

Qualitative Study on Physical Exercise Incorporation in the Voice Studio Work-Based Learning Project

Table of Contents

Proposal.....	p.1
Introduction.....	p.3
Literature Review.....	p.4
Methodology.....	p.8
Findings.....	p.11
Conclusion.....	p.20
Bibliography.....	p.22
Appendix.....	
1) Accepted Ethics Form.....	p.30
2) Self Permission Letter.....	p.47
3) Sample Information and Consent Form.....	p.47
4) Journal Entries.....	p.50
5) Questionnaire Responses.....	p.51
6) Interview Transcripts.....	p.62
7) Coding Key and Visuals.....	p.125

Project Proposal

Vocal performance demands the use of the whole body (Khare-Asher, 2015), however, training has not been widely supplemented with physical exercise (PE) (Lawrence, 2022) due to the different perceptions about bodily ‘tension’ that PE can cause (Doscher, 1993; Lawther, 1977). As a consequence of these unsubstantiated claims (Smeltzer, 2017:2; Zarabi, 2013), this research will focus on the feelings surrounding the incorporation of physical exercise in the voice studio from students’ and teachers’ perspectives to acquire a qualitative scope.

I am a classically trained vocal coach working with a variety of ages, capabilities and genres, while simultaneously undertaking a personal training certification. I aim to meld both training practices by understanding how exercise can benefit the voice and eventually incorporating physical exercise to enhance the performance of vocal athletes (VA). Research will bring awareness of the varying PE used in voice instruction and their impact on the voice. I will utilise current voice students and voice colleagues representing diversity in age, vocal and

physical ability, genre and teaching styles to achieve a multifaceted analysis. This data is intended to impact my understanding of how to best integrate PE to equip VA with movement to positively influence performance.

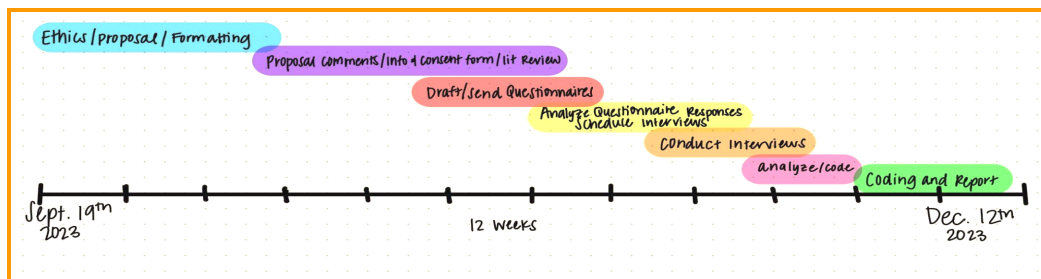
By gaining prior experience and knowledge, I will obtain qualitative, subjective data around PE in the voice studio. I intend to deconstruct tension claims and substantiate that PE in vocal settings can be beneficial. This will curate future quantitative research investigating if and how systematic, vocal focused PE can be employed to enhance performance. With this knowledge and further research, I intend to impact voice instruction to equip VA with knowledge of how to best train their bodies to maintain physical well being, vocal longevity and marketability (Chandler, 2022).

My constructivist paradigm, balance focused axiology, relativist ontology, and subjective epistemology focus will formulate my qualitative, action research (AR). Methods of literature review, questionnaires, semi-structured one-on-one interviews and a research journal will provide a practical and ethical framework for my research and data collection (Harris & Brown, 2010). Following data generation I will use In Vivo, Concept and Holistic coding in order to create data themes to analyse and organise my data (Saldaña, 2016).

Once research procedures are relayed and consent is received, the distinct sample questionnaires will be administered. Questionnaires will be virtual using SurveyMonkey and questions will pertain to exercise and vocal backgrounds, genres taught, teaching styles, and awareness of bias and research.

When questionnaires are completed, participant interviews will be scheduled. I will evaluate the individual's questionnaire responses to curate customised interview questions to steer my investigation and mitigate potential risk (Dearnley, 2005). Discussion within the interviews will include describing or contriving physically demanding performance scenarios and if and how they have utilised exercise to amplify performance.

To augment my research, I will perform a literature review and maintain a research journal to ground my thoughts, propel theories, reflect and preserve ethical protocols.



Ethics

Ethical implications of qualitative research revolve around the integrity of the researcher rather than participant wellbeing (Merriam & Tisdell, 2016). However, speaking on health related subjects may provoke uncomfortable thoughts about one's body image or overall health. To mitigate these ethical risks (Creswell, 2014), I will reiterate that participation is voluntary, refrain from questions pertaining to weight, body image, health statistics or related health triggers, and provide contact information for professional support. There is no physical risk to the participants since no physical exercises will be involved.

Insider research (IR), as described by Winter (2020), is a fine line the active researcher must balance to ensure ethical validity. She suggests diminishing bias by using reflexivity and reflection to deconstruct the practitioner's role within the research. I have already incorporated Schön's (1983) reflection -in and -on method and Ghaye's (2011) strength-based reflective framework to plan and theorise data. I will actuate my research with these reflective foundations within my research journal while mitigating IR and participant risk to achieve research integrity, ethical data and purposeful outcomes.

Outcomes

I aim to achieve a better understanding of the origins of the experienced bias surrounding PE and voice training. I am eager to discern discrepancies and I believe the samples' diversity will provide several views for a multi-dimensional analysis. This will substantiate my research to ultimately proliferate understanding on the benefits exercise and voice integration offers to VA among field professionals. I hope to ameliorate my teaching to better equip my VA with tools to help them succeed in the dynamic voice industry (Chandler, 2022). Overall, I anticipate this data to be a qualitative foundation to further quantitatively research the effects of balanced PE and voice training.

Report

Preconceptions and Opinions of Exercise Inclusion in Voice Settings: Do Stances of Students Differ from Those of Teachers?

Introduction:

Exercise, from its principles to its practice, is a debated and relatively new focus in voice instruction (LeBorgne & Rosenberg, 2018; 2019; Schneider, Dennehy & Saxon, 1997). Despite voice therapy using exercise science principles (ESP) for decades (LeBorgne & Rosenberg, 2018; Naito & Niimi, 2000; Yamaguchi et al, 1993; Orlikoff, 2008; Stathopoulos & Dunchan,

2006), vocal pedagogues' and teachers' opinions remain split as to what ESP and physical exercise (PE) practices should be incorporated (LeBorgne & Rosenberg, 2019) and very few opinions "are supported by evidence-based medicine or cite any...sources" (Smeltzer, 2017, p. 2; Zarabi, 2013). Singing and performing are physical acts that require the understanding of the full body instrument (Ohrenstein, 2000; 2003; Lawrence, 2022; Novak, 2015; Willis, 2015; Friedlander, 2018; Adrian & Clarke, 2008; Ragan, 2020; Malde, Allen & Zeller, 2020), however it is not universally accepted due to the 'tension' exercise can cause the body and instrument (Doscher, 1993; Lawther, 1977). It is apparent that within the traditional and generational teaching of the classical genre (Ohrenstein, 2000; Sandgren, 2005; Willis, 2015; LeBorgne & Rosenberg, 2019; Ragan, 2020), opinions of exercise incorporation are not scientifically based (Smeltzer, 2017; Zarabi, 2013) and must be examined to understand and foster the connection between the voice and the body within the studio (Lawrence, 2022; Novak, 2015; Ohrenstein, 2000).

This research aims to explore the thoughts and experiences surrounding exercise and the voice from both voice students and teachers to gain understanding of the multiple opinions pertaining to PE within the voice field. With this qualitative knowledge and future quantitative projects, I hope to find if and how individualised, regimented PE can enhance performance and lifestyles of VA. I strive to scientifically inform and reinforce my teaching methods, rather than cyclically repeating the teaching patterns I experienced. I expect this outcome to be most apparent in the knowledge influx through literature review and my reflection based research journal.

