# PRESENTATION BMPF7010

## Vocal health practice
## in the musical theatre rehearsal studio
## for students in tertiary training

**Presented By : Catherine Whitehall**

University of Wales Trinity Saint David | Voice Study Centre

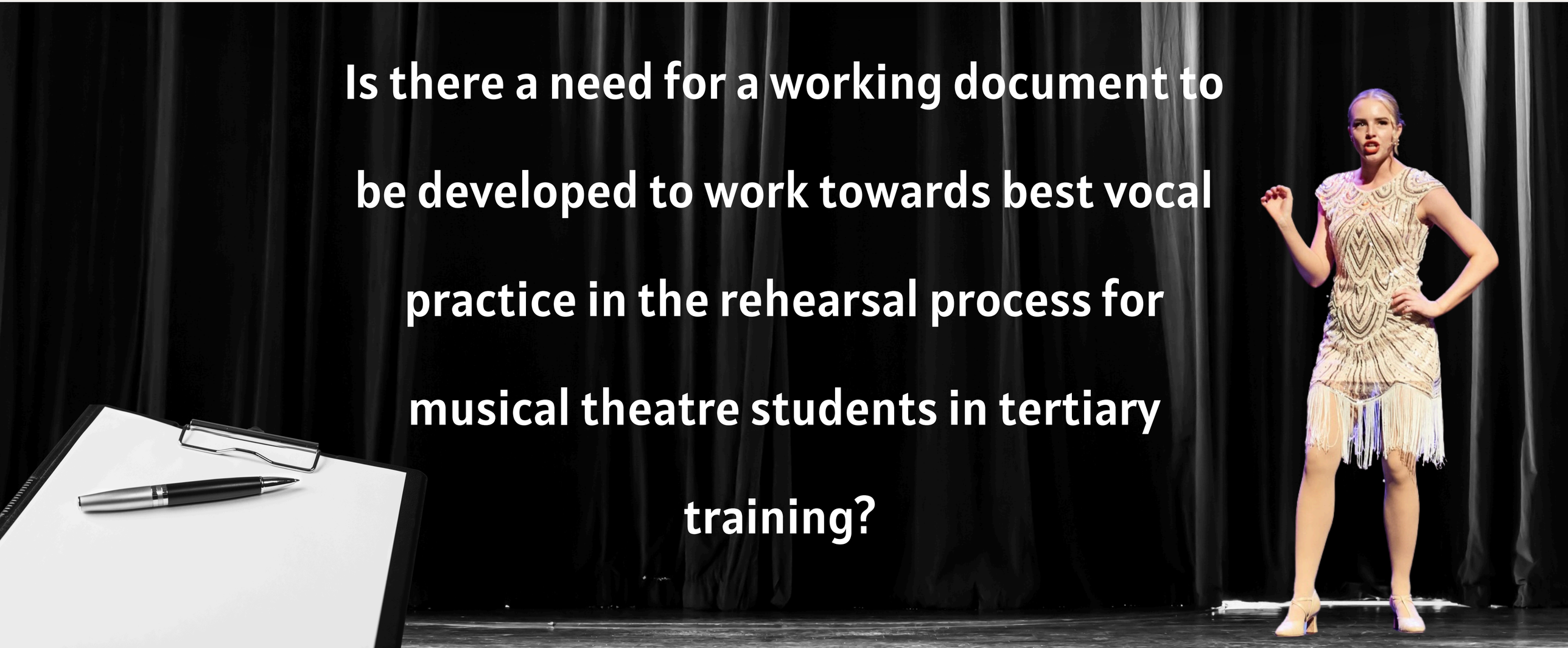



# WHAT'S COMING UP?

- Project question
- Context
- Project Overview
- Methodology
- Literature review
- Data collection
- Findings
- Conclusion
- References
- Thank you

Key abbreviations:
MT = Musical Theatre
P = Interview participant (e.g. P1, P2, P3)

# VOCAL HEALTH PRACTICE IN THE MUSICAL THEATRE REHEARSAL STUDIO FOR STUDENTS IN TERTIARY TRAINING



**Is there a need for a working document to be developed to work towards best vocal practice in the rehearsal process for musical theatre students in tertiary training?**

# How have I defined ‘best vocal practice’?

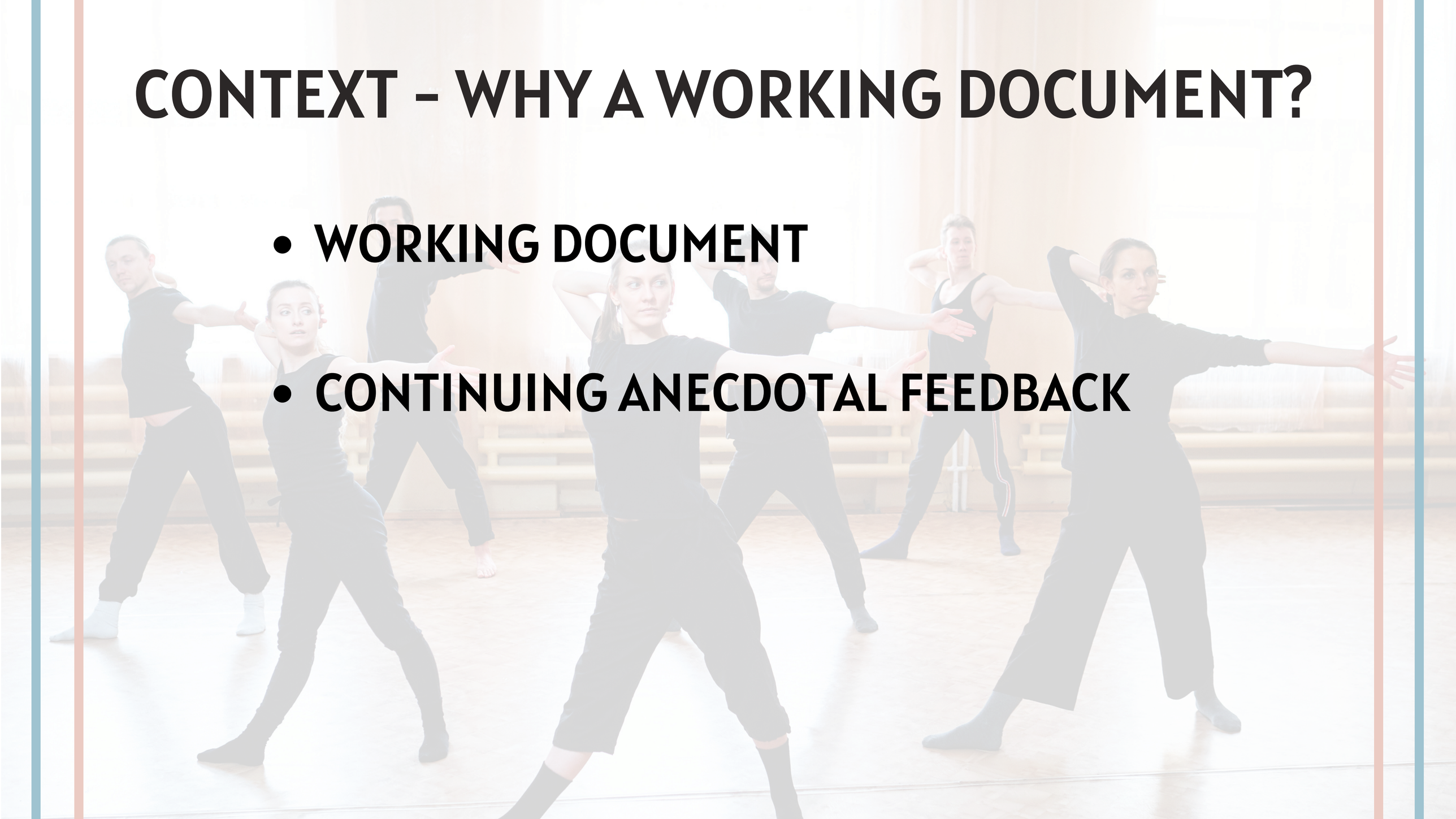
- Improving student understanding of vocal health
- Improving rehearsal leader awareness of vocal health considerations
- Safeguarding student vocal health

# CONTEXT – WHY A WORKING DOCUMENT?

- **WORKING DOCUMENT**

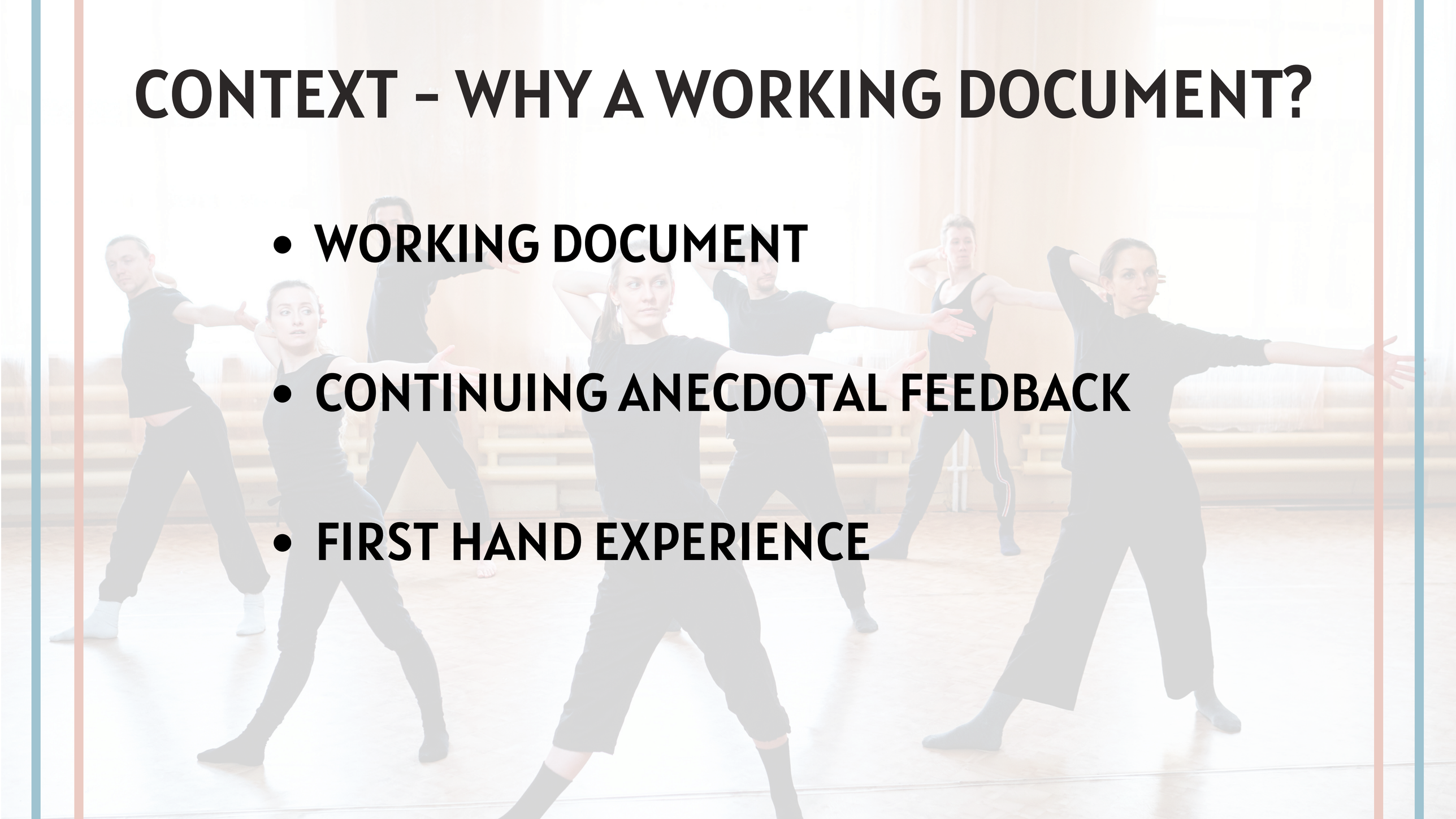


# CONTEXT – WHY A WORKING DOCUMENT?



- WORKING DOCUMENT
- CONTINUING ANECDOTAL FEEDBACK

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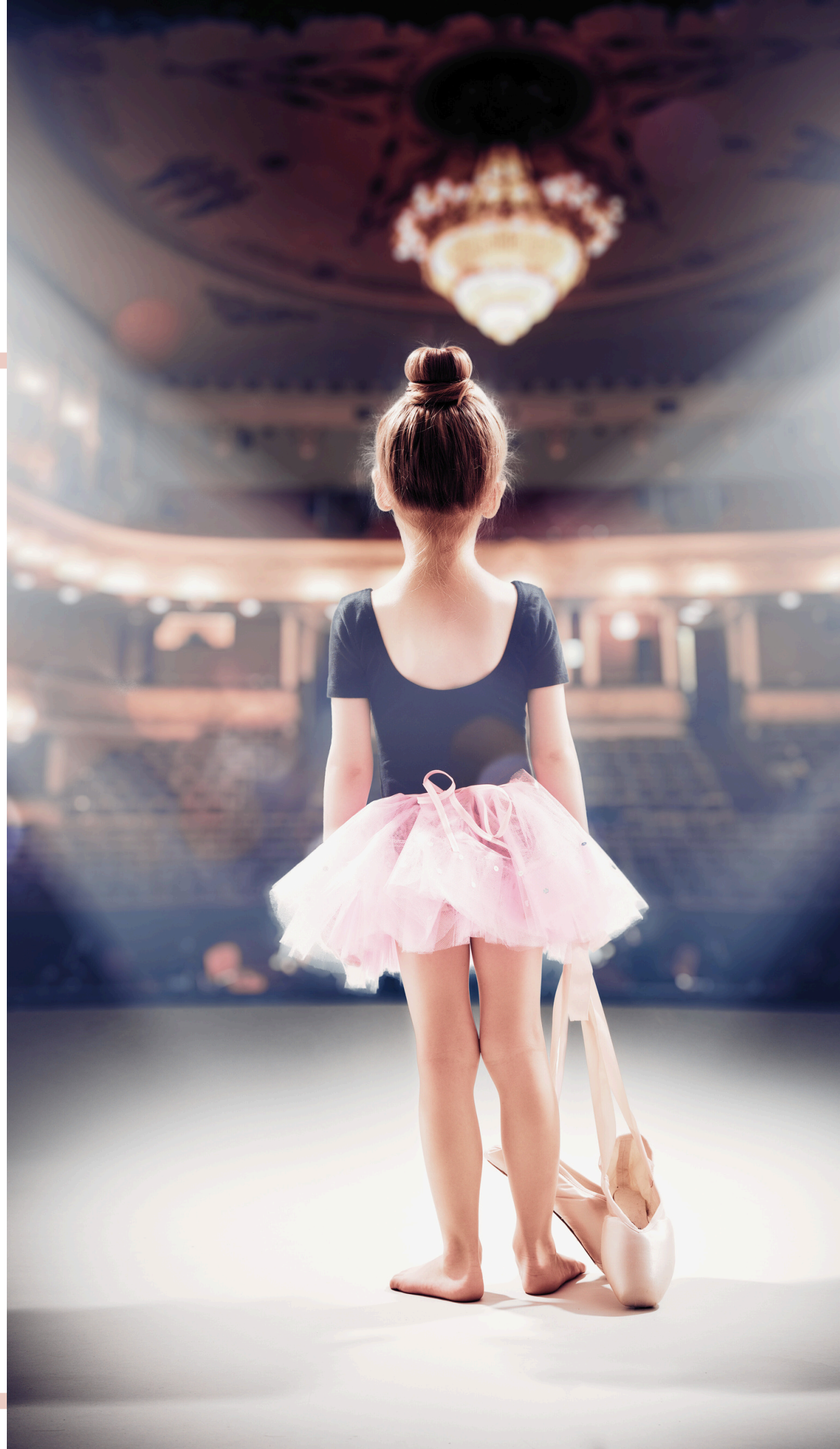
- WORKING DOCUMENT
- CONTINUING ANECDOTAL FEEDBACK
- FIRST HAND EXPERIENCE

