are emotions? And how can they be measured?
Scherer, K.R., Sundberg, J., Fantini, B., Trznadel, S., Eyben, F.	2017	The expression of emotion in the singing voice: Acoustic patterns in vocal performance
Schmidt, S., Tinti, C., Levine, L.J., Testa, S	2010	Appraisals, emotions and emotion regulation: An integrative approach
Soto, J.A., Levenson, R.W.	2009	Emotion recognition across cultures: The influence of ethnicity on empathic accuracy and physiological linkage
Thompson, W.F., Russo, F.A., Quinto, L.	2008	Audio-visual integration of emotional cues in song
Trampe, D., Quoidbach, J., Taquet, M.	2015	Emotions in everyday life
Tui, J.S., Groenwald, E.S.Dr., Kilag, O.K.T., Wenceslao, S.B., Asentado, D.E.	2023	Enhancing oral proficiency: Effective strategies for teaching speaking skills in communication classrooms
Wang, D.	2022	Emotional expression in vocal skill from the perspective of multiculturalism
Wierzbicka, A.	2012	Understanding others requires shared concepts
Wilczewski, M., Alon, I.	2023	Language and communication in international students' adaptation: a bibliometric and content analysis review
Yamane, N., Mishra, V., Goodwin, M.	2025	Toward music-based stress management: Contemporary biosensing systems for affective regulation
Miscellaneous		
Allan. H.S	2011	DEBRIEF: A reflective tool for workplace-based learning
Boell, S.K., Cecez-Kecmanovic, D.	2014	A hermeneutic approach for conducting literature reviews and literature searches
Braun, V., Clarke, V.	2006	Using thematic analysis in psychology
Brunswik, E.	1952	The conceptual framework of psychology
Carcary, M.	2021	The research audit trail: Methodological guidance for application in practice
Costley, C., Gibbs, P.	2006	Researching others: care as an ethic for practitioner researchers
Fahim, A., Rehman, S., Fayyaz, F., Javed, M., Alam, M.A., Rana, S., Jafari, F.H., Alam, M.K.	2021	Identification of preferred learning style of medical and dental students Using VARK questionnaire
Greenhalgh, T., Peacock, R.	2005	Effectiveness and efficiency of search methods in systematic reviews of complex evidence: Audit of primary sources
Haddaway, N.R., Bethel, A., Dicks, L. V., Koricheva, J., Macura, B., Petrokofsky, G., Pullin, A.S., Savilaakso, S., Stewart, G.B.	2020	Eight problems with literature reviews and how to fix them
Hagenauer, G., Gläser-Zikuda, M., Volet, S.	2016	University teachers' perceptions of appropriate emotion display and high-quality teacher-student relationship: Similarities and differences across cultural-educational contexts
Hepworth, C., Day, F., Poate-Joyner, A.	2025	How can coaching and coaching psychology avoid doing harm and do good for coaches, specifically those who have underlying mental health concerns? Calls to action and practical suggestions to ensure ethical practice
Kolb, A., Kolb, D.	2018	Eight important things to know about the experiential learning cycle
McColl-Kennedy, J.R., Snyder, H., Elg, M., Witell, L., Helkkula, A., Hogan, S.J., Anderson, L.	2017	The changing role of the health care customer: review, synthesis and research agenda
Mushaathoni, M.	2025	An intercultural communication management framework for culturally diverse organisations
O'Leary, Z.	2024	The essential guide to doing research
Rivera Pelayo, V.	2015	Design and application of quantified self approaches for reflective learning in the workplace
Schlosser, R.W., Wendt, O., Bhavnani, S., Nail-Chiwetalu, B	2006	Use of information-seeking strategies for developing systematic reviews and engaging in evidence-based practice: the application of traditional and comprehensive pearl growing
Snyder, H.	2019	Literature review as a research methodology: An overview and guidelines
Tranfield, D., Denyer, D., Smart, P	2003	Towards a methodology for developing evidence-informed management knowledge by means of systematic review
Wilson, J.M.	2003	Gantt charts: A centenary appreciation
Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., Pawson, R.	2013	RAMESES publication standards: meta-narrative reviews

Table 1. Snowballed and supplementary papers.

Appendix 7: Physiological Effects of Valence/Arousal

Duville, Alonso-Valerdi and Ibarra-Zarate (2021) discuss the physiological effects of emotion, which suggest some potential impacts on the voice. The following is a short summary:

Emotions arise when the nervous system is pushed out of its normal balance by emotionally charged stimuli, producing changes across two key dimensions: valence and arousal.

High arousal increases sympathetic activity, causing vasoconstriction, sweating, faster breathing, higher subglottal pressure and dry mouth. These processes create faster, louder vocalisations with strong high-frequency energy.

Low arousal lowers heart rate and blood pressure and increases salivation, leading to slower speech and stronger low-frequency energy.

Emotion also modulates thoracic, laryngeal, and facial muscle activity, altering subglottal pressure, airflow, and the regularity of glottal pulses.

The vocal tract functions as a filter shaping the complex sound generated by the vibrating vocal folds. Longer vocal tract configurations resonate at lower frequencies. Emotional states can change tract length and muscular tension, which in turn influence the acoustics of the voice.