Literature Review:

Exercise and its levels of use, from ESP to PE, are debated in the vocal field (LeBorgne & Rosenberg, 2018; 2019; Schneider, Dennehy & Saxon, 1997). ESP and motor learning principles (MLP) have been a tool for speech-language pathologists (SLP) and voice therapists (VT) in rehabilitation scenarios since the 1800s (Stathopoulos & Dunchan, 2006), yet voice coaches only began using exercise science and physiology principles over the past thirty years to enhance vocal learning (Lawrence, 2022; Nix & Holding 2017; Ohrenstein, 2000; 2003; Johnson & Sandage, 2021; Sandage & Pascoe, 2010). Incorporating PE to enhance performance has been noted due to the arduous nature of performance and the importance of performers' physical and vocal longevity (Chandler, 2022). Fundamentally, singing "requires a combination of muscular strength and coordination of multiple body systems" (LeBorgne & Rosenberg, 2018:89) and can be classified as a physical activity. However, research

surrounding the impact of PE on the larynx is limited due to the intrinsic location and small size of the musculature (LeBorgne & Rosenberg, 2019). This review will examine the varying extents of ESP and PE used in voice instruction and will discuss key studies to investigate how PE affects the voice.

The major connection between ESP and the voice is motor learning via skill acquisition (SA) and has been widely accepted for the past 30 years (Ragan, 2020; Lawrence, 2022; Schneider, Dennehy & Saxon, 1997; Ohrenstein, 2000; 2003). Chandler notes that athletics and singing use the same MLP to “coordinate, strengthen and build stamina and longevity” (2022:337) of performers. However, “there is still a lack of evidence for applying [MLP] to training programs for [healthy] singers” (Sandage & Pascoe, 2010:84) The pedagogues utilising ESP “applied to vocal athletes [notice ESP] optimise a strong, stable vocal mechanism that is balanced and efficient” (LeBorgne & Rosenberg, 2018:88). ESP of overload, specific adaptations to imposed demand (SAID), and reversibility are used in exercise and voice instruction to upregulate musculature.

Overload is defined by the frequency, intensity and time necessary to adapt muscular tissues (Schneider, Dennehy, & Saxon, 1996; Sataloff, Petterson & Westgaard, 2004; Sandage & Pascoe, 2010; Saxon & Berry, 2009; Stathopoulos & Dunchan, 2006; Nix & Holding, 2017; LeBorgne & Rosenberg, 2018; 2019; Sandage & Hoch, 2018; Lawrence, 2022). “Translation of strength and endurance into the voice involves the overload principle” (LeBorgne & Rosenberg, 2019:497) but, unfortunately, unlike limb muscles, overload intensity is not understood or quantified in terms of vocal load (stress) and demand (capacity) (Johnson & Sandage, 2021). Sataloff, Sandage & Hoch (2018) note that vocal demand is contingent on the intensity and duration of energy expenditure.

SAID refers to the action necessary to achieve a certain outcome in relation to the demand (LeBorgne & Rosenberg, 2018; 2019; Stemple, 2005; Sandage & Pascoe, 2010; Sataloff, Sandage & Hoch, 2018; Johnson & Sandage, 2021). Similar to overload, SAID is difficult to incorporate in vocal settings because the muscles of the voice mechanism are hard to isolate (Johnson & Sandage, 2021). Teaching and learning vocal technique has been related to MLP and SA due to the muscular nature of singing (Nix & Holding, 2017; LeBorgne & Rosenberg, 2018; 2019; Chandler, 2022; Lawrence, 2022; Peterson & Westgaard, 2004; Johnson & Sandage, 2021). SA, through vocal warm-ups and cool-downs, is the most accepted MLP that voice professionals have adapted from ESP (Sataloff, Sandage & Hoch, 2018; McHenry & Evans, 2015; Cunningham & Gravy, 2017; Ragan, 2020). Sataloff, Sandage & Hoch

(2018) note that SA via warm-up is not a recent development in the voice field, but the categorization within ESP and muscle training allows intel on how best to train stamina and longevity to avoid injury.

Inversely, reversibility reveals that a certain level of intensity and frequency must be maintained to prevent detraining of the upregulated muscles (Pettersen & Westgaard, 2004; Johnson & Sandage, 2021; LeBorgne & Rosenberg, 2018; 2019; Nix & Holding, 2017). The common phrase “use it or lose it” (Lawrence, 2022) portrays how skills and muscle regulation, vocally and muscularly, can be lost quickly if not used and how the process of re-upregulating muscles is a lengthy process (Sataloff, Sandage, & Hoch, 2018; Sandage & Pascoe, 2010).

Recently pedagogues have been incorporating physical warm-up into voice instruction in order to increase blood flow, coordinate the body, prevent injury and promote recovery (Sataloff, Sandage & Hoch, 2018). Since the laryngeal musculature has similarities to the musculoskeletal structure (Sandage & Pascoe, 2010), most assume that the effects of physical warm-ups on the larynx are congruent, without scientific evidence (Sataloff, Sandage & Hoch, 2018). The differences between muscle fibre composition are starting to be explored to provide insight on how ESP and PE can be safely and sustainably integrated into voice instruction (Sataloff, Sandage & Hoch, 2018; Johnson & Sandage, 2021; Sandage & Pascoe, 2010; LeBorgne & Rosenberg, 2018; 2019; Lawrence, 2022; Hoh, 2005; Stathopoulos & Dunchan, 2006; Tellis, Rosen, Thekdi & Sciote, 2004). McHenry & Evans (2015) study on the impact of aerobic warm-up and cool-down exercises on the voice to avoid injury and benefit voice production. They concluded that PE did not have any negative effects on the voice and it allowed performers to keep up with the demands of the industry, maintain physical fitness, and improve stamina.

“Looking back in [classical music] history, it will show that changes and development have taken place, although some values...have prevailed...it is evident that muscle and artistic values have largely sustained over time” (Sandgren, 2005:10-12). Ohrenstein (2000) mentions that tension comes about due to the generational teaching practices and aspects of classical singing. The idea that “muscular tension...[is] not appropriate for either singing or speaking” (Doscher, 1993:1) is now challenged by Innovative voice professionals have the opinion that PE integration enhances both performance and the wellbeing of the singers (LeBorgne & Rosenberg, 2019; Friedlander, 2018; Malde, Allen & Zeller, 2020; Lawrence, 2022; Chandler, 2022; Pettersen & Westgaard, 2004; McHenry & Evans, 2015; Rohrer, 2018; Sandgren, 2005; Ohrenstein, 2000; Willis, 2015; Ragan, 2020). Since most voice teachers come from classical

training (Willis, 2015; Ohrenstein, 2000), the traditional opinions are still prevalent. It is vital for teachers to experience other teaching genres and styles in order to inform their practice and allow for an influx of new pedagogical tools for field advancement and performance enhancement (Ragan, 2020; Ohrenstein, 2000).

Recently, voice professionals have been contemplating 'tension' (LeBorgne & Rosenberg, 2019; Malde, Allen & Zeller 2020). Tension is "a physiological state of muscle fibres, which can vary in the degree to which they are contracted and tight or longer and relaxed" (Shewell, 2009:13), which is integral to skeletomuscular structure. LeBorgne and Rosenberg note that "the integrity of a structure stems from the network of interwoven tensile forces (the skeletomuscular framework) and is directly impacted by the balance of the tensional forces imposed upon it (movement)" (2019:29). Without tension, humans would be a blob without structure or movement capabilities. This idea of tensegrity, the tension and integrity of a structure (LeBorgne & Rosenberg, 2019; Malde, Allen & Zeller, 2020), shows an equilibrium of tension and balance that is essential in voice training. Although this is a "challenging...[and] dynamic...endeavour" (LeBorgne & Rosenberg, 2019:29) it allows the singer to harness their full body as their instrument. If the body and voice are not balanced with tensegrity, the sound and body will become rigid, which is counterproductive to expressive performance (Adrian & Clarke, 2008). Vocal techniques of kinesthetic awareness, body mapping, coordination and Alexander Technique are based on these balanced tensegrity (Malde, Allen & Zeller 2020).