# CONTEXT – WHY A WORKING DOCUMENT?

- WORKING DOCUMENT
- CONTINUING ANECDOTAL FEEDBACK
- FIRST HAND EXPERIENCE
- SINGING TEACHER DISCUSSIONS

# IMPACT ON MY PEDAGOGY

- Former ‘triple threat’ professional
- Twenty years teaching experience
- Theatre school – Head of Singing
- Working document for workplace and beyond



# PROJECT AIMS

- **Broader understanding of the MT student rehearsal process**



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- **Identify a range of vocal health recommendations for rehearsal leaders**



# PROJECT AIMS

- Broader understanding of the MT student rehearsal process
- Identify a range of vocal health recommendations for rehearsal leaders
- Find other potential areas of research



# PROJECT OBJECTIVES

- Expand understanding of vocal loading

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- Determine detrimental aspects of  rehearsal process from data collection analysis

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- Expand understanding of vocal loading
- Determine detrimental aspects of  rehearsal process from data collection analysis
- Explore elements of best vocal practice in MT student rehearsals




# METHODOLOGY

- **Pragmatic paradigm** (Creswell, 2014)
  - Mixed methods approach (Johnson, Onwuegbuzie and Turner, 2007)
  - Thematic analysis (Braun and Clark, 2006)
  - Add quantitative analysis to add validity
  - Include an objective standpoint to add rigour (Guba and Lincoln, 1994)




# METHODOLOGY

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## ● Methodology

- Phenomenology and hermeneutics in order to focus on "human lived experiences" (Wojnar and Swanson, 2007, p. 175)

# CONTEXT – INITIAL CONCERNS

- Rehearsal length and vocal fatigue



# CONTEXT – INITIAL CONCERNS

- Rehearsal length and vocal fatigue
- Lack of vocal warm ups and cool downs



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- Rehearsal length and vocal fatigue
- Lack of vocal warm ups and cool downs
- Difficulty combining singing and dance



# CONTEXT – INITIAL CONCERNS

- Rehearsal length and vocal fatigue
- Lack of vocal warm ups and cool downs
- Difficulty combining singing and dance
- Audibility in the rehearsal studio



# LITERATURE REVIEW

## TOPICS OF CONSIDERATION



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1. MT show rehearsal demands

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2. MT vocal health education

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1. MT show rehearsal demands
2. MT vocal health education
3. Additional factors - on stage and off stage

# MT Performers

- “Triathletes” (Wanke et al., 2012)

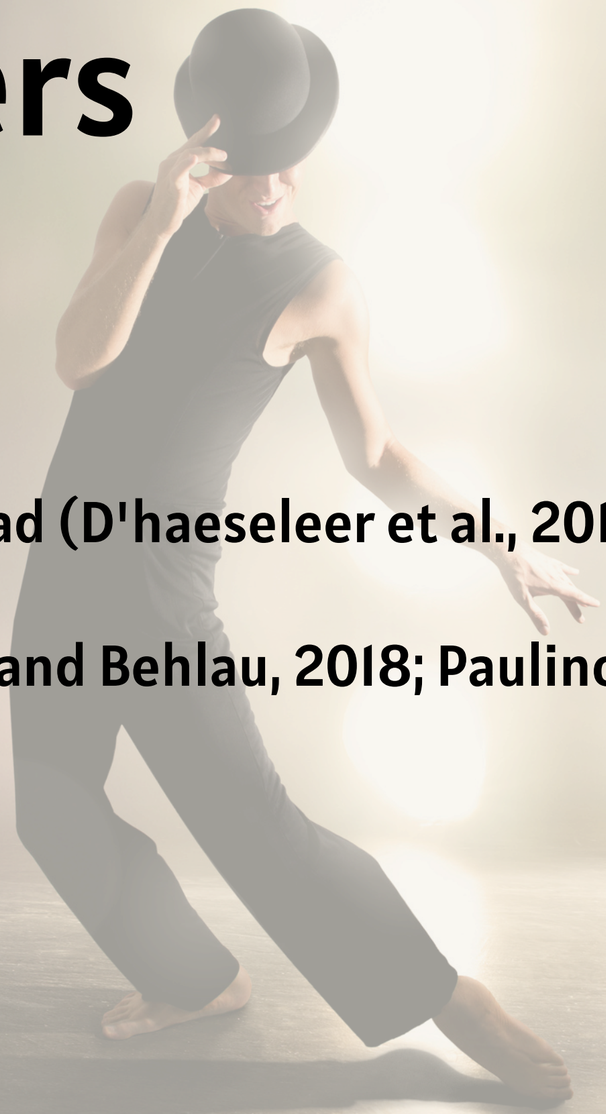


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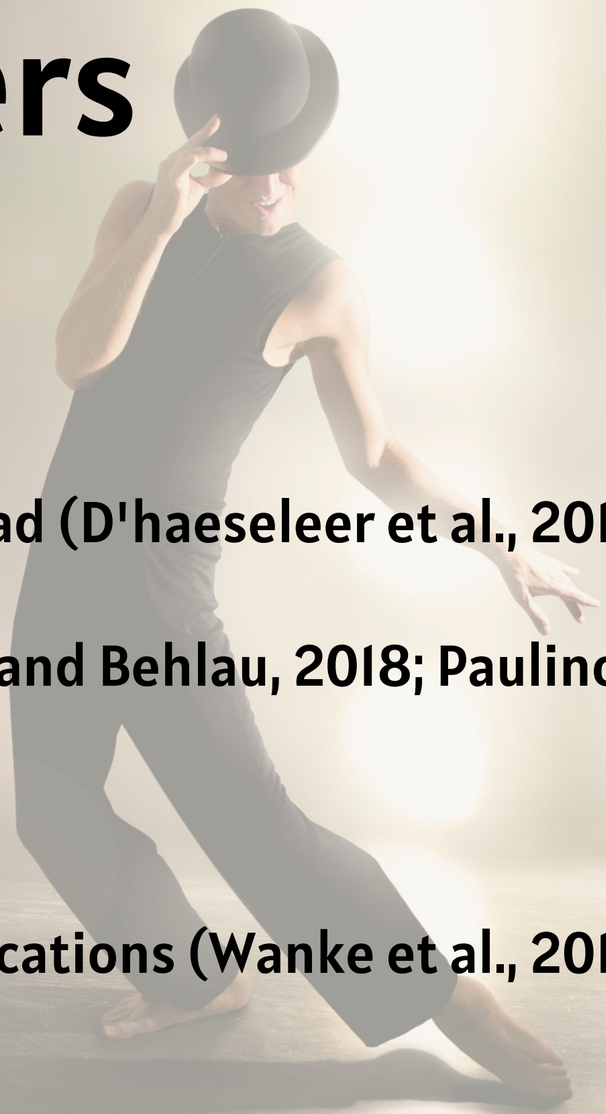


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- Inadequate vocal health training = significant ramifications (Wanke et al., 2012; D'haeseleer et al., 2017)

# Rehearsal demands







- MT rehearsal process is “physically, vocally, and emotionally demanding”

  (Zuim, Stewart and Titze, 2021, p.1)

- Long hours and vocal demands can create “dangerous working conditions for the voice”

  (Suddeth and Flynn, 2022, p.2)

# Rehearsal preparation and recovery

- MT rehearsals may require“unpredictable amounts of singing and speaking” (Zuim, Stewart, and Titze, 2023, p.12)

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LITERATURE REVIEW

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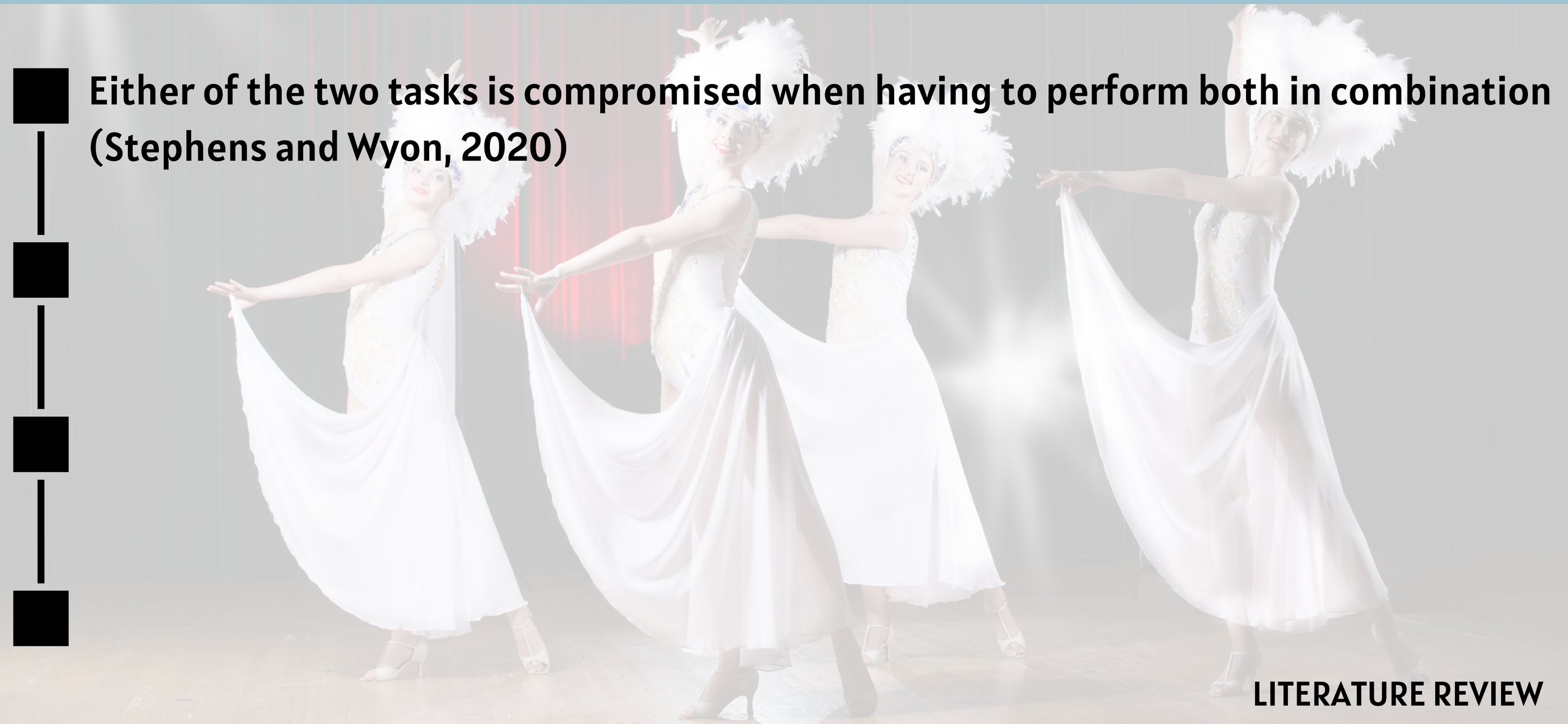
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  - 22% used cool-downs

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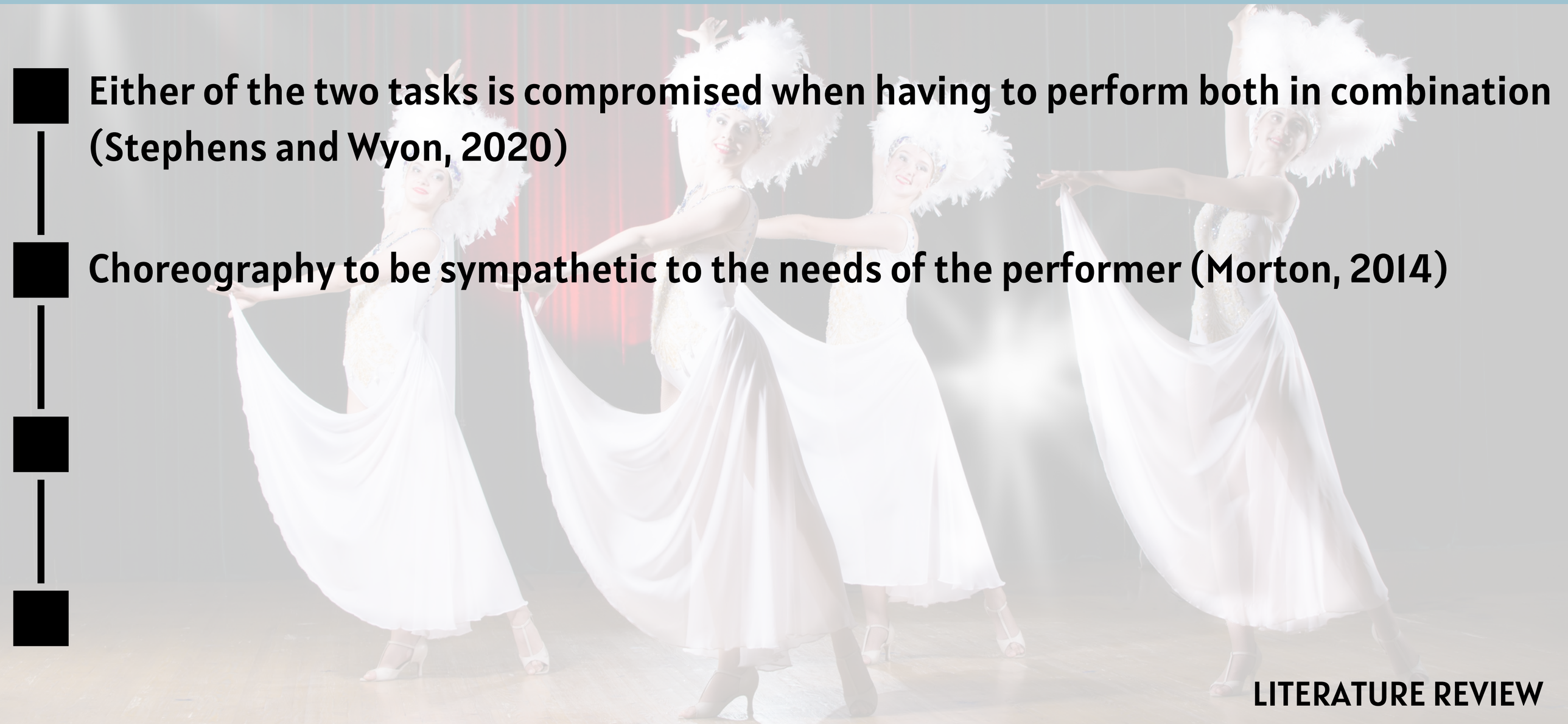
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- Gish et al., (2012) study:
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  - 22% used cool-downs
- Ragan (2016) suggests singers need education about the benefits of cool-downs