It is commonly perceived that bodily tension can lock up the voice (Chandler, 2022), but a major factor to consider is what relieves tension. Many pedagogues now believe that movement is the biggest antidote to muscle tension (Ohrenstein, 2000, Sataloff, 2006; LeBorgne & Rosenberg, 2019; Malde, Allen & Zeller, 2020; Friedlander, 2020; Chandler, 2022) rather than being a cause (Dauscher, 1993; Lawther, 1977). Roher (2018) and Sataloff (2006) notice that poor physical fitness and core strength can lead to muscular tension, and can increase injury potential and limit vocal abilities. This shows that focusing on PE and movement can enhance the voice, reduce injury and release tension. Examples range from Alexander technique where exercises highlight the awareness of bodily tension in hopes of balancing postural alignment (LeBorgne & Rosenberg, 2019; Benninger, Murray & Johns, 2016). Yoga has been studied and the breathing, alignment and coordination involved has been shown to reduce both anxiety and tension (Jahn, 2013; Su et. al, 2010; Riordan, 2021) and Mayo Clinic (2014) proved how core stability focused PE reduced tension (Brandfonbrener, 2000; Ohlendorf et. al, 2017). Lawrence notes that performance can...be restricted from "lack of mobility, misalignment,

weakness, and tension” (2022:44). Overall, Benninger, Murray & Johns (2016) reiterates that the physical wellness of a performer directly impacts the balance of tension within the body (Roher, 2018), therefore, it should be recommended to use PE to enhance the voice and its instrumental, symbiotic relationship to the body. This reciprocity is vital to understanding how to sustainably and ethically incorporate PE into voice instruction. My AR will scratch the surface on how to best foster said relationship in future research to clarify the effects PE has on vocal structures.

Methodology:

A researchers' chosen methodological approaches are directly correlated to their axiology, ontology, and epistemology (Gray, 2004) thus affecting research processes and data. Axiologically, research foundations and methodologies must be framed around the researcher's values, while considering ethical restraints (Killam, 2013). Personally, I advocate for balance and openness within my studio through holistic teaching methods. I believe this balance and open communication will positively mould my research since I already connect with my participants on a personal, subjective level. Balance is a driving force in this research to understand how to integrate exercise and the voice and aid in navigating the fine lines of insider research to derive ethical data. Ontologically, I align with relativistic ideals that multiple realities and constructs exist (Killam, 2013; Crossan, 2003) within the vocal and exercise fields. I infer that through this research and literature review, I will gain a better understanding of how these varying realities shape the way voice pedagogues and teachers approach exercise in voice scenarios.

A constructive paradigm celebrates the subjective and individual aspects of my voice practice and I believe it will pair well with my research endeavours. If ethically implemented, constructive research paradigms capture genuine qualitative data on the art of singing (Winter, 2020). My context as a practitioner will allow me to readily interpret, analyse and synthesise the qualitative data from my questionnaires and interviews with a lens of experience, thus adding to the validity of my results (Roll, 2015).

My axiological, ontological and paradigm viewpoints shape my epistemological stance (Killam, 2013), which directly affects how I, the researcher, connect with and acquire knowledge (Steup & Neta, 2020). Since I already have a professional relationship with all of my participants, being an epistemologically objective researcher is not possible. I must use subjective, interactional methods in order to gain the qualitative data (Guba & Lincoln, 2005; Merthens, 2010; Killam, 2013). This will allow for authentic communication about the

participants' experience with performance and exercise to yield functional data. Overall my balance driven axiology, relativistic ontology and subjective epistemology link well with qualitative research, which is why I have chosen to look at individuals' experiences, including my own, to build theories through inductive reasoning (Merriam & Tisdell, 2015).

Qualitative research is categorised by lengthy and unclear research foundation processes, so it is advised that the researcher spend quality time designing the project to maintain reliability and meet ethical standards (Bell & Waters, 2018). Action research (AR) will allow me to research real world scenarios and allow for dynamic understanding of the thoughts and feelings surrounding the voice and exercise (Costley, Elliott & Gibbs, 2012; Descombe, 2003; Bell & Waters, 2018). This will refine my teaching as I aim to uncover if and how PE inclusion can be an enhancement method for vocal performance. I will use observation and reflection to structure my research while actively participating and engaging with my sample participants for data collection. I believe that AR will allow me to personally and professionally grow, refine my teaching and positively use my insider knowledge to propel findings (Descombe, 2003).

Seven students from my voice studio and four teachers from my network of colleagues will constitute the research samples. Both samples will be consenting individuals varied in age, voice experience, exercise experience, and genres sung and taught, as I aim for a variegated analysis. This research was reviewed by the Voice Study Centre and the University of Wales Trinity St. David to ensure all risk and ethical considerations were contemplated and mitigated.

Since the origination of this research is personally motivated and being conducted by an insider practitioner, a research reflective journal will be necessary to maintain ethical standards and validity (Winters, 2020). Using Schön's reflection -in and reflection -on principles (1983) I will organise my research plan, thoughts and theories. Through prior experience, I have noticed my personal reflection can be negatively focused rather than constructive. I will use Ghaye and Ghaye et. al's (2008, 2011) strength-based reflective strategy framework in order to focus my journal reflections in a more positive light in hopes of propelling my research (Winter, 2020).

In AR, literature review is a significant force to formulate and structure research around a specific question before data collection (Bennett, 2004). Seen above are various delineations of ESP and PE used in multiple voice professions and their accompanying research, benefits and, or stigmas. Gaining this knowledge will allow me to understand the multiple realities surrounding ESP and PE in vocal fields to strategically compose ethical questionnaire prompts.

Data collection from samples will begin with questionnaires unique to each. Questions in each survey will address various voice and exercise aspects. Vocally, questions pertaining to genres sung and taught, performance experience and teaching styles. Questions of exercise involvement and if they have noticed a positive or negative impact on their instrument and performance. Following these, questions melding vocal and exercise will gauge the participants idea of and experience with physically demanding performances, inquire if they use physical activity in their teaching and learning and obtain the participants connotative definition of the term “vocal athlete,” most popularly coined by LeBorgne and Rosenberg (2018; 2019). Questionnaire responses also give the opportunity to mould interview questions to gain more insight (Dearnley, 2005).

Semi-structured one-on-one interviews will take place with each participant following questionnaire responses. Interview questions will be tailored to the individual and will be rendered from the questionnaire responses and the semi-structured characteristic will allow me to keep the conversation flowing via personalised questions and mitigate participant risk concerns (Dearnley, 2005). I expect that information provided in AR based interviews will propel research with new theories and literature to discover.

I anticipate qualitative In Vivo, analytical and holistic coding methods will be used. Initially, using the language of participants' responses, I will discern patterns and similarities. This coding procedure is action oriented (Saldaña, 2016) noticing cause and effect. From there, imposed meaning and value will be derived from the similarities and differences between participants and samples using a combination of analytical and holistic coding methods. This will allow the findings and research outcomes to be focused and succinct while still obtaining full scope investigation (Saldaña, 2016). These coding methods align with AR and my holistic axiology, relativist ontology, and subjective epistemology, which will allow for a multi-dimensional and ethical analysis.

Niche research within one's field is a complex privilege (Bonner & Tollhurst, 2002). The ethical validity of qualitative research is largely concerned with the integrity of the practitioner (Merriam & Tisdell, 2016). Berg (2001) and Babbie (1983) note that all researchers believe themselves to be ethical and an insider researcher must be aware of this to mitigate bias. Insider research is a practitioner who is actively engrossed by the process (Winter, 2020). Not only is this research personally motivated, but I am the practitioner who also has a professional relationship with all participants involved, which leads to ethical concerns including anonymity and being a partial during AR. This may cause participants to placate responses depending on

what I might want to hear, thus creating biased data (Mercer, 2007). I will alleviate this by using students' responses to the questionnaire when creating interview prompts.

Before data collection begins, an information and consent form will be given to each prospective participant. In order to maintain ethical standards, I will be forthright about participant risks and research procedures. The form will introduce the study's purpose, procedures, duration, and risk mitigations. Importantly, this document will note voluntary participation with accessible termination and include a final section for participants to sign or withdraw consent. Finally, I will provide information for support pathways for the participants to contact if unwanted emotions arise from the research procedures (Creswell, 2014).

Risks to the participant are serious concerns while taking on qualitative research and must be mitigated through research planning and practitioner reflection (Winter, 2020). Throughout my study there are no physical risks to the participants since there will not be any exercises or movement being used. However, speaking about exercise may bring up uncomfortable thoughts and feelings about one's body, body image or health and speaking about previous experiences with vocal performance may bring up similar thoughts and feelings. In hopes of mitigating these emotional risks, I will use specific information the participants give in the questionnaires to frame the subjective and personalised interview questions (Dearnley, 2005). The fact that their participation is completely voluntary and they can terminate participation at any time without consequences will be discussed throughout research procedures to maintain transparency and consent throughout. Throughout research, I will use a "process of 'reflexivity'...[to] deconstruct [my] position within the research (Winter, 2020) in order to control bias and influence. I believe my prior research of Schön (1983) and Ghaye (2011) will equip me to anticipate and mitigate ethical matters pertaining to insider research. In closing, adhering to and reflecting on these inside researcher protocols and risk mitigations will allow for useful and valid data to be derived.

Findings:

As proved in the questionnaire (SQ2, TQ2), all subjects had varying vocal and teaching experience both in genre and quantity of performance. Also, although varying in intensity and length, each subject noted prior exercise experience (SQ3-4, TQ3-4). This data allows for a multi-dimensional qualitative breadth that was then coded.

To begin data analysis, coding processes of In Vivo and a combination of Analytical and Holistic coding methods were used to discover relevant language, notice similarities and differences, and indicate substance of all data collected. The In Vivo coding was conducted

individually within each research method, whereas I found the analytical and holistic coding of data as a whole to be most beneficial. Three main themes appeared throughout the coding processes: experienced bias of physical fitness and the voice, the need for physical fitness, and the lack of understanding of how to incorporate physical fitness. All of these themes prove that more research is necessary and there is a niche need for vocal preventative, or support systems similar to athletics, to reinforce the longevity, wellbeing and performance of the bodily instrument.

1) Experienced Bias:

A driving force that motivated this research was the bias around PE causing bodily and vocal tension that I confronted throughout my classical instruction as noted in my journal entry.

Entry: I fear that the tension stereotypes that I experienced (and what motivated this project) will not be noticed/expressed by participants. How will this effect outcomes of my Research?	
Schön (1983) Reflection - In/-on method	Gayle (2011) Strength based reflection (+)
- On: 'tension' claims mostly in literature. Review rather than participant experience. - In: During a TP interview today a participant finally spoke on classical rigidity/tension/aversion to exercise. Validating.	- Identify/clarify: fear of being only one to experience this or that tension is meaningless. - Affirming/understanding: My research is ethical and valid even if it only helps me/my practice. - Execute/integrate: Reframe questions (possibly) for clarity. Refocus expectations, this is your 1st research project.

My intention was to explore if students and teachers have experienced similar stigmas, myths or biases around the subject in order to begin to understand the basis of the claims and prove if and how PE can be beneficial for VA. From the questionnaire, a majority of participants did not know or were unsure about any stigmas, myths, or bias around voice and PE (SQ5, TQ8). 14.3% of SP answered yes, 57% indicated no, and 28.6% responded maybe, where 25% of TPs disclosed yes and 75% reported no. I was shocked by these results, because after reflecting on my prior experience, bias around physical exercise was rampant in my classical instruction. In the following question on the TP questionnaire, 50% of teachers divulged having experienced some sort of bias (TPQ9) relating to dance training and the abdominal muscles (TP3) and various opinions surrounding body position and movement of choral singers (TP4). I believe that there might have been a miscommunication on TQ8 to lead to this incongruent data.

Interestingly, during TP1's interview they recalled their transition from musical theatre and dance training to more classical styles as being difficult to relearn abdominal breathing

patterns and posture. The discussion of this throughout the interview made TP1 notice they had unknowingly experienced stigma around physical exercise and the voice, which cleared up the misinformation from TQ8. TP1 was surprised at how much more whole body movement was needed for classical singing, and expounded on the rib and back expansion for bouncy and freedom of the sound as well as the connection to the lower body to ground the sound.

Throughout SP2's interview, they mentioned that athletics and physically demanding voice performance are comparable "fitness wise." Regrettably, that idea is not scientifically understood and accepted at this time.

A major stereotype that SP1 and SP7 noticed was how non-singers, or novice singers, do not understand or realise how physical the acts of singing and performing are SP1. Within TP3's interview they discussed how the classical genre traditionally showcases static performers, however, that does not translate well to the necessary body engagement. To meet demands of style, performance and industry requirements, it is vital for a performer to have a deep understanding of the symbiotic relationship between the voice and body instrument. This understanding is hindered by bias and lack of support. Unfortunately, unlike athletes, there are not many professions in order to foster this relationship for vocalists to enhance performance and longevity.

2) Need for PE:

In accordance with a majority of the literature review above, all participants described singing and performing as a physical endeavour that uses the entire body (SP3). All SP and TP were able to recall physically demanding performance experiences, and further, all participants were able to notice how fitness positively impacts their voice and performance. TP3 goes on to say that vocally, singing from your whole body is safer, rather than just singing from the vocal mechanism or larynx. This is because the body is ready to take on work and can efficiently perform (TP2).

Participants described that having an understanding of the physical instrument and PE allowed for better coordination (SP3, TP2), simpler (SP7) and healthier vocalisation (SP4), and increased stamina (TP1, TP3), which leads to less vocal load (SP7) and easier (TP1, TP2) performance. SP7 goes into further depth on the coordination of the legs, back, stomach, core, head, and arms is necessary to sing, along with the mental demand. Without this coordination and understanding of the body, the singing suffers (SP3). SP's also noticed heightened coachability (SP1), confidence (SP2), control (SP5, SP7), posture (SP5), flexibility and agility (SP6, SP7), and relaxation and buoyancy (SP6) in both the voice and the body due to their

experience with and understanding of physical exercise. Every SP noticed a better connection to their breath as a result of their physical fitness, highlighted by breath support, stamina and endurance. They were able to recall feeling the sensations of this breath connection and also notice tonal effects in the intensity and stability of the sound and how it eased vocal strain especially at register boundaries (SP4). Overarching ideas from all participants questionnaire and interview responses is that singing from the entire body, rather than just the vocal mechanism, allows for vocal ease (SP7), flexibility, and stamina (SP1, SP2, SP6, SP7), due to less vocal load (SP7). All of these aspects influence vocal health (SP4), longevity and physical health (SP).

It was made clear in the literature review that tension from PE is a heavily debated topic in the voice field. This factor was one of the motivational forces in this research design as seen in my research journal.

Entry: 'Tension is extremely necessary for structural integrity yet cannot be noticeable in the body or voice. It must be balanced and dynamic (not static/rigid). How is this achievable without understanding of body/muscular release/symbiotic instrument/coachability?