# Combination of singing and dancing



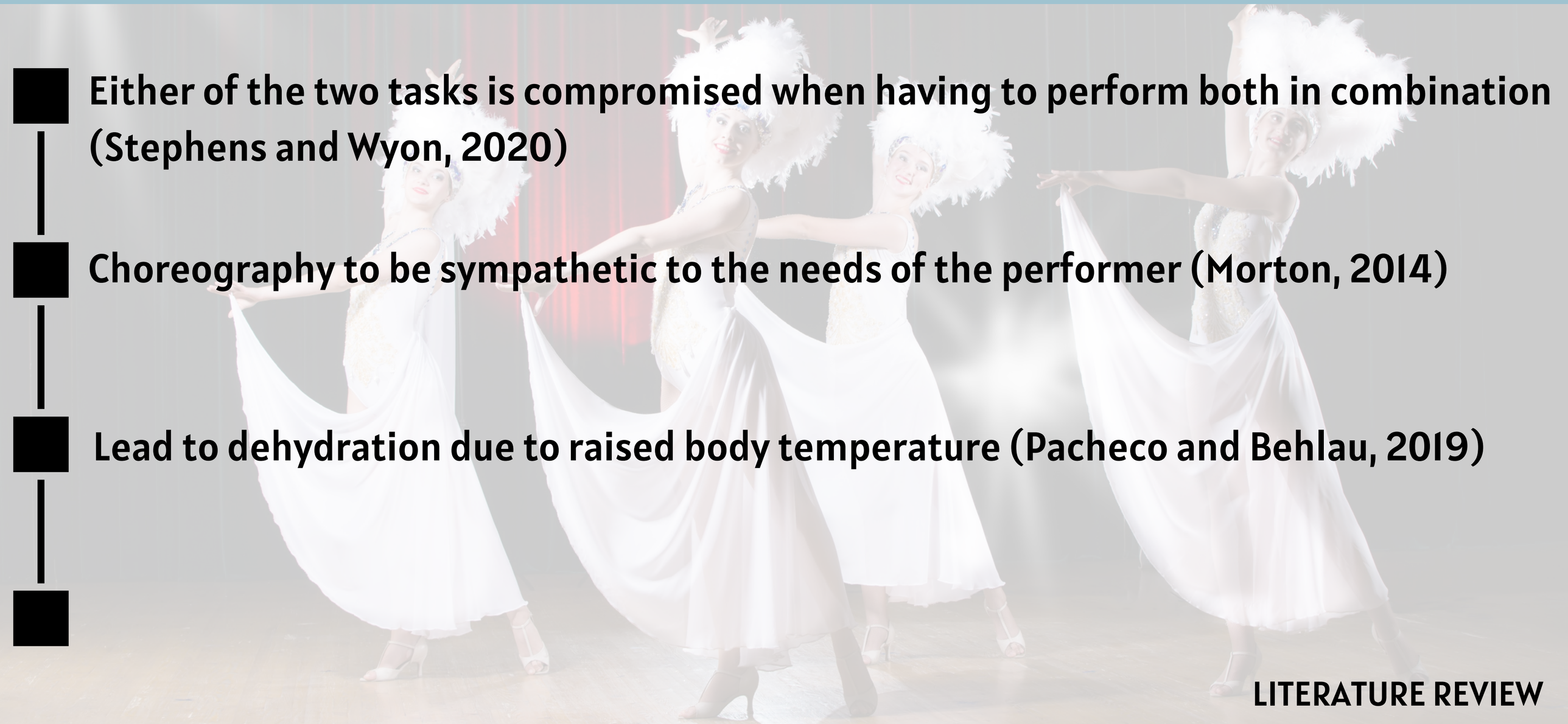
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# Combination of singing and dancing



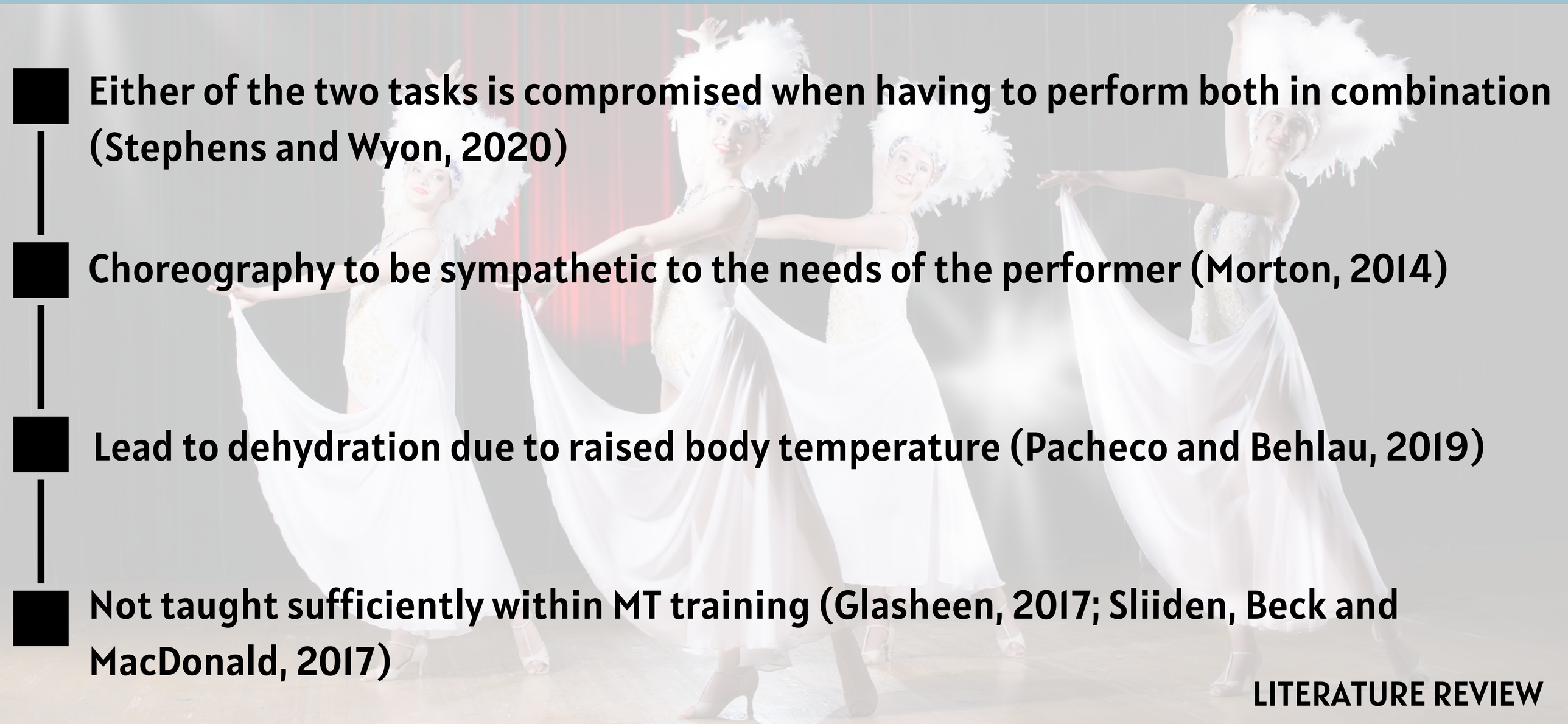
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- Choreography to be sympathetic to the needs of the performer (Morton, 2014)
- Lead to dehydration due to raised body temperature (Pacheco and Behlau, 2019)
- Not taught sufficiently within MT training (Glasheen, 2017; Sliiden, Beck and MacDonald, 2017)




# Audibility




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Fitness instructors




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**Fitness instructors**

- High prevalence of voice problems (Rumbach, 2013)
- Use of microphones




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**"...laryngeal inflammation and self-reported laryngeal discomfort...**

**following vocal loading tasks of**

**comparable background noise and duration"**

**(Venkatraman, Brinton Fujiki and Sivasankar, 2021, p.805.e13)**




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(Venkatraman, Brinton Fujiki and Sivasankar, 2021, p.805.e13)

## MT rehearsal studio

- MT performers use "microphones and electronic amplification" in performance (Echternach et al., 2014)
- Lombard effect (Vinney et al., 2016)

# MT vocal health in education

- Efficient and safe teaching as the variety of MT singing demands are “highly exhausting, physically and vocally” (Paulino, Simões-Zenari and Nemr, 2021, p.4)



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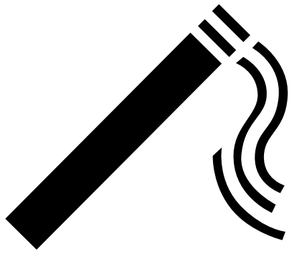
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- Gaskill, Cowgill, and Many (2013) state that within rehearsals “students are typically on their own in learning how to pace themselves vocally” (p.11)
- Moniz (2022) states, “one’s ability to regulate vocal load in high impact production is directly related to the potential risk of vocal injury” (p. 606)



LITERATURE REVIEW

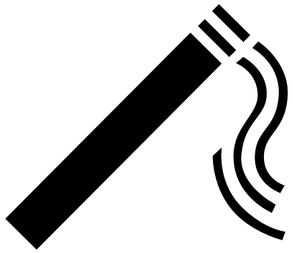


# Additional factors



## impacting vocal health

- **On-stage –** Stage effects such as smoke, restrictive or heavy costumes and insufficient sound support (D'haeseleer et al., 2020)



# Additional factors



## impacting vocal health

- **On-stage –** Stage effects such as smoke, restrictive or heavy costumes and insufficient sound support (D'haeseleer et al., 2020)

- **Off-stage –** Stress and social activities (Suddeth and Flynn, 2022, p.2)

# LITERATURE REVIEW

## SUMMARY

1 Promising research for MT students

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1. Promising research for MT students
2. Aligns with rehearsal concerns

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## SUMMARY

1. Promising research for MT students
2. Aligns with rehearsal concerns
3. Gap in the literature

# DATA COLLECTION

## Participants

Purposive sampling (Berg, 2001)

- Age 18 - 25
- Studying MT full time in the UK
- Undergraduate level



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## Inclusion/Exclusion

Vocal diagnoses

- Anyone with a vocal diagnosis could share this information
- Not excluded

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## Overview of methods

Methods triangulation (Schwandt, Lincoln and Guba, 2007)

- Survey (Creswell, 2014)
- Semi-structured interviews (Gill et al., 2008)
- Self-perception scale (Phyland et al., 2014)




MUSICAL THEATRE
STUDENTS AGED 18-25



VOCAL HEALTH -
STUDENT SURVEY

@CATHERINEVICTORIAVOICEWORKS

# SURVEY

- Online survey
- 23 questions open and closed questions
- Focus on rehearsal experiences




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## RESPONSE

- Qualtrics (Qualtrics, 2024)
- Snowball sampling (Denscombe, 2003)
- 26 MT students completed
- Option to take part in interview process

# INTERVIEWS

- Online semi-structured interviews
- Beginning, middle and end of the rehearsal process




Interview advert

# INTERVIEWS




Interview advert

- Online semi-structured interviews
- Beginning, middle and end of the rehearsal process

## RESPONSE

- 3 MT students completed
- Video recorded via Zoom (Zoom, 2024)
- Transcribed via Otter.ai (Otter.ai, 2024)

# SELF PERCEPTION SCALE

## FOR INTERVIEW PARTICIPANTS

- **Evaluation of Ability to Sing Easily (EASE)**
  **(Phyland et al., 2013)**



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- Evaluation of Ability to Sing Easily (EASE) (Phyland et al., 2013)
- Used previously with MT singers (Pacheco and Behlau, 2019; Vella, Brown and Phyland, 2019; Zuim, Stewart and Titze, 2021)



# SELF PERCEPTION SCALE

## FOR INTERVIEW PARTICIPANTS

- Evaluation of Ability to Sing Easily (EASE) (Phyland et al., 2013)
- Used previously with MT singers (Pacheco and Behlau, 2019; Vella, Brown and Phyland, 2019; Zuim, Stewart and Titze, 2021)
- Chosen because it is “simple, quick to complete, easy to score, and useful” (Phyland et al., 2013, p.454)



# EASE items according to subscale (Phyland et al., 2014, p.103)

| VF | PRI | VC |
|---|---|---|
| My voice is husky | My voice cracks and breaks | I am worried about my voice |
| My voice is dry/scratchy | My voice is breathy | I am concerned about my voice |
| My throat muscles are feeling overworked | I am having difficulty with my breath for long phrases | |
| My singing voice feels good[a] | My voice is cutting out on some notes | |
| The onsets of my notes are delayed or breathy | I am having difficulty singing softly | |
| My voice feels strained | I am having difficulty changing registers | |
| My top notes are breathy | I am having difficulty with my high notes | |
| My voice sounds rich and resonant[a] | Singing feels like hard work | |
| My voice is tired | I am having difficulty projecting my voice | |
| My voice feels ready for performance if required[a] | I am having difficulty sustaining long notes | |

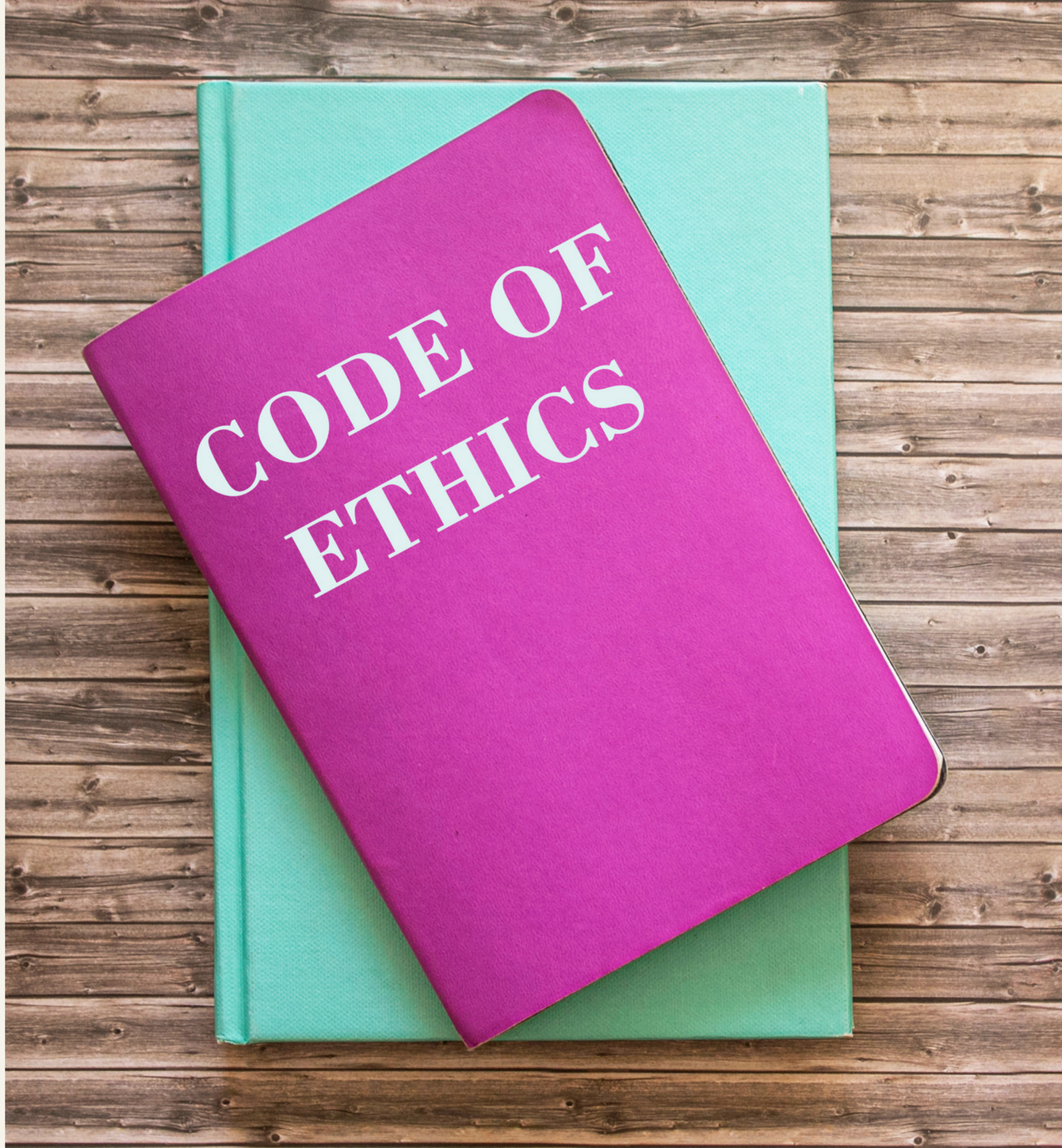
[a] Reverse-scored.