Schön (1993) Reflection - in/on method	Chayse (2011) Strength based reflection (+)
- On: I believe my past and present with exercise has allowed me to notice and relieve/balance tensions/integrity relatively easy - In: I realized today there are only vocally focused (structural/posture) techniques (Alexander/Felden) to foster this... Can Physical exercise prove to do this with form and Kinesthetic/body map of musculature	Identify/clarify: All bodily techniques are majority posture/align. focused. Body is involved but not focused on. Affirming/understanding: If voice is a body instrument, more emphasis needed on it other than just posture. Execute/integrate: Physical exercise can provide an accurate body map, allow for kinesthetic reception and control/coachability of body. can it? ↳ coordination

When asked during interviews if SP's noticed any tension during demanding performance, surprisingly 57% answered yes (SP1, SP2, SP3, SP6). However, when asked to localise that tension, all 4 SP's noticed mostly vocal, laryngeal or breath, tension rather than bodily. SP3 further explained that of the tension they felt, about 25% of it was bodily due to shoulder bracing while breathing to meet dancing requirements especially to maintain energy at the end of performances. Interestingly, TP2 and TP3 noticed how readily movement relieves tensions both in their practice and for their students. TP3 explains that movement opens up the body and sound which fosters a connection to the body rather than being static. They elucidate that within the whole body vocal instrument it is unnatural and unsafe to harbour tension through static rigidity (TP3) and that movement and bodily awareness is the answer. This leads to the

conclusion that PE is necessary but both SP and TP do not know how to incorporate or recommend it.

As stated previously 100% of the TP reported using kinesthetic movement, exercise, or gesture of some kind to enhance the performance of their voice or their students' voices, yet all in different, and mostly uncited methods (TQ5). TP's recommended a positive relationship with the voice via advocacy, appreciation and attention, individualised practice routines, support systems for additional health, and health aspects of hydration and nutrition to encourage and instruct vocal athletes to be physically and vocally healthy (TQ16). This was further shown in the interviews, yet only 50% of TP's had previously suggested physical activity to students to improve overall health and foster stamina for students to meet performance goals (TP2, TP4). The other 50% of teachers propose hydration, sleep, nutrition and proper voice use along with semi-occluded vocal tract exercises (SOVT). As a result of this project and the knowledge and awareness they gained, these TP's decided they will begin to motivate students to partake in general exercise to improve health and vocal stamina (TP1, TP3). Performance, especially with the vocal body instrument, requires a massive amount of energy and stamina (TP2). In order to properly develop this energy and stamina, a performer must be aware of and nurture their physical health (Chandler, 2022), which can be done through PE, movement and bodily awareness. However, since this idea is newly being accepted into the voice field, not many voice teachers are equipped with evidence based physical training guidelines to professionally and safely prescribe movement to students.

3) No understanding of PE incorporation:

Throughout the questionnaires and interviews it became apparent that a majority of my subjects had a deep understanding of how PE has aided their vocal instrument, performance, and teaching, but a lack of knowledge of why and how to incorporate it. This is echoed in my own experience and recently in my research journal.

Entry: with physical exercise in voice instruction being so new/unsubstantiated, teachers don't know how to incorporate it... neither do I fully (even in personal training cert.) How can the knowledge of benefits (of PE) be spread so that incorporation and development can be widespread?	
Schön (1983) Reflection - In/on method	Graye (2011) Strength based reflection (+)
- On: Only 2 exercise professionals (with vocal experience) marketing exercise to vocal artists * built for the stage * the musical theatre - In: How can I fill this gap?	Identify/clarify: need for niche exercise professionals who have voice experience (diff. genres = diff fitness form?) Affirming/understanding: Balanced/individualised PE really benefits VA performance. <i>longevity</i> <i>technique</i> <i>injury</i> <i>health</i> Execute/integrate: research more (quantitatively) to become credible to fill industry gap ↳ personal call to action

Interestingly enough, when asked in the questionnaire (TQ11), 100% of TP's were unaware of any literature regarding physical exercise or exercise science and their role in voice instruction. Throughout the TP interviews it became apparent that some had received training with components mentioning the body and movement, which focused on postural alignment and kinesthetic awareness. TP1 mentioned the anchoring support of Estil training, where stabilising and balancing larger body structures allows for flexible strength and readiness in the voice. TP3, who had completed the Vocal First Aid course recalled the idea of motion being the remedy for tension, but could not recall if and, or how the training recommended the use of movement. Other than those instances, all of the movement TP's used during instruction has been experiential and trial and error rather than evidence based. A goal of this research is to positively influence my, and hopefully other teachers, instruction methods to understand how to best train VA.

As seen in both the questionnaires and interviews, TP's noted using movement in instruction during warm-up (TP1, TP2, TP3, TP4), and occasionally cool-down practices, bodily alignment and awareness exercises (TP1, TP2, TP3, TP4), relaxation techniques (T2), body map rewiring (TP2, TP3), and skill acquisition (TP2, TP4) purposes. TP1 elucidates that the body awareness and alignment techniques involving movement allows students to rid their bodies of static rigidity and distracts them from overthinking, which in turn, loosens up the sound as well as their bodies. Skill acquisition in the vocal context allows students to establish sustainable techniques when vocal mechanical muscles are coordinated well (Sataloff, Sandage & Hoch, 2018), similar to that of athletic warm-up for the skeletal-limb muscles. All TP reported using warm-up practices for students to understand the voice and develop the muscles to become available and autonomous (TP4). TP's themselves reported using movements in their

vocalisation in order to free up the sound (TP1), reinvigorate sensitivity and balance (TP2), and enhance stamina and breath management (TP4). TP2 even regrets not having an exercise routine sooner to strengthen their instrument and voice, along with mental stress catharsis.

From SP interview data, it was compelling to notice that there was a lack of physical warm-up reported outside of their lessons with me. SP's reported that physical warm-ups were minimal or the SP's responsibility to complete. Guided warm-ups from vocal influences were majority vocal and the physical element was running through the dance, stunts, or show completely cold (SP1, SP2, SP7) to get the blood moving. SP3 noted that an indepth physical warm-up and cool-down, that they completed on their own, allowed them to bounce back sooner after demanding performances. The warm-up they've devised (SP3) includes vocal components of steaming, hydrating and vocal warm-up exercises, as well as mobility and PE of stretching, jumping, and yoga. When asked during interviews about cool-down practices most SP's were taken aback. For a majority, SP's only hydrated, tried to control breath and relaxed immediately after performance (SP1:P, SP2:P, SP4:P, SP5:P, SP6:P). Those three components are very important for both vocal and physical health, however, it does not allow the body to gradually return to homeostasis (CITE). Vocal cool-down with SOVT exercises, for example humming (SP3:P) or lip trills (SP7:P), and physical cool-down of gentle movement, yoga or stretching, and breath relaxation are necessary in order for the bodily instrument to restore neutral homeostasis (Chandler, 2022). Similar to athletics, cool-down practices have been noted to help the recovery process, prevent injury and even provide greater ease to singing (Sataloff, Sandage & Hoch, 2018).

Many SP's are involved, or have been, in productions where dancing is inevitable, such as show-choirs and musicals (SQ2). However, during interviews, SP's noticed that directors and choreographers especially, expected a level of physical fitness, or worse commented on body size or weight (SP3:P), without recommending fitness or exercise to foster the physicality and stamina properly (SP4, SP6). The reality of the voice and body being used simultaneously through dancing and vocal performance simultaneously is not new, however outside of the performance context, most vocal and dance instruction remain separate (Lightfoot & Morton, 2014). Although it is vital to understand and cultivate the techniques of both practices individually (SP3), SP3 and SP4 believe there is not enough incorporation of the two, outside of individual practice time, for the progression of endurance and stamina to become natural and autonomous, while maintaining technique throughout. The physical and vocal demand of simultaneously dancing, interacting with the audience while on stage, strumming, acting,

etcetera is rigorous, and the missing piece may be the inclusion of individualised physical exercise regimens for VA to nurture their performance paths.