**Vocal fatigue (VF), Pathologic-risk indicators (PRI) and vocal concern (VC).**

**22 statements: 19 negative and 3 positive (reverse scored)**

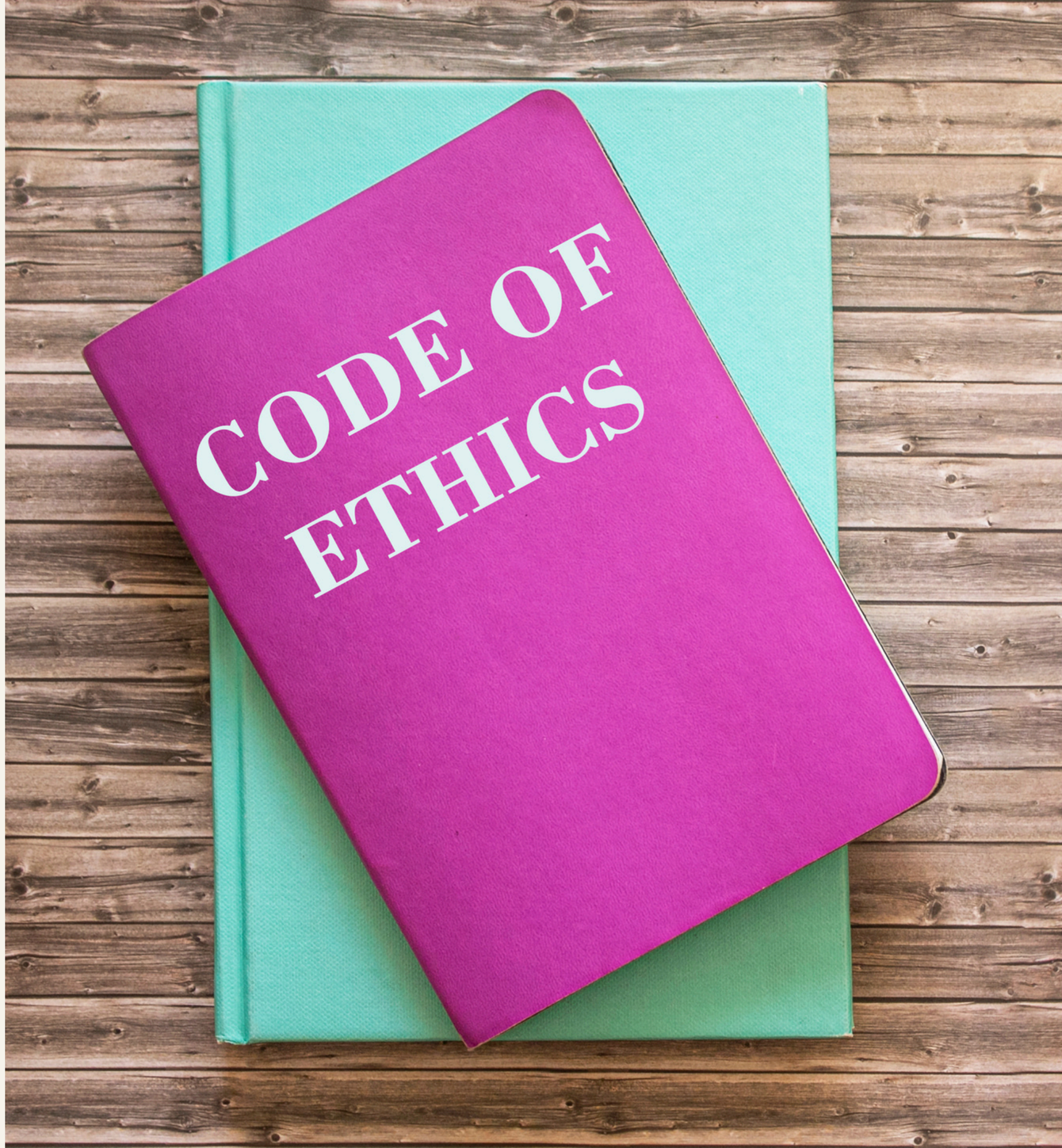
# ETHICS

- UWTSD Ethics approval



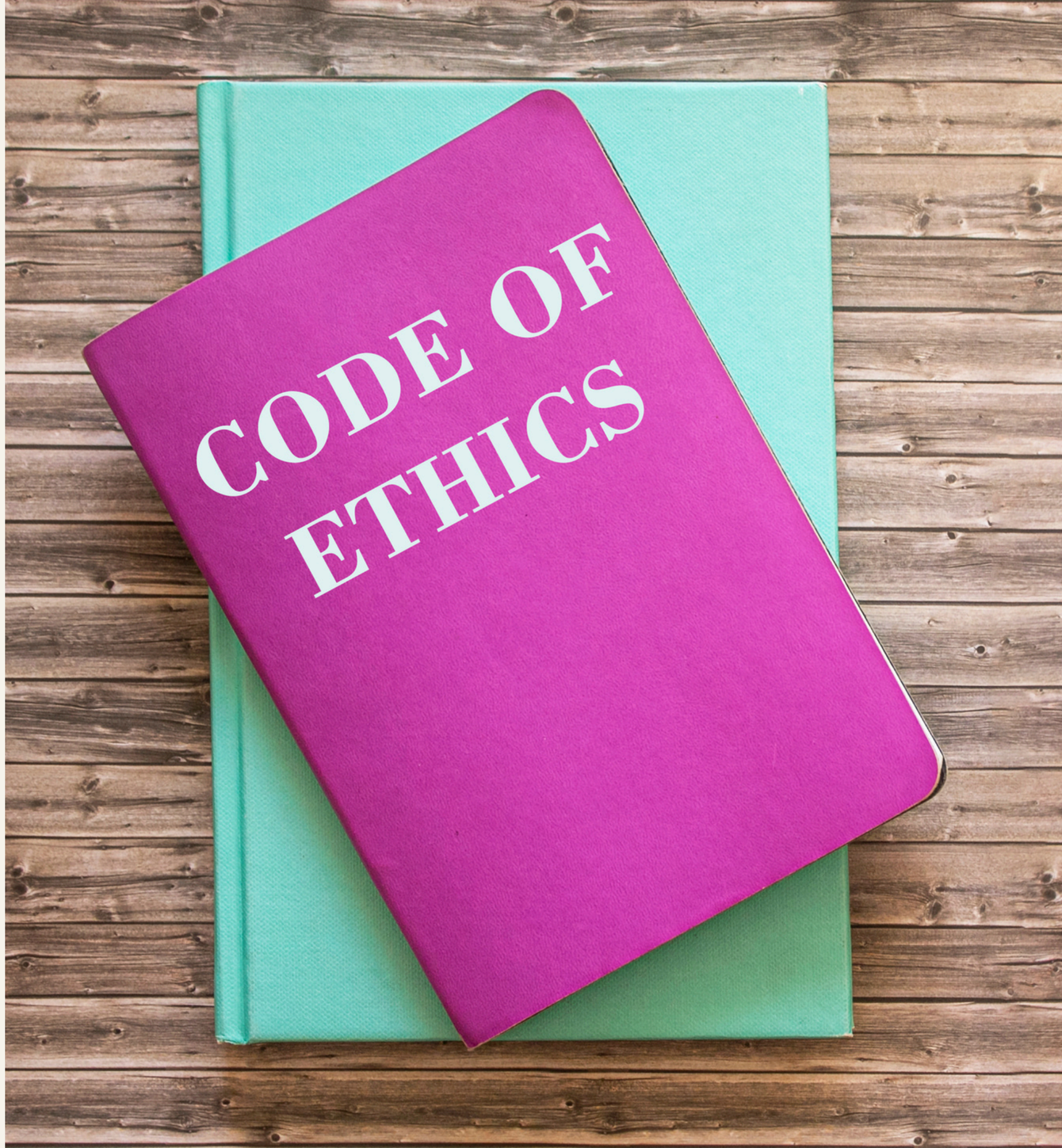
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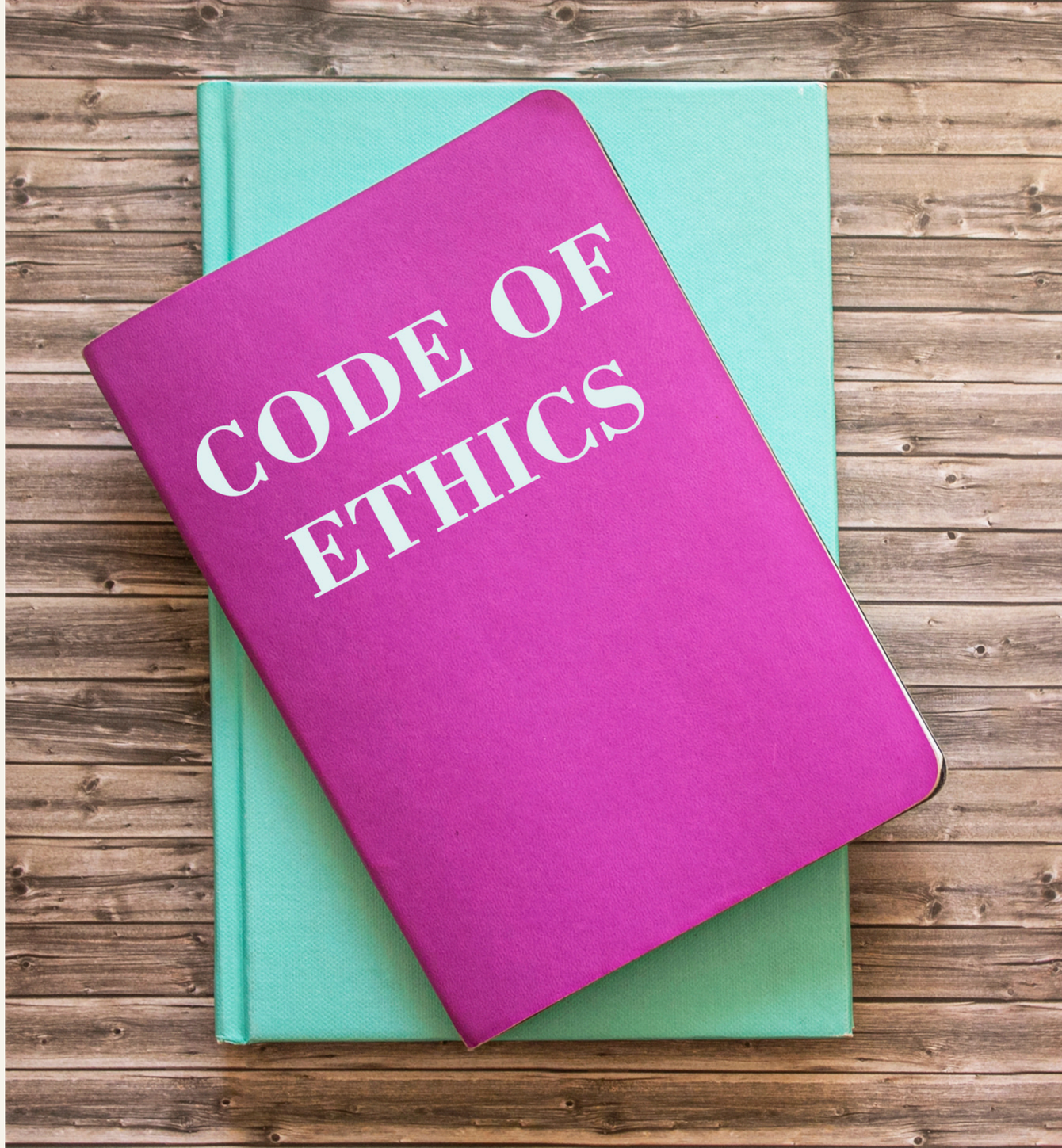
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# ETHICS

- UWTSD Ethics approval
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- Pressure to participate



# INSIDER RESEARCH AND BIAS

- **Pre-approved scale material**



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- Negative case analysis (Panday and Patnaik, 2014)



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# INSIDER RESEARCH AND BIAS

- Pre-approved scale material
- Negative case analysis (Panday and Patnaik, 2014)
- Purposive and snowball sampling chosen over convenience sampling (Berg, 2001; Denscombe, 2003)
- Reflection on action and reflection in action (Schön, 1983)



# FINDINGS

## SURVEY RESULTS

Supportive statistics as %

&

## INTERVIEW RESPONSES

In Vivo coding (Saldaña, 2016)

PLUS

Six phases of thematic analysis (Braun and Clarke, 2006)



- VOCAL DEMANDS
- PHYSICAL DEMANDS

# Themes

- MENTAL DEMANDS
- VOCAL HEALTH

# CODES, CATEGORIES, THEMES



| CODES | CATEGORIES | THEMES |
|---|---|---|
| • Warm up/warm ups<br>• Control<br>• Technique<br>• Lip trills/sirens<br>• Breath/Breathe/Breathing<br>• Project/Projecting, Volume, Loud/Louder<br>• Rest | Vocal practice | **VOCAL DEMANDS** |
| • Breath/Breathe/Breathing<br>• Project/Projecting, Volume, Loud/Louder | Microphone | |
| • Strain/Strained<br>• Push<br>• Tired, Fatigue/Fatigued | Negative vocal observations | |
| • Warm/Warmer/Warmed | Vocal observations | |
| • Stamina<br>• Movement<br>• Breath/Breathe/Breathing | Movement | **PHYSICAL DEMANDS** |
| • Teachers/Directors | Relationship/ Communication ability | **MENTAL DEMANDS** |
| • Struggle<br>• Demanding<br>• Difficulty<br>• Pressure<br>• Tired, Fatigue/Fatigued<br>• Push<br>• Understand/Understanding | Coping ability/Pressure | |
| • Vaping<br>• Alcohol<br>• Talk/Talking/Chatting | External factors (outside of rehearsals) | **VOCAL HEALTH** |
| • Water/Hydrate/Hydration/Dehydrate | Vocal hygiene | |

# CODES, CATEGORIES, THEMES



**How the themes were created...**

- **23 codes**
- **11 categories**
- **4 themes**

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THEME I VOCAL DEMANDS




# PREPARATION & RECOVERY

## Warm ups

- Q2. Is a vocal warm up part of your show preparation?

  58% of survey students answered “Always”, 31% “Most of the time”

THEME I VOCAL DEMANDS




# PREPARATION & RECOVERY

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- Q3. Is your vocal warm up rehearsal led or do you warm up in your own time?

  81% of students warmed up in own time as well as rehearsal

THEME I VOCAL DEMANDS




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THEME I VOCAL DEMANDS



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- Interview - P2 was asked to arrive warm - other cast members had not warmed up
- P2 was unhappy with warm ups - suggested they made her vocally tired




# PREPARATION & RECOVERY

## Cool-downs

- Q9. Is a vocal cool-down part of your end of rehearsal process? 65% of survey students, “Never”, 27% “Sometimes”

THEME I VOCAL DEMANDS



# PREPARATION & RECOVERY

## Cool-downs

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- Q10. Is your vocal cool-down rehearsal led or do you cool-down in your own time? 67% did cool-downs in their own time

THEME I VOCAL DEMANDS



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THEME I VOCAL DEMANDS



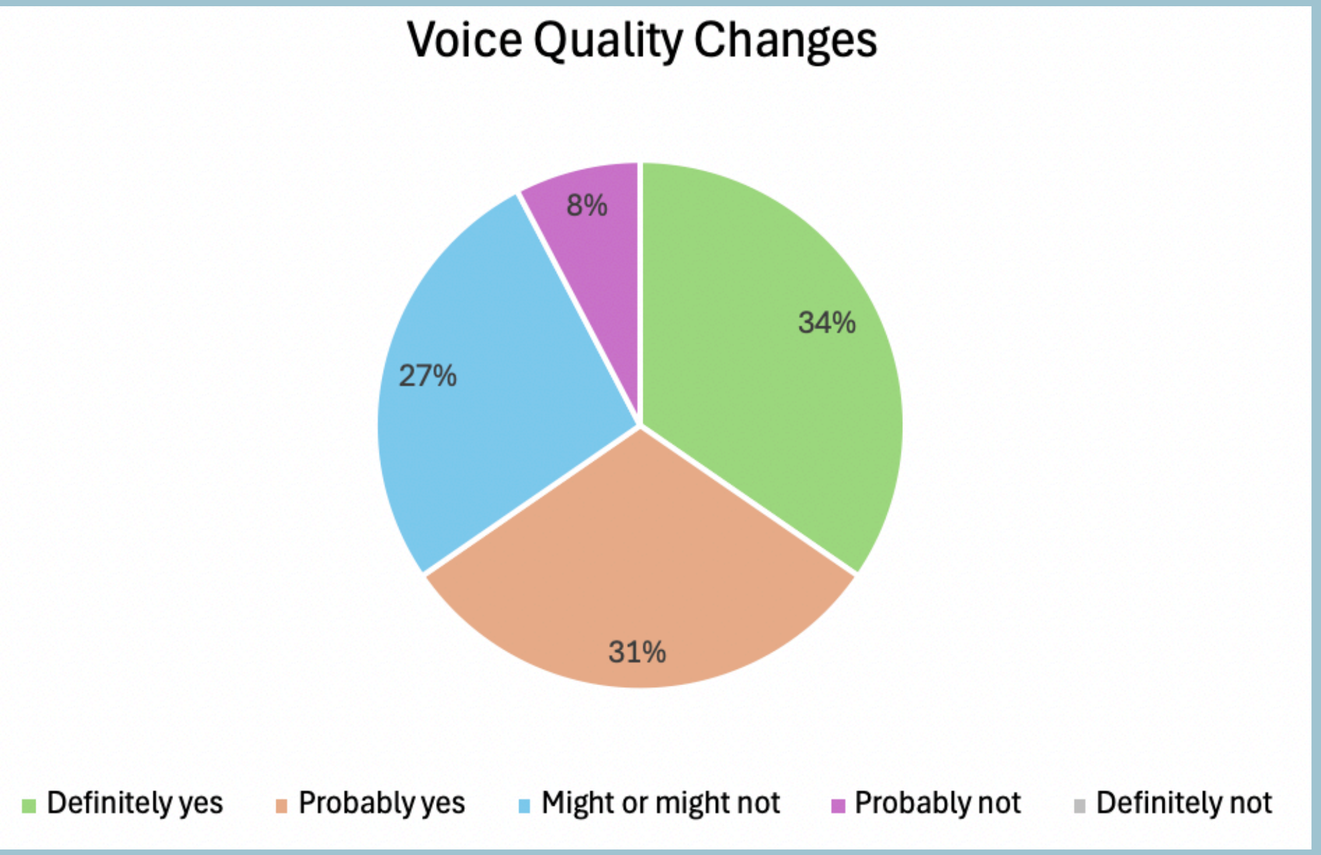
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- Communicating the importance?
- “...vocal pedagogy instruction should focus on the importance of regular vocal cool-downs” (Reckers, Donahue and LeBorgne, 2020)

# PERCEPTION OF VOICE

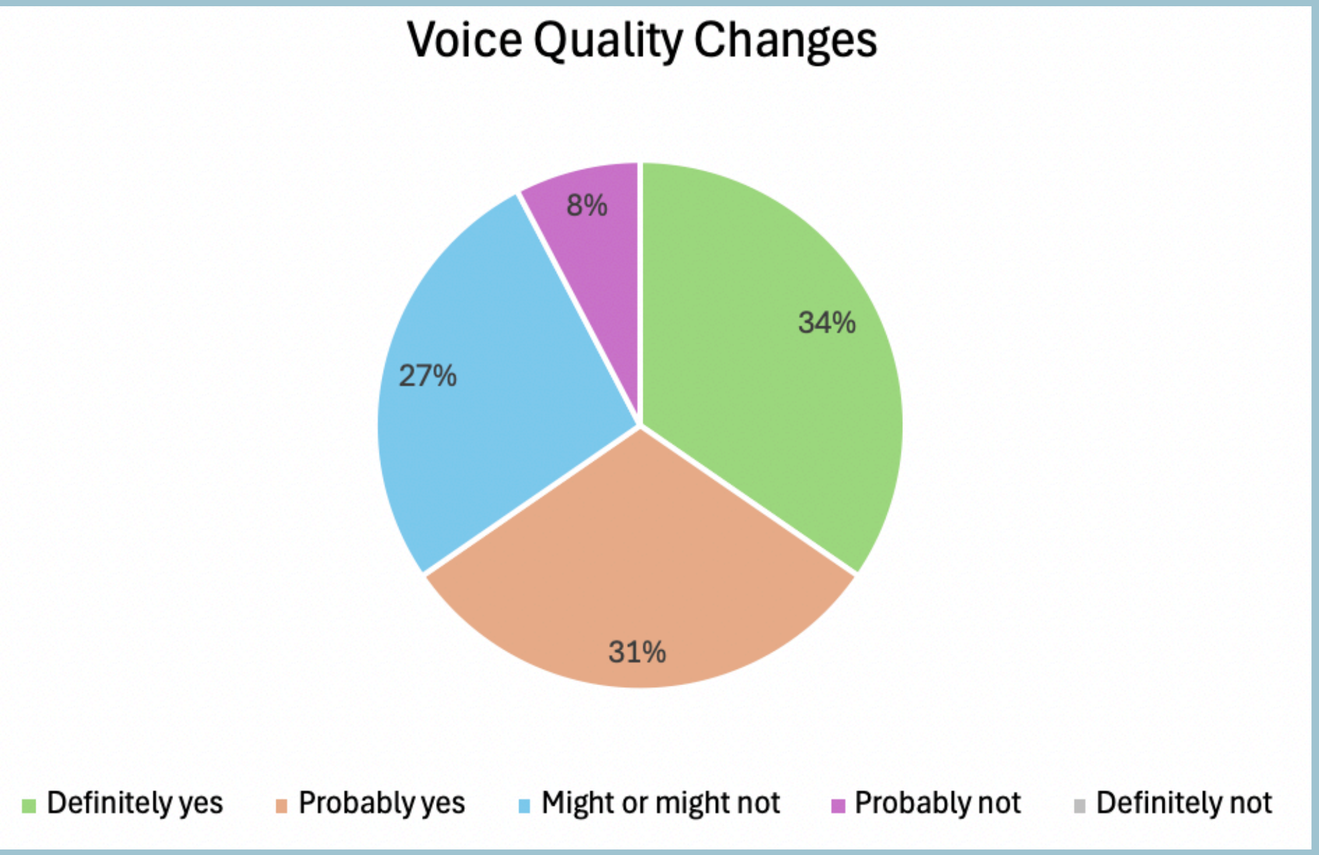
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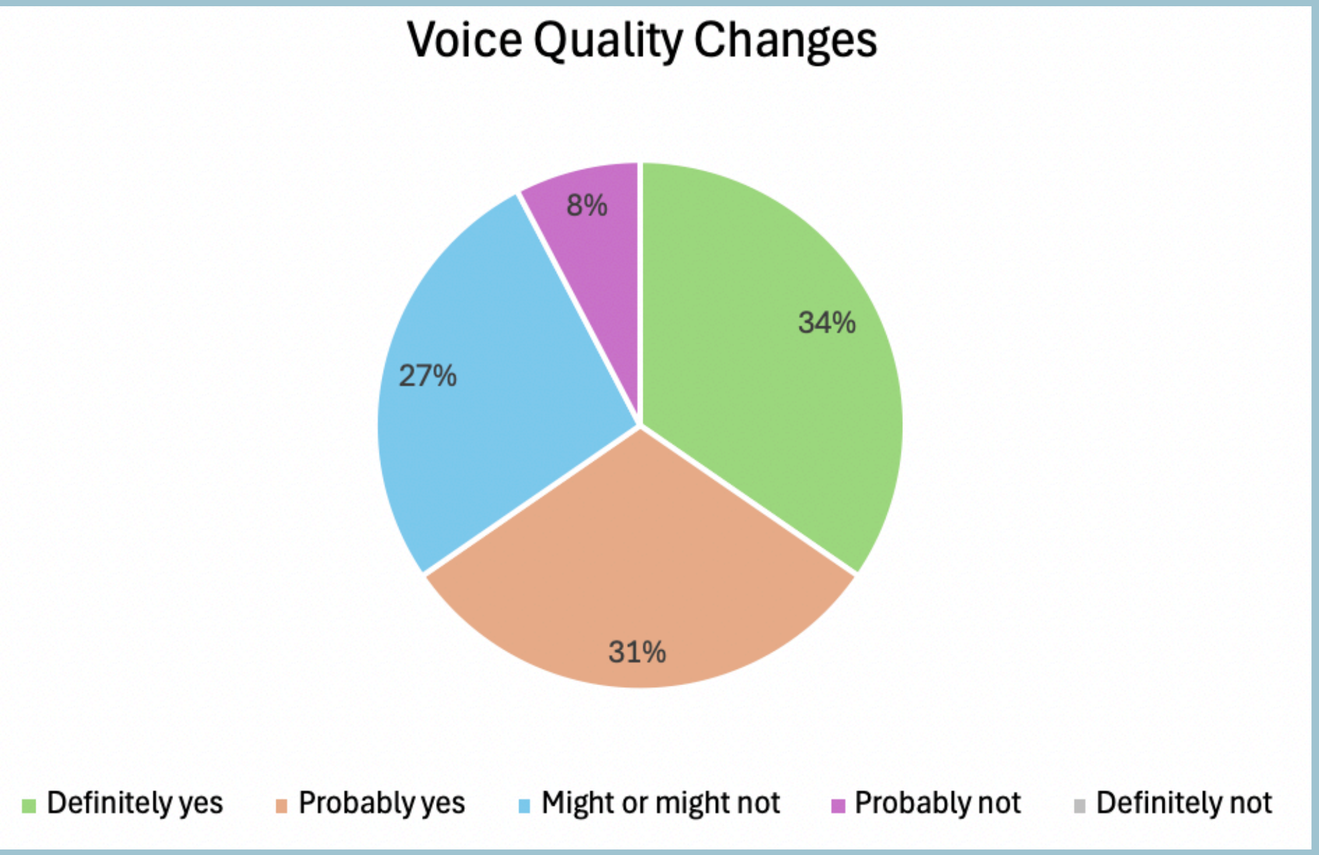

**“My vocal technique and placement seems a lot better”**

**“My throat is usually very achy”**

## THEME I VOCAL DEMANDS

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**“My vocal technique and placement seems a lot better”**

**“My throat is usually very achy”**

**“Sometimes there is less strain, sometimes there is more aching within my throat”**

## THEME I VOCAL DEMANDS

# VOCAL FATIGUE

Survey responses to Q.16 - During the rehearsal process, how often do you feel with vocally tired?

- Survey - 50% “Sometimes”, 31% “Half the time”



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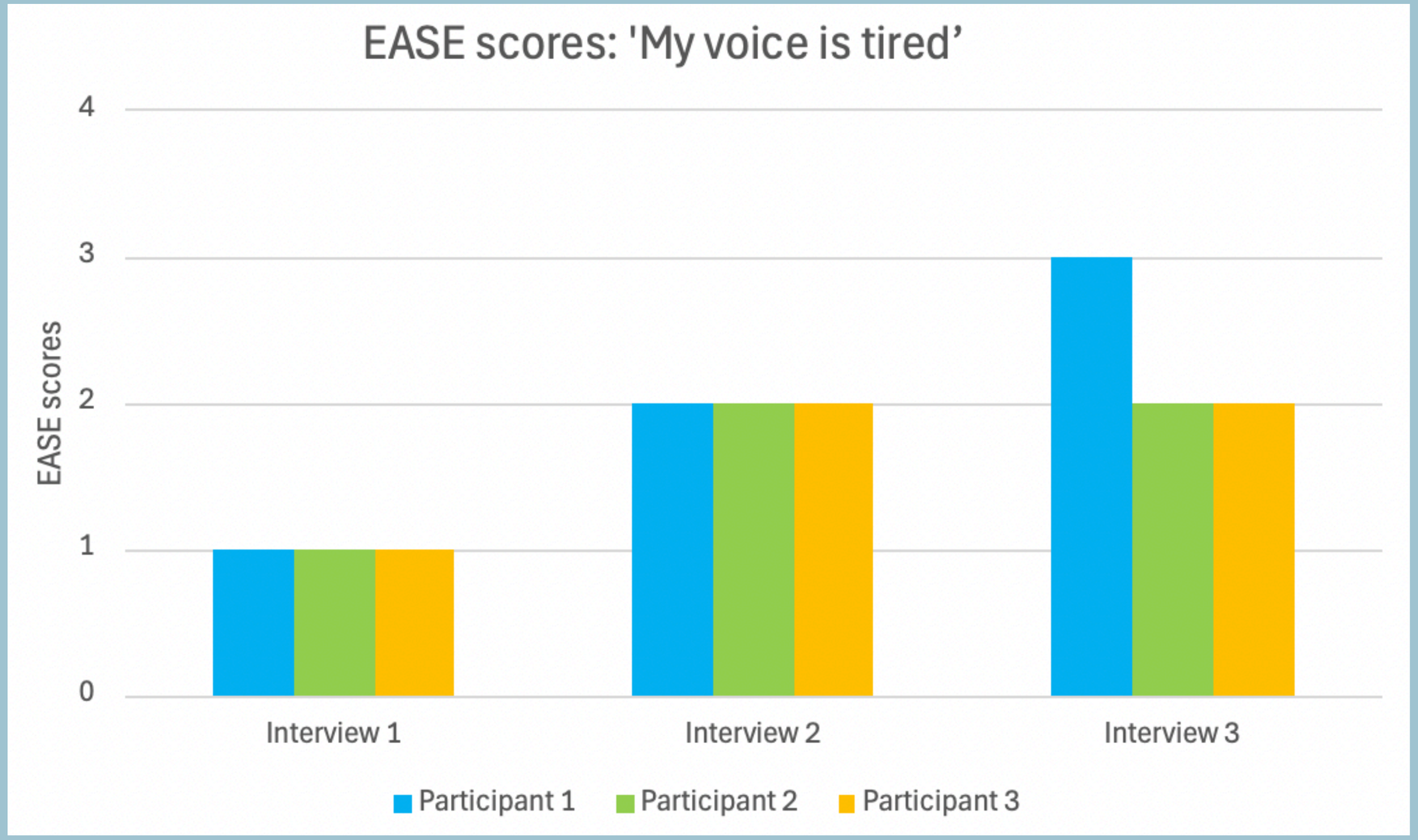
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- Highest recurring reported symptom for MT students (D'haeseleer et al., 2020)
- EASE scores: P1, P2, and P3 mid-process increase
- Variable changes in vocal dose across each rehearsal (Zuim, Stewart and Titze, 2021; 2023)



## Interview particpant EASE scores - 'My voice is tired'




**EASE scores: I = Not at all, 2= Mildly, 3 = Moderately, 4 = Extremely**

# LENGTH OF REHEARSAL

**Survey responses to:**

- **Q19. How long is a typical show rehearsal that you are required to attend? Variable and up to 9 hours**




**MT students often engage in long rehearsals with heavy vocal loading (D'haeseleer et al., 2020)**

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THEME 1 VOCAL DEMANDS



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THEME 1 VOCAL DEMANDS



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Recovery time is beneficial to prevent harm to the voice (Venkatraman, Brinton Fujiki and Preeti Sivasankar, 2021)