Questionnaire responses relating to SP and TP's definition of "vocal athlete" (LeBorgne & Rosenberg, 2018; 2019) were varying and intriguing (SQ15-16, TQ13). 85% of SP's had not heard the term "vocal athlete" (SQ16) but were asked to give their personal connotations. The feedback ranged from notions of vocal fold strength, training practices and professional singers of any kind. Although not incorrect, the responses were widespread. TP (Q13) responses were more on target, describing VA as vocalists who invest in vocal fitness by regularly training the muscles at an athletic level to develop stamina and agility and vocalists who use the whole body to share and support the vocal load. A general comprehension of VA is paramount, especially for students to understand the training necessary to perform at the highest athletic level.

The fact that a majority of TP's advocated for and employed holistic teaching styles was very clear throughout both questionnaires and interviews (TP1, TP2, TP3). This is mirrored in my personal axiology, and research purpose. Since performance is a whole body experience, TP's (TP1:P, TP2:P, TP3:P) encourage students to evaluate, positively associate, and advocate for their instrument. This empowers sustainable technique for easier (TP1), more efficient (TP2) and safer (TP3) singing. TP1 and TP2 report as staying "in your lane and understanding when to refer" (TP2). Singers and teachers must know a full team of professionals to support the voice and also understand individual vocal limits. Unfortunately, other than vocal coaches, there are no professions to support and maintain the voice. Most voice professionals focus on disordered and injured voices rather than proactively preventing injury (LeBorgne & Rosenberg, 2019). It is also vital for singers to advocate for and protect their own instrument, as oftentimes they are the ones who know the most about it (TP2) through practice and awareness of sensations and tonal changes. In summary, all TP and SP's surveyed noticed an impact from and need for PE in regards to the voice. Regrettably, no participants knew exactly how to actively incorporate the two training practices. One of the paramount objectives within teaching is to equip singers with the knowledge of their bodily instrument (Friedlander, 2018). It is the intent of this research to exemplify the benefits of PE incorporation within the voice studio and call for voice focused fitness professionals to morally and safely implement it.

Summary:

All of these themes warrant new research on the larynx during and after various forms of exercise in order to better understand and scientifically prove if and how PE and exercise principles affect the musculature of the voice. This will help relate how training the body

translates to the laryngeal muscles. Furthermore, new preventative voice professions should be assembled to better support vocalists to prevent injury and avoid rehabilitation needs from SLP or laryngologist (SP3). Throughout SP and TP interviews, participants noticed that there were not as many prehabilitation professionals for the voice as there are for athletics (SP2). Other than vocal coaches, all other vocal influences that voice users see often, like choral and theatre directors (SP1, SP2), agents, administration (SP3, SP7) and choreographers (SP1, SP2), either have limited vocal knowledge or agendas that are not solely focused on the individual voice of the performer. In general there is a lack of supportive care for vocal athletes, most of the professions other than voice coaches whose sole purpose is to encourage sustainable technique to prevent injury rather than rehabilitate disordered or injured voices. SP's noted that other than their voice teacher, no vocal influences mentioned physical fitness or gave suggestions to strengthen and upregulate the body to the performance demands (SP4, SP6). Vocalists and performing vocalists, especially, require a lot of attention and care to their full body instrument and vocal mechanism (Friedlander, 2018), and this care or an understanding of the demands of vocalists are not commonly understood by exercise professionals (Karageorghis, 2016). In my search, only two reputable fitness professionals with an understanding of vocal genres and requirements emerged. The Musical Athlete and Built For the Stage are exercise professionals to support vocalists and implement exercise to enhance performance, similar to cooperative professions surrounding athletics. In order to reach and support more artists and broader style ranges, more research must be done on the laryngeal effects of various physical exertion and more performance centred exercise professions need to be developed.

Discussion:

It is clear that when individually balanced exercise is incorporated in voice instruction it benefits performance and performers general health. In a time where performance is so physically and industrially demanding, performers must "use [their] bodies as both instruments and athletes" to ensure marketability and versatility (Chandler, 2022:337). By understanding and being in control of our bodies, singers have "more balance, flexibility, movement of breath" by actively "balancing bodily tensions" (Clark, 2002:29-30, 235) through movement, which creates a structure that is ready to take on work. Therefore, VA can use ESP and EP to coach their bodies to respond to tensions through movement rather than static rigidity.

Ragan (2020), Friedlander (2018) and Chandler (2022) provide cautions to vocalists on PE. Unfortunately, due to the fact that most exercise professionals do not have an understanding of the voice (Karageorghis, 2016), the pressure to advocate for and understand

vocal health falls on the vocalist. For example, if a VA were to seek out an exercise professional, the trainer, or even the vocalist, may not understand how to execute PE while maintaining vocal health standards. Chandler (2022) goes into depth on how singers must modify training to avoid laryngeal tension, grunting, extended glottal closure and vocal fold bowing. The Valsalva manoeuvre is a phenomenon in PE where the exhale is held to create a higher subglottal pressure and higher intra-abdominal pressure to brace the core and protect the spine (Hackett & Chow, 2013). Within the exercise world, this is deemed safe and customary, however it creates laryngeal tension and holds breath patterns which vocalists should evade to avoid injury. This is another example of why it is necessary to have exercise professionals who are equipped to help vocalists navigate PE to enhance voice training.

An unforeseen outcome surfaced when I noticed that many exercise professionals, coaches, athletes struggle from a plethora of voice disorders from vocal misuse (Hamdan, Sataloff & Hawkshaw, 2021). Future communication and cooperation between the voice and exercise fields may not only address PE needs for VA, but can also prevent and rehabilitate vocal injuries prevalent in the exercise profession. With this additional possible outcome included, I believe future research of how PE affects the voice is bright and fruitful.

Conclusion

It is vital that the investigation of ESP and PE continue. This research's findings suggest stereotypes surrounding the physicality of singing and the idea of movement creating bodily and voice tension, and body-image biases are still widespread. This data not only validated my experience, but opened my eyes to other stigmas across various genres. Despite the bias, it was clear from data rendered that there is a need and a place for ESP and PE in the voice studio, if used in a professionally and ethically balanced manner. Nowadays, VA must be able to understand, use, advocate and coach their bodily instrument to achieve performance success. The tactics of ESP and movement encompassed vocally focused PE educate VA on how to use their bodies to the highest level, to then perform with vocal ease, health and longevity. Unfortunately, since the inclusion is so innovative, many exercise professionals are unaware of vocal and performance techniques, and therefore cannot fully or sustainably advise vocalists. Additionally, from findings it was apparent that TPs did not understand how to best incorporate movement or if and what physical exercise to encourage students to partake in. Many movements TPs utilised were from their own experience, trial and error or from courses focused on structural alignment. All TPs illuminated that referring was most ethical, due to knowledge and certification limitations, however, in the case of PE, there are hardly any professionals to

refer students to. It is vital for pedagogues, voice teachers and exercise professionals to understand how to properly implement and individually fine tune PE for vocal athletes to enhance performance, vocal longevity and physical wellbeing of VA to allow them to perform at the highest level and meet industry demands.

This research calls teachers and pedagogues to break out of the cyclical, traditional patterns to begin breaking down bias within voice teaching. Knowledge of ESP and PE can benefit teachers and students by providing an instruction method that allows a symbiotic relationship between the voice and body to be cultivated. Since vocal performance, of all genres, is physically demanding, I suspect this understanding and coachability of the body will be an invaluable addition to VA performance techniques. Further, more extensive and quantitative research must be carried out in order to understand how various PE forms affect the intrinsic and compact laryngeal musculature. Research may acknowledge questions pertaining to vocal load can be quantified or to what limits laryngeal muscle fibre compositions can be similarized to skeletal-limb muscle functions. Lastly, data rendered within this study exhibits how it is imperative that preventative, support professions, similar to those of athletes, are developed for vocalists. Compared to athletics, it is obvious that the voice field is a majority rehabilitation effort rather than prehabilitation. In conclusion, in the voice industry, ESP and PE understanding and inclusion, from vocalist, teachers and exercise professional standpoints, are essential to continue supporting vocal athlete health, magnifying performance, and vocal life-span.