# AUDIBILITY

**Survey responses to Q.13 - During rehearsal, if microphones are not used, can you hear your own singing voice over the music?**

- **58% responding "I sometimes struggle to hear my voice"**
- **34% stating "I can always hear myself clearly"**
- **OTHER: "Solo and small ensemble singing yes, large ensemble, sometimes not"**



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## INTERVIEWS

- **P3 - "...fighting over that music...to project more"**
- **EASE - "I am having difficulty projecting my voice", P2 and P3 "Not at all"**

# MICROPHONES

THEME 1 VOCAL DEMANDS

**Responses to interview Q.14 - How do you feel about the use of microphones at this stage (early stage) of the rehearsal process?**



- P2 ✅ “wouldn't have to push so hard, especially numbers where you've got ensemble singing around you and you've got like a solo number to do”
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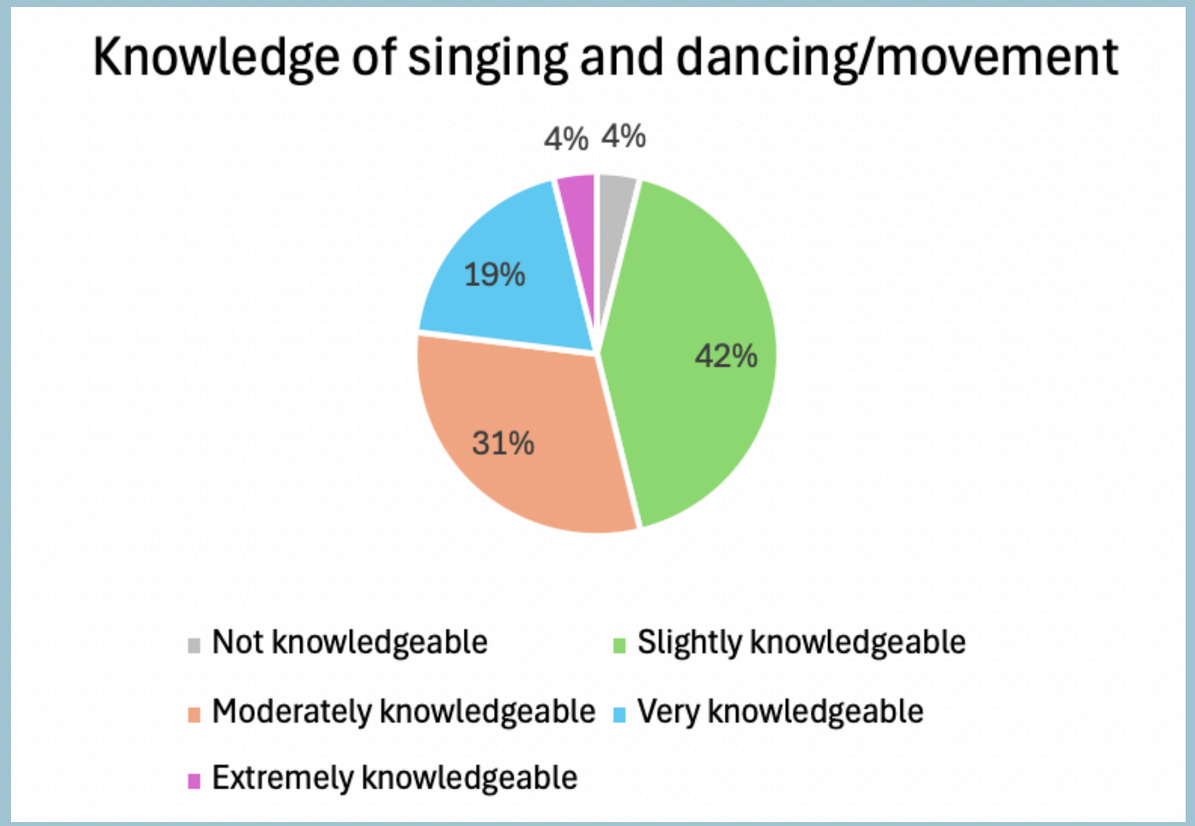
**Q14. When using microphones, do you notice any difference in the way that you use your voice?**
**54% "Yes"**

- ✅ "I feel less pressure to push my voice to be able to hear myself"
- ❌ "Project more incase it doesn't work"

THEME 2

# PHYSICAL DEMANDS

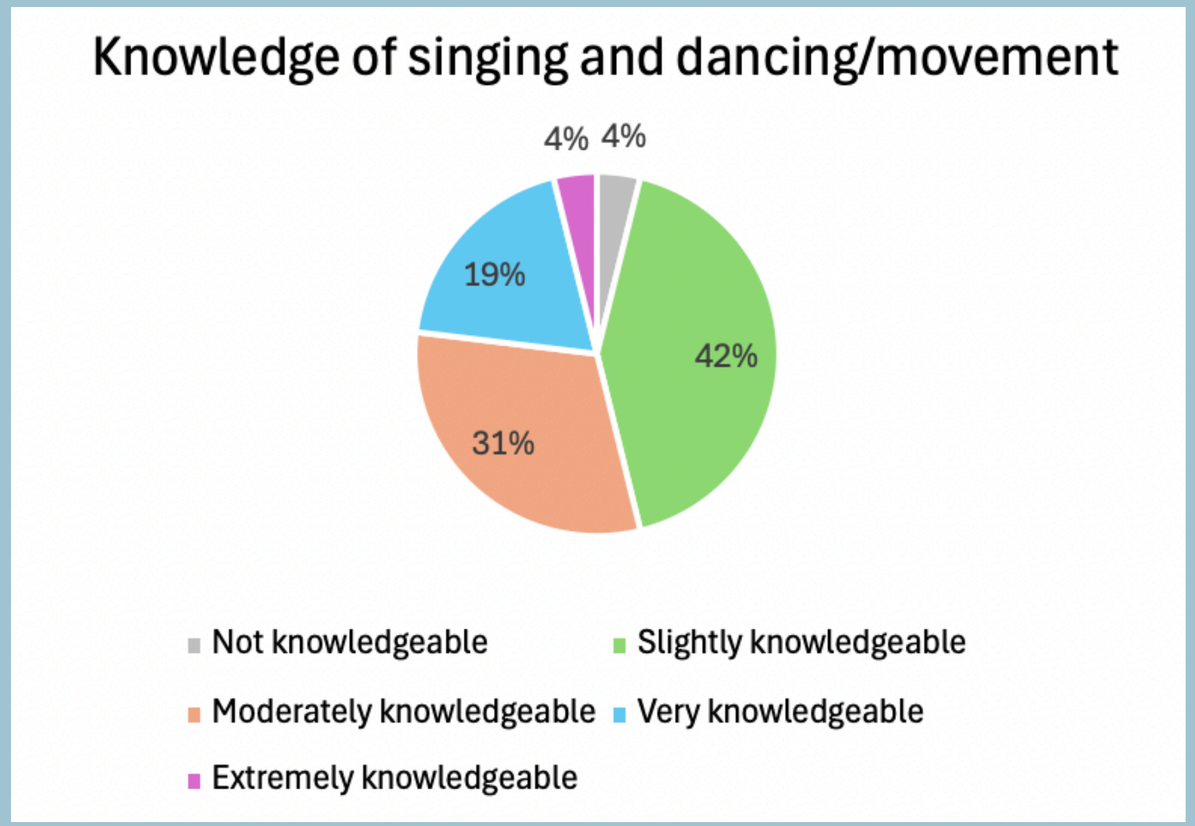
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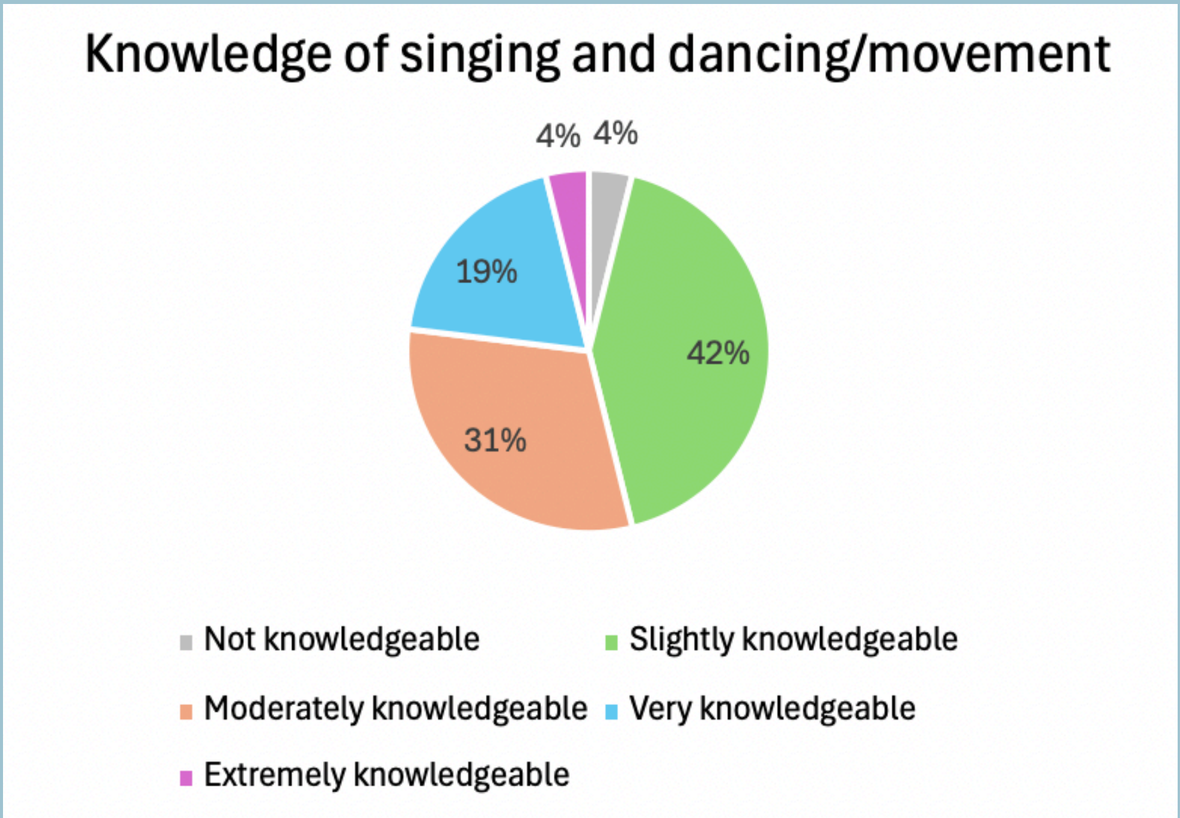
**Somewhat difficult (66%)**

- **"Sometimes the singing isn't my main priority..."**
- **"The body is trying to work in two different ways"**

THEME 2

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- **"Sometimes the singing isn't my main priority..."**
- **"The body is trying to work in two different ways"**

- **Contradicting instructions for breathing and alignment (Morton, 2014; Glasheen, 2017)**
- **Emphasis on "collaborative teaching" (Hagen, Kvammen and Lessey, 2018) to bridge the gap between the two disciplines**



THEME 2 PHYSICAL DEMANDS

Breathe Struggle

Breathing Control Physical

# Breath

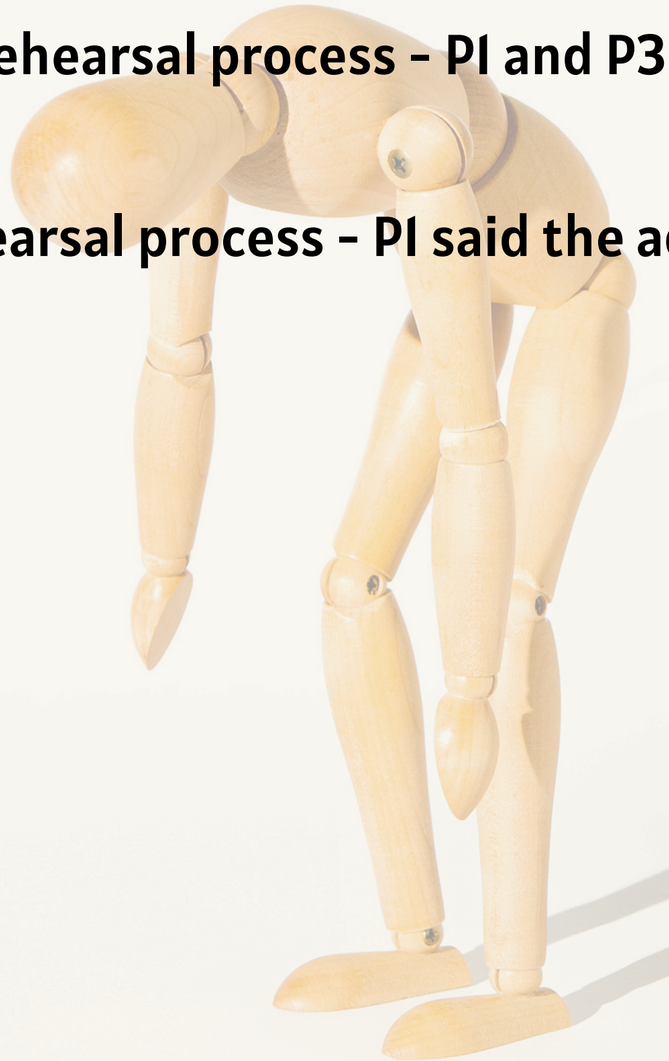
Stamina

Difficult

Word frequency survey Q4: When combining singing with movement/dancing, how difficult is it to maintain your usual vocal sound/quality?

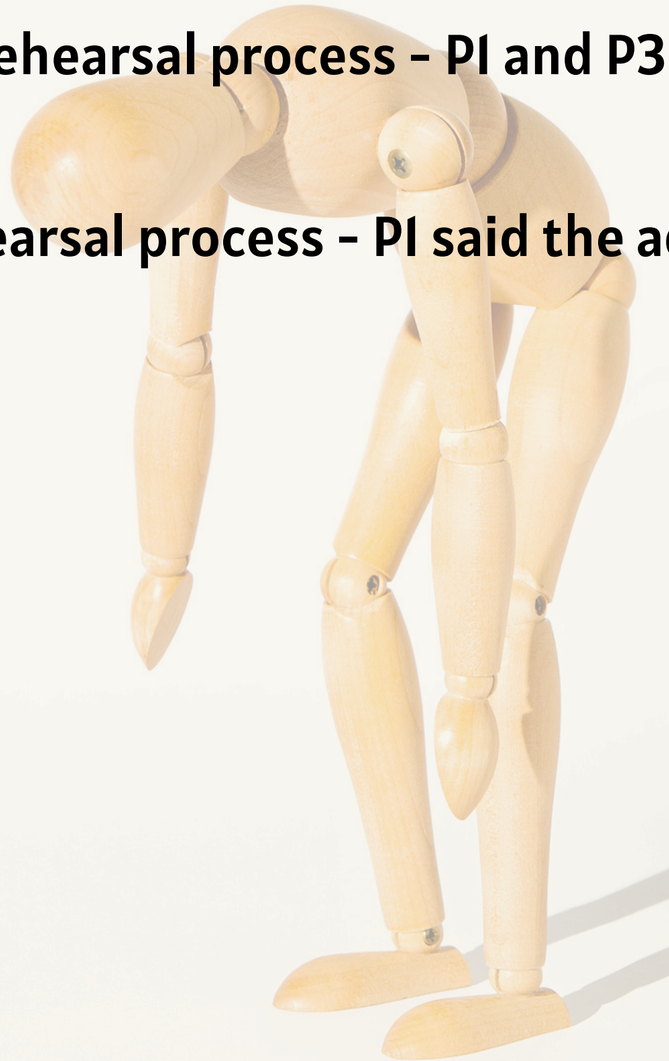
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- Beginning of rehearsal process - PI and P3 - separate practice of each discipline
- Middle of rehearsal process - PI and P3 - Combination of singing with movement and dance
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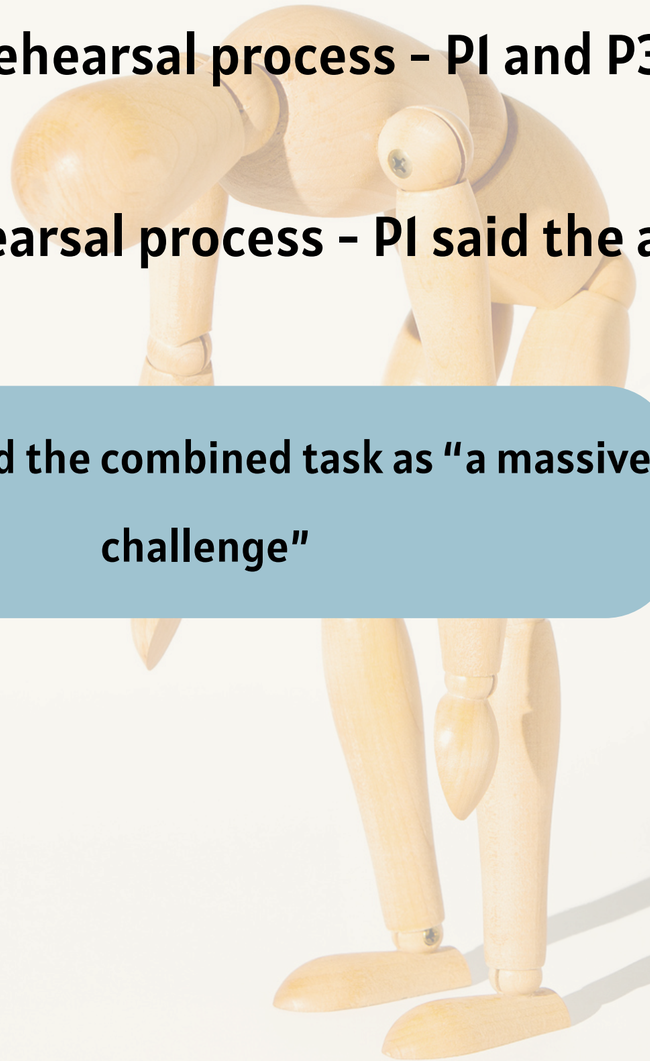


**PI describing her show performance delivery:**

"...more full out...then I was more exhausted, my stamina was tested, which obviously impacted my voice...onstage wearing microphones, all you could hear was this panting"

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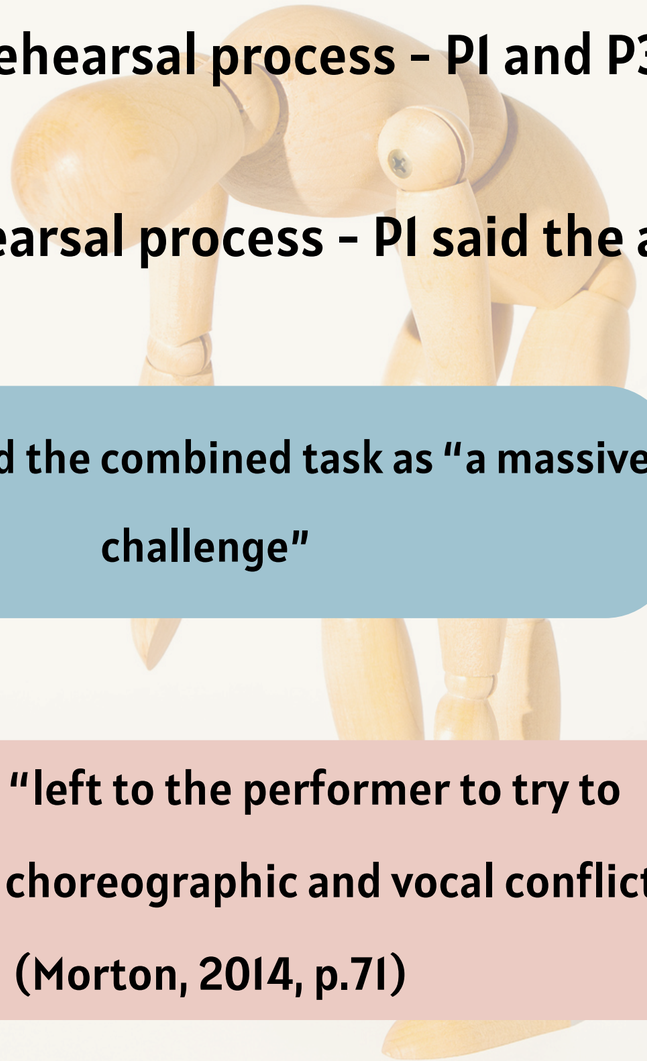
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- Beginning of rehearsal process - P1 and P3 - separate practice of each discipline
- Middle of rehearsal process - P1 and P3 - Combination of singing with movement and dance
- End of rehearsal process - P1 said the adrenaline impacted her show performances



P3 described the combined task as "a massive challenge"

It is often "left to the performer to try to overcome the choreographic and vocal conflicts" (Morton, 2014, p.71)

**P1 describing her show performance delivery:**

"...more full out...then I was more exhausted, my stamina was tested, which obviously impacted my voice...onstage wearing microphones, all you could hear was this panting"

# COSTUMES

**Survey responses to Q.15 - Has the use of costume in dress rehearsal impacted your voice? 23% YES**

- **“Tight clothing has often made breathing feel difficult or has changed the posture I may have once been used to singing the song in”**
- **“I had to wear a plastic bonnet which made it difficult to hear the music and myself”**



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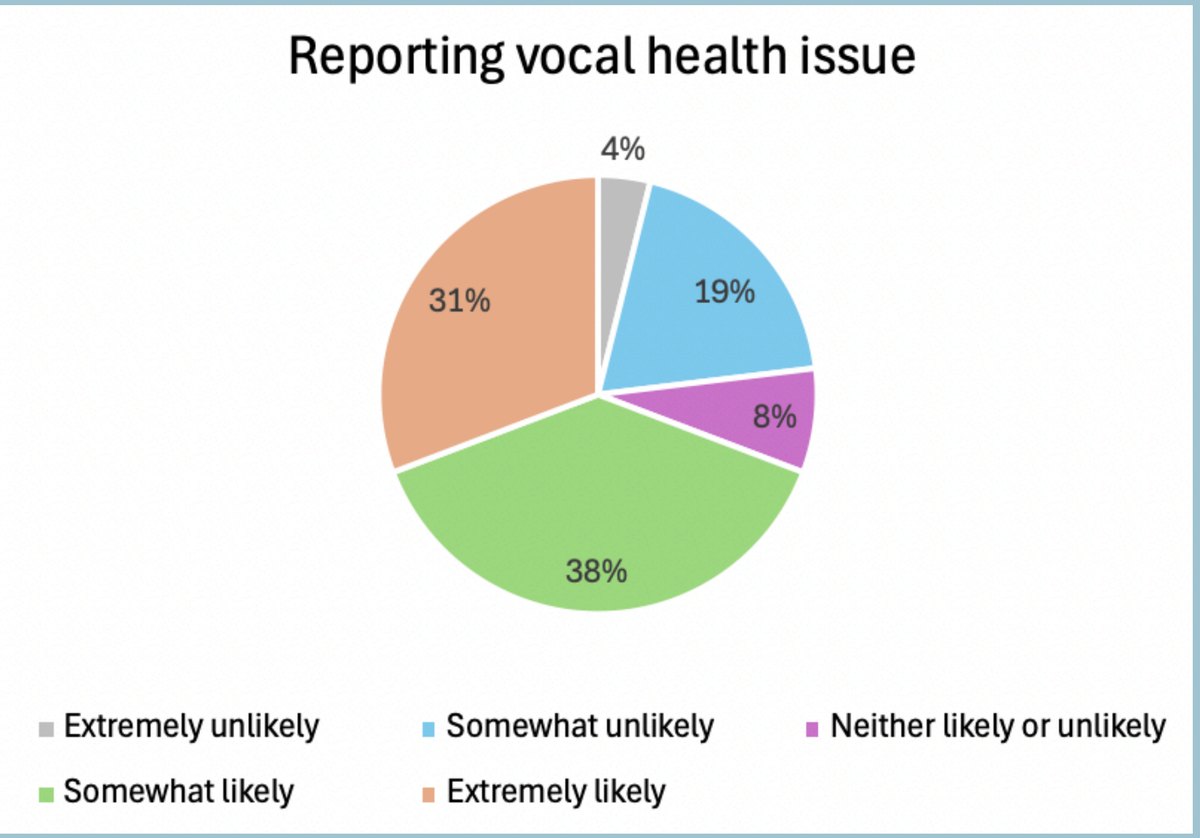
## INTERVIEWS

- **P2's cast given party hats with tight elastic string**
- **P2 and P3 wore heels - they did not believe this would affect their vocals and did not notice any changes in costume rehearsals**



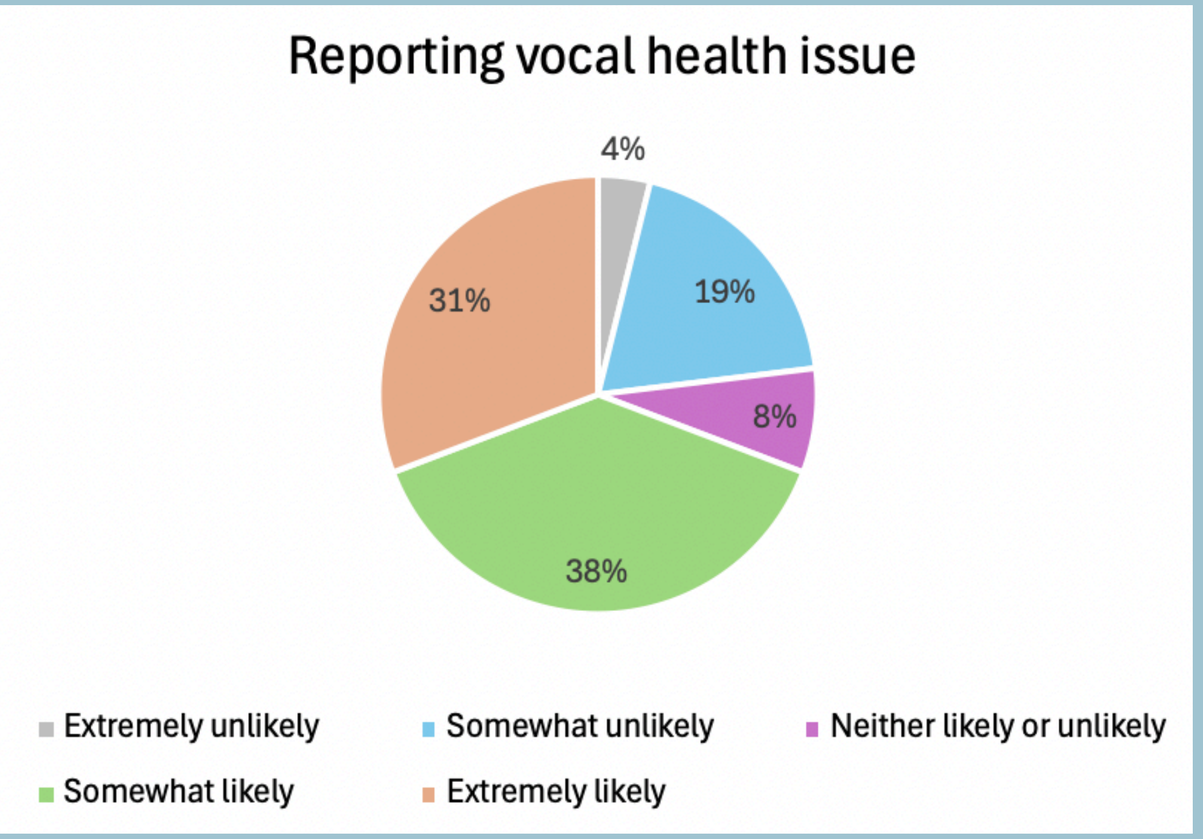
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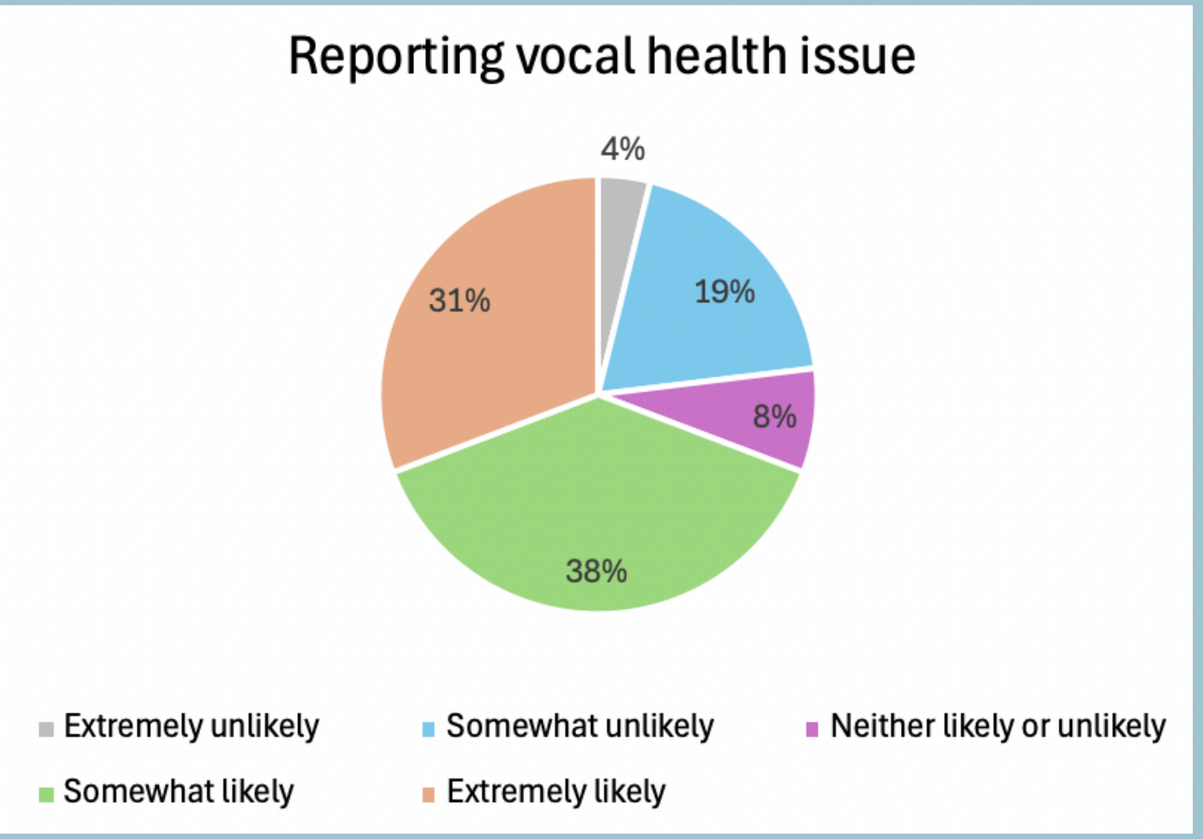



**Somewhat likely:**

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**"MT singers are susceptible to vocal risks that may…contribute to vocal problems that may affect their psychological well-being and professional lives" (Pacheco and Behlau, 2018, p.804 e.17)**