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Appendix 1: Reviewed and Accepted Ethics Form



PG2 / E1 FORM

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

Delete the Guidance Notes at the end of the form BEFORE submitting your application

SECTION A: About You (Principal Researcher)

1	Full Name:	Anna Celeste Holden			
2	Tick all boxes which apply:	Member of staff:	☐	Honorary research fellow:	☐
3	Undergraduate Student	☒	Taught Postgraduate Student	☒	Postgraduate Research Student
					☐

4	Institute/Academic Discipline/Centre:	WAPPAR
5	Campus:	Carmarthen
6	E-mail address:	2118218@student.uwtsd.ac.uk or
7	Contact Telephone Number:	+1(630)731-7562
For students:		
8	Student Number:	2118218
9	Programme of Study:	MA in Professional Practice
10	Director of Studies/ Supervisor:	Debbie Winter/Louise Emanuel



PG2 / E1 FORM



PG2 / E1 FORM

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☒	NO	☐
					Date
2	If Yes, please indicate source of approval (and date where known): Approval in principle must be obtained from the relevant source prior to seeking ethical approval	Research Degrees Committee	☐		
3		Institute Research Committee	☐		
4		Other (write in) WAPPAR Ethics Board Representative	☒		

SECTION C: Internal and External Ethical Guidance Materials

Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.	
1	UWTSD Research Ethics & Integrity Code of Practice ☒
2	UWTSD Research Data Management Policy ☒
3	This may include codes of conduct of professional bodies or overseas laws (particularly for data protection). ☒

SECTION D: External Collaborative Research Activity

1	Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
2	If Yes, please provide the name of the external organisation and name and contact details for the main contact person and confirmation this person has consented to their personal data being shared as part of this collaboration.				
3	Institution				
4	Contact person name				
5	Contact person e-mail address				
6	Has this individual consented to sharing their details on this form?	YES	☐	NO	☐
7	Are you in receipt of a KESS scholarship?	YES	☐	NO	☐
8	Is your research externally funded	YES	☐	NO	☐



PG2 / E1 FORM

9	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☐
10		Employed	YES	☐	NO	☐
11	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)	If YES then the permission question below does not need to be answered	YES	☐	NO	☐
12	Permission to undertake the research has been provided by the partner organisation	(If YES attach copy) If NO the application cannot continue	YES	☐	NO	☐

Where research activity is carried out in collaboration with an external organisation

13	Does this organisation have its own ethics approval system?	YES	☐	NO	☐
14	If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

1	Indicative title:	Qualitative Findings on Exercise Use in the Voice Studio - BMPF7008 Module 3		
2	Proposed start date:	19 th September 2022	Proposed end date:	5 th January 2023
3	Introduction to the Research (maximum 300 words) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • Purpose of Research Activity • Proposed Research Question • Aims of Research Activity • Objectives of Research Activity Demonstrate, briefly, how Existing Research has informed the proposed activity and explain • What the research activity will add to the body of knowledge			
4	Purpose of Research Activity To understand students' and teachers' thoughts and feelings surrounding the incorporation of regimented exercise in the voice studio to enhance vocal performance. I hope to further prove that exercise, if used in a balanced, regimented manner, can be an effective tool for vocal athletes and their coaches. (this box should expand as you type)			
5	Research Question What are the general opinions or preconceptions around exercise inclusion in vocal settings? Do the stances of teachers differ from those of students? (this box should expand as you type)			



PG2 / E1 FORM

6	Aims of Research Activity This research will help address and hopefully dismantle negative stereotypes encompassing exercise, and resulting 'tension,' in the voice studio. I aim to research students' and teachers' mindsets and views on exercise and if they believe it can be a useful tool to enhance vocal performance. (this box should expand as you type)
7	Objectives of Research Activity 1) Understand students' varying prior experience with exercise in order to tailor future research. 2) Gain teachers' insights on their exercise experience and explore any bias they may have towards exercise integration in the studio. 3) Obtain personal, qualitative data on the perceptions around physical exercise in the voice studio. 4) Undertake literature review to fully understand how voice pedagogues' negative preconceptions of exercise and tension have been shaped. 5) Analyze this data, in tandem with literature review, to assess the stereotypes involving the practice of exercise in the voice studio 6) Contemplate how to use this qualitative data to drive and validate further quantitative research in the future.
8	Proposed methods (maximum 600 words) (current total =) Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed.



PG2 / E1 FORM

9	Questionnaire: I will initially use distinct questionnaires to gauge students' and teachers' thoughts on exercise and how it may affect the voice. For the student sample, questions for the in-person questionnaires will span from inquiring about their general thoughts on exercise, prior exercise experience, specific performance scenarios they believe are physically demanding, and if they have ever performed exercises to enhance the voice in any setting. For the teacher sample the questionnaire will be virtual for scheduling and distance reasons. Questions here will survey the teacher's awareness and views of voice research pertaining to exercise inclusion, previous exercise experience, teaching styles and genres they typically work with, as well as if they use kinesthetic movement or physical exercise during voice instruction. These questionnaires will guide my creation of questions for use in semi-structured interview settings. The data from the questionnaires will hopefully allow me to generalize my findings between the two samples, thus adding validity to my research project. (158 Words) Interview: I will conduct semi-structured interviews tailored from the questionnaire responses from both samples. I expect the interviews to be about fifteen to twenty minutes for the student sample and about twenty to thirty minutes for the teacher sample participants. From these interviews I hope to obtain personal recounts of the samples of their experience with demanding performances, their physical exercise routine if applicable, and experience with vocal athletics, either as a performer, coach or both. I want to delve deeper into their individual performance and athletic histories in order to uncover and discuss their views on exercise inclusion in the voice studio. I will ask both the student and teacher samples if they believe there are any stereotypes surrounding exercise and vocal performance. Depending on their answers I will ask them to expand on their thoughts, feelings and possible experiences. This interview data will generate the primary analysis of my research question to reach my goal of better understanding thoughts and feelings surrounding tandem voice and exercise training. Journal: Throughout the research process I will keep a journal in order to organize my thoughts and observations. This journal will include Schön's reflections practices - both in and on - of my research journey, thoughts on possible data outcomes, and any theories, questions or scenarios that may arise. This data will serve as a secondary resource during my research process, and I believe it will allow me to navigate the intricacies of insider knowledge that practitioner research requires from both exercise science and voice fields. Furthermore, I believe this information will be helpful to store theories and hypothesis to test in future research. As noted below, this journal will be completely confidential and will
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10	Location of research activity Identify all locations where research activity will take place.
11	1) My voice studio 2) High School Show Choir practice room 3) Zoom – if necessary (no recordings will take place through the platform) (this box should expand as you type)
12	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerability of participants.
13	The purpose of the study is to engage in pedagogical development within my own practice. Under current IRB regulations my study consists of PRACTICA using myself as a research subject. The purpose of the work based learning project is to engage in professional development, and it constitutes an educational exercise. The audience for the results of the activity is myself and my students. IRB approval is not required. If the data offers a scholarly contribution, US IRB

14	Use of documentation not in the public domain: Are any documents NOT publicly available?	NO	☒
		YES	☐
15	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with prevailing data protection law of the country in question and England and Wales. (this box should expand as you type)		

SECTION F: Scope of Research Activity

1	Will the research activity include:	YES	NO
2	Use of a questionnaire or similar research instrument?	☒	☐
3	Use of interviews?	☒	☐
4	Use of diaries?	☒	☐
5	Participant observation with their knowledge?	☒	☐
6	Participant observation without their knowledge?	☐	☒
7	Use of video or audio recording?	☐	☒
8	Access to personal or confidential information without the participants' specific consent?	☐	☒
9	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
10	Performance of any acts which may cause embarrassment or affect self-	☐	☒