# ABILITY TO COPE

## CODES FROM SURVEY

Struggle
Pressure
Demanding
Understanding
Fatigue
Difficulty
Tired
Push

THEME 3 MENTAL DEMANDS



# PRESSURE – UNDERSTANDING – FATIGUE

**Survey responses to Q.17 – Have you ever continued to sing during rehearsals when you are aware you may have a vocal health issue?**

- **“I don't want to let others down”**
- **“The pressure of being the main role”**
- **“We often don’t get vocal rest and it isn’t taken seriously”**

## THEME 3 MENTAL DEMANDS



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## INTERVIEW

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## THEME 3 MENTAL DEMANDS



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- **P3 Mid-rehearsal process “I'm not just vocally tired but mentally as well”**
- **P2 End of rehearsal process “I could have definitely been more prepared”**
- **P2 hired outside studio paid for by the students**

## THEME 3 MENTAL DEMANDS



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## INTERVIEW

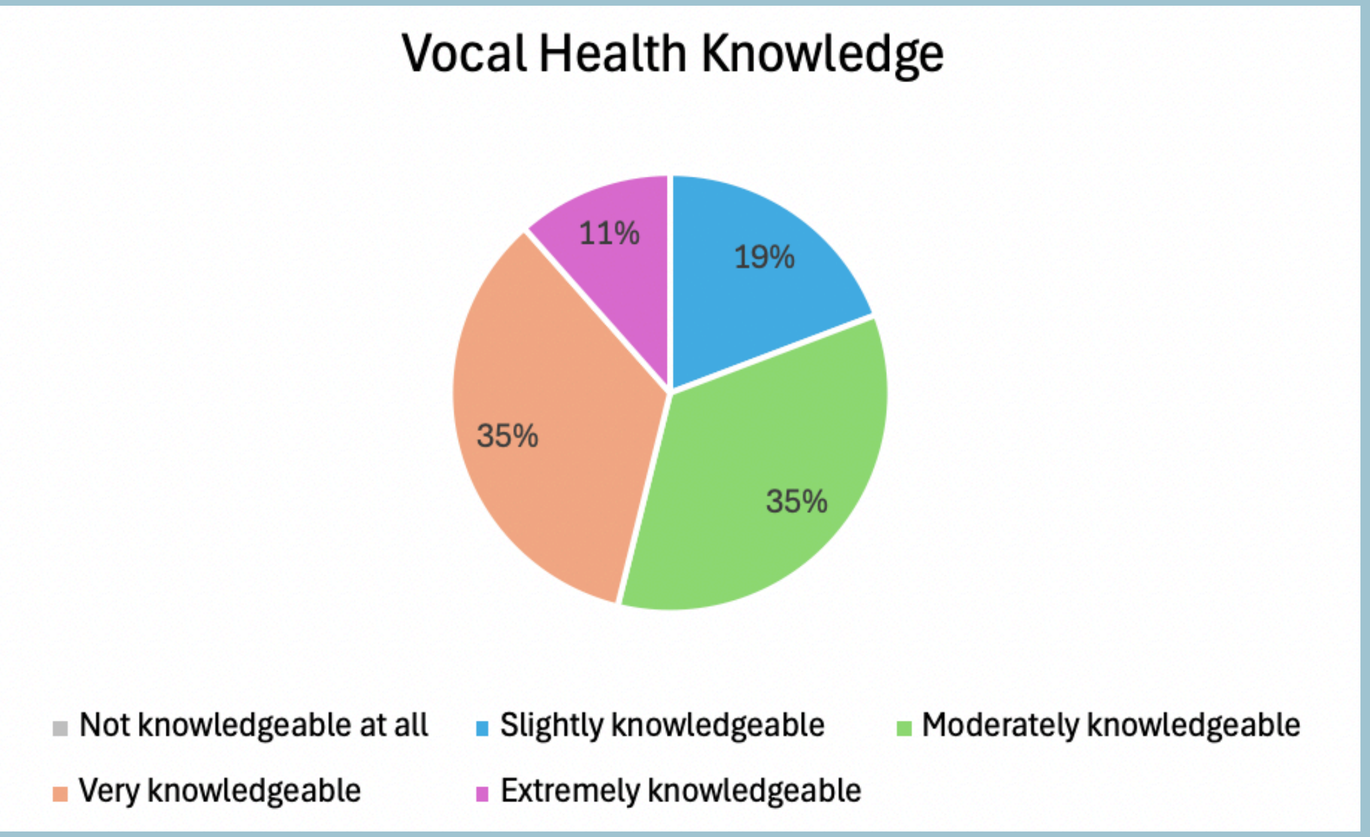
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**MT students have been reported to have a “high prevalence of stress and anxiety” (D’haeseleer et al., 2020, p.292)**

**Additional stress can cause students to be at a higher risk of upper respiratory infections (Cohen, 2005, p.126)**

## THEME 3 MENTAL DEMANDS

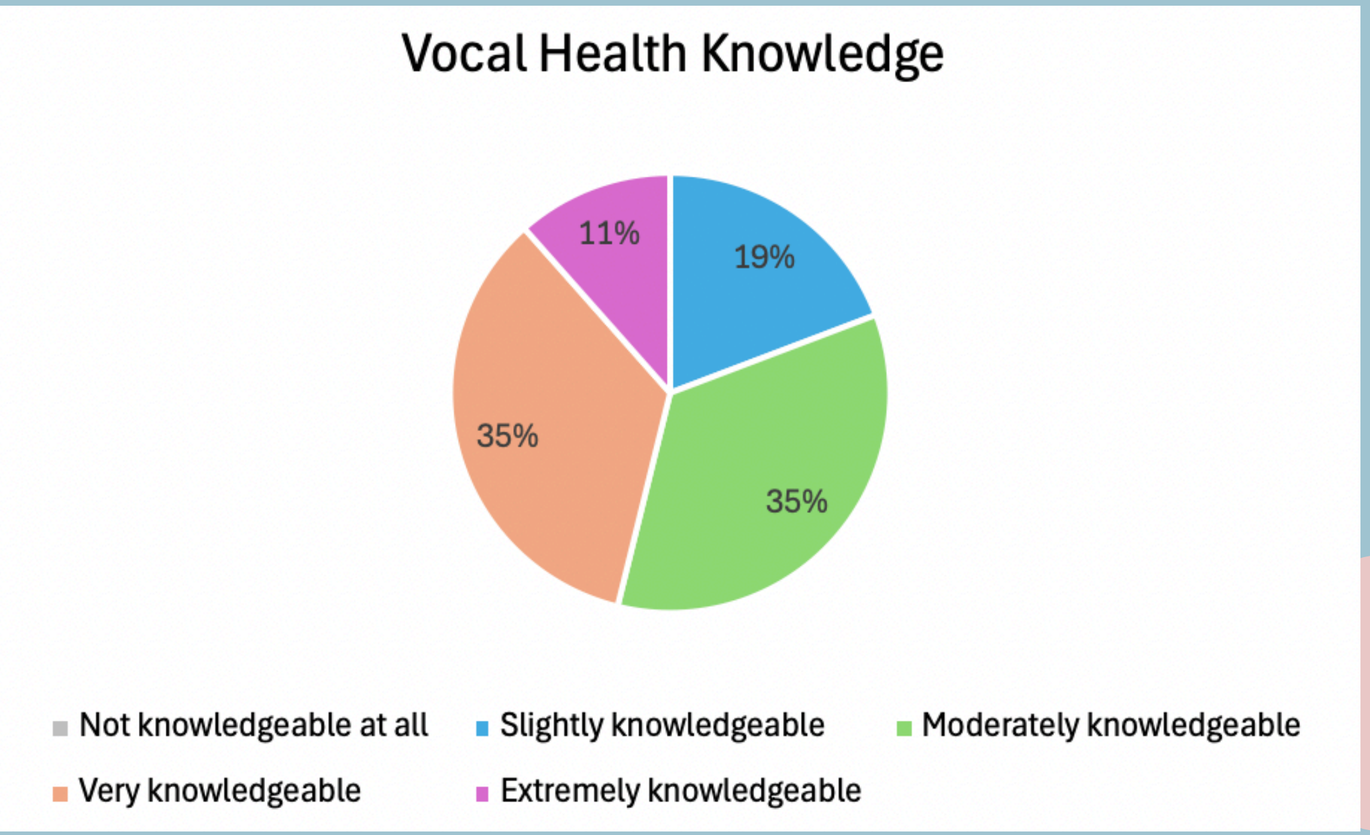
# VOCAL HEALTH




**Survey responses to Q22 - How would you rate your knowledge on vocal health for singers?**



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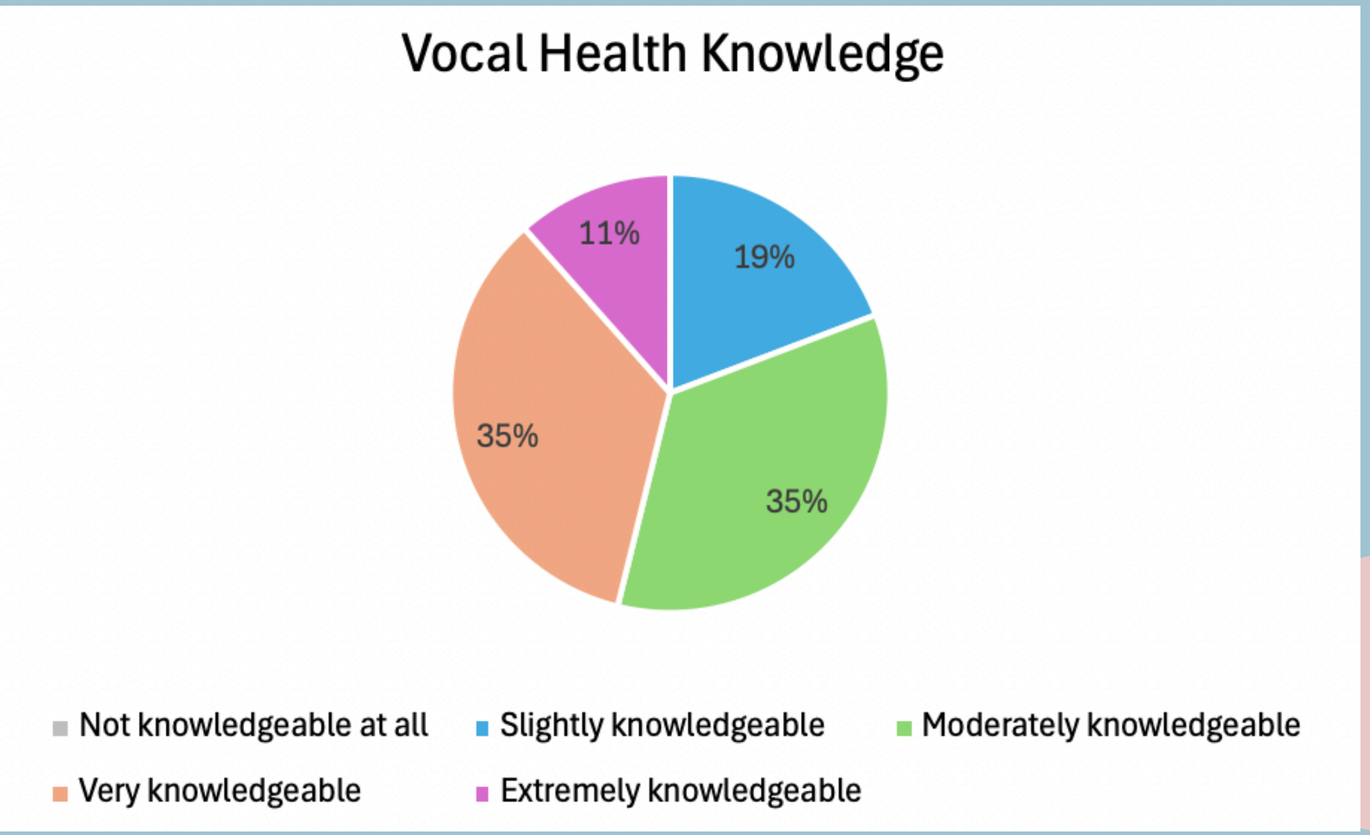


**Interview**

**P1 - “Vocal health is mainly self taught”**

## THEME 4 VOCAL HEALTH

# VOCAL HEALTH




**Survey responses to Q22 - How would you rate your knowledge on vocal health for singers?**



**Interview**

**P1 - “Vocal health is mainly self taught”**

**Researcher thoughts**

**Inaccurate information from unreliable sources**

## THEME 4 VOCAL HEALTH




# HYDRATION

- Survey responses to Q6. How likely are you to stay hydrated during student show rehearsals?

  38% “Somewhat likely”, 38% “Extremely likely”




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THEME 4 VOCAL HEALTH




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Dehydration can cause ““dry” and “sticky” vocal folds” that “do not oscillate as easily as wet and “loose” vocal folds” (Alves, 2017, p.2).



THEME 4 VOCAL HEALTH

## Word frequency for survey Q20 - Thinking about your lifestyle outside of show rehearsals, is there anything that you think may contribute to poor vocal health?




Many activities and habits contribute to poor vocal hygiene (D'haeseleer et al., 2020; Suddeth and Flynn, 2022).

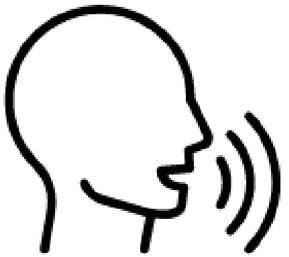


# Conclusion

## VOCAL HEALTH IN THE MUSICAL THEATRE STUDENT REHEARSAL STUDIO



Vocal health education



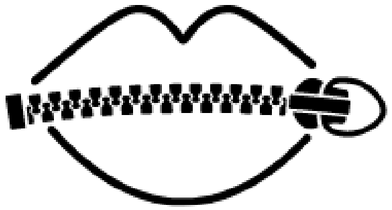
Vocal warm ups & cools down



Singing & dancing considerations



Volume of the music



Vocal rest



Hydration



Student - Director Communication



# Conclusion

## Initial considerations for a working document to work towards best vocal practice in the rehearsal process for musical theatre students in tertiary training

- Vocal health education prior to the start of rehearsals (to include internal and external rehearsal factors)
- Effective warm up and cool down practices led in rehearsals
- Safe levels of amplified music for non-amplified singers at all times
- Instructions to students regarding suitable levels of vocal projection
- Considerations of choreography for the vocal demands
- Training strategies in place to cope with the combination of disciplines outside of rehearsals
- Vocal rest allowance
- A protocol to follow if student's have a voice concern
- Advance preparation for differences to be encountered on show days

# IS THERE A NEED FOR A WORKING DOCUMENT?

## CONCLUSION & NEXT STEPS

Based on this project and literature review – YES

1. Drafted document in progress to be sent to rehearsal leaders
2. Finalised by the input of experts

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## REFLECTION & LIMITATIONS

- Small scale study
- EASE scores not comparable
- Multitude of MT courses delivering training in a distinct manner (Morton, 2014)

# IS THERE A NEED FOR A WORKING DOCUMENT?

## CONCLUSION & NEXT STEPS

Based on this project and literature review – YES

1. Drafted document in progress to be sent to rehearsal leaders
2. Finalised by the input of experts

## REFLECTION & LIMITATIONS

- Small scale study
- EASE scores not comparable
- Multitude of MT courses delivering training in a distinct manner (Morton, 2014)

## FUTURE RECOMMENDATIONS

- Address gaps in the literature
- Larger scale study
- Retrieve data directly from rehearsal leaders
- Use of dosimetry devices in addition to methods used in this study – good tool for singers to "develop greater awareness about their daily vocal load during singing and monitor changes over time" (Zuim, Stewart and Titze, 2021, p.10)

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END OF PRESENTATION


Thank you