PG2 / E1 FORM

11	Investigation of participants involved in illegal activities?	☐	☒
12	Use of procedures that involve deception?	☐	☒
13	Administration of any substance, agent or placebo?	☐	☒
14	Working with live vertebrate animals?	☐	☒
15	Other primary data collection methods, please explain in this box For example, 'focus groups'. Please indicate the type of data collection method(s) in this box and tick the accompany box.		
16	Details of any other primary data collection method: (this box should expand as you type)	☐	☒

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

1	Who are the intended participants:	YES	NO
2	Students or staff at the University?	☐	☒
3	Adults (over the age of 18 and competent to give consent)?	☒	☐
4	Vulnerable adults?	☐	☒
5	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☒	☐
6	Prisoners?	☐	☒
7	Young offenders?	☐	☒
8	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
9	People engaged in illegal activities?	☐	☒
10	Others (please identify specifically any group who may be unable to give consent) please indicate here and tick the appropriate box.		
11	Other – please indicate here: (this box should expand as you type)	☐	☒

12	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?
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PG2 / E1 FORM

13	How many participants are expected?	I expect about 8-10 participants in my student sample and 5-8 in the teacher sample. <i>(this box should expand as you type)</i>
14	Who will the participants be?	The student sample will be a group from my current studio. They will vary in age, and I expect they will have varying exercise experience. The teacher sample will be comprised of experts of multiple genres who understand the multidimensional demands of the industry. <i>(this box should expand as you type)</i>
15	How will you identify the participants?	I want each sample group to be diverse in both vocal and exercise experience. Students already taking in-person lessons with me will qualify to take part. Teachers must have experience working with a variety of genres and understand the multidimensional demands of the voice industry. All the research information will be outlined in an information and permission form which will be given to all participants either in hardcopy form or virtually. For those under 18, the permission form must be signed by a parent or guardian. I will have face-to-face contact with my students to gain willing consent, while I will contact the teacher sample virtually first to gauge interest and later obtain consent.



PG2 / E1 FORM

16	Information for participants:	YES	NO	N/A
17	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
18	Will you tell participants that their participation is voluntary?	☒	☐	☐
19	Will you obtain written consent for participation?	☒	☐	☐
20	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
21	If the research is observational, will you ask participants for their consent to being observed?	☒	☐	☐
22	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
23	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
24	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
25	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
26	If NO to any of above questions, please give an explanation			
27	(this box should expand as you type)			

28	Information for participants:	YES	NO	N/A
29	Will participants be paid?	☐	☒	☐
30	Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
31	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
32	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the research objectives?	☐	☒	☐
33	If YES to any question, please provide full details			
34	(this box should expand as you type)			

SECTION H: Anticipated Risks



PG2 / E1 FORM

1	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.					
2	Full risk assessment completed and appended?	<table border="1"> <tr> <td>Yes</td> <td>☐</td> </tr> <tr> <td>No</td> <td>☒</td> </tr> </table>	Yes	☐	No	☒
Yes	☐					
No	☒					
3	Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information					
4	Risk to Participant: Speaking about exercise may bring up uncomfortable thoughts or feelings about one's body, body image or health. <i>(this box should expand as you type)</i>	How will you mitigate the Risk to Participant - Using the specific information from a student/teacher's questionnaire, I will be able to assess their feelings and mold particular questions for the semi-structured interview. Thus, using the sample's thoughts and feelings to steer my further investigation, which may mitigate some potential risk. - Note this risk in the information and permission form so participants are aware prior to consent. - Reiterate that their participation is completely voluntary. - Provide information to professionals or help centers they can contact for support if negative thoughts or				
5	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the appropriate authorities. As stated above, I will delineate all potential risk information in the information and permission form prior to gaining written consent. They will also be notified that their participation is completely voluntary, and they may terminate their participation at any time without stating reasoning. I will also provide contact information for professionals should the participants require support at any time throughout the research process. <i>(this box should expand as you type)</i>					
6	Risks to investigator For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest					
	Risk to Investigator: Conflict of interest: I am currently completing my personal training certification, so this may lead some to think my aims are not fully voice focused. <i>(this box should expand as you type)</i>	How will you mitigate the Risk to Investigator: I will mitigate this by being upfront with my sample about the timeline for my certification. I will also mention that this study will not consist of any physical exercises, but rather on the feelings and				
7	University/institutional risks For example: adverse publicity, financial loss, data protection					



PG2 / E1 FORM

Risk to University: Adverse publicity: Since the idea of exercise in the voice studio is relatively new, my aim of dismantling negativity towards this teaching tool may vex some practitioners. This may also frame the University as taking a certain stance. <i>(this box should expand as you type)</i>	How will you mitigate the Risk to University: I will express how dynamic the voice industry and voice research are. My research and data will be one of many stances on the broad subject of voice instruction tools, meaning that categorizing or classifying a whole University based off of a limited scope is detrimental and foolish. This will be kindly noted in the information and consent paperwork.
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8	Disclosure and Barring Service			
9	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	YES	NO	N/A
10	Does your research require you to hold a current DBS Certificate?	☒	☐	☐

SECTION I: Feedback, Consent and Confidentiality

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when? I will provide my contact information if a sample participant would like feedback or further information on the research project. I do not intend to mass contact my samples with a full de-brief of the research process. <i>(this box should expand as you type)</i>
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation. I will be using a paper information form for my students since I will have face-to-face contact with them during lessons. This will have a section for them, or a guardian, to sign consent. Then I will use a paper questionnaire for the in-person student sample, which will also have an area for signed consent. As for the teachers, I will have to utilize a virtual questionnaire, since they may be widespread. I will email them the research process information when I am gauging interest and availability. From there I will format a consent screen they must 'sign' and complete by clicking "next" before gaining access to the questionnaire. Further on in the research process, when semi-structured interviews of both samples will be used for data collection, I will remind them of their voluntary participation and options of termination. From there, their verbal consent will be obtained before the interview
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.

	Once consent is gained, the anonymity factor of the questionnaires, either virtual or paper, will be strict. No personal data information, such as name, age, race, or gender, will be asked or disclosed. I will also keep the names of participants in each sample group confidential to ensure anonymity in the research results. (this box should expand as you type)
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SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtsd.ac.uk/library/research-data-management/>).

1	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
	"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or	☒	☐
2	If YES, provide a description of the data and explain why this data needs to be collected: In order to gain consent via the paper information and consent forms described above, it will be necessary for me to obtain the name of my participants. I will not utilize this personal information throughout the research design, but in order to obtain informed consent, from all ages, I must gather name, and in some cases, guardian name information.		
3	Does it involve special category data (as defined by the GDPR)?	YES	NO
	"Special category data" means sensitive personal data consisting of information as to the data subjects' — (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life,	☐	☒
4	If YES, provide a description of the special category data and explain why this data needs to be collected: (this box should expand as you type)		



PG2 / E1 FORM

5	Will the research activity involve storing personal data and/or special category data on one of the following:	YES	NO
6	Manual files (i.e. in paper form)?	☒	☐
7	University computers?	☐	☒
8	Private company computers?	☐	☒
9	Home or other personal computers?	☒	☐
10	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
11	"Cloud" storage or websites?	☒	☐
12	Other – specify:	☐	☒
13	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of password protection, encryption, anonymisation and pseudonymisation:		
	Data will be stored in my personal password protected SharePoint Office 365 offered through the university. I will also use my password protected laptop throughout my research. This data and information will not be shared to anyone outside of my university mentors, in which case, I as the principal researcher, will grant limited access. No video or audio data will be recorded from the interview portion of my research. In terms of data from the survey, anonymity will be respected by not collecting any personal information. During the interview portion, the participants' personal recounts and data will be analyzed using distinct identifiers to guarantee confidentiality and anonymity of the participants. The list of identifiers will be secured in a password protected folder to ensure ethical confidentiality in final data compellation. My observation journal will also be virtually kept in a password protected folder to secure and preserve my findings confidentially and ethically.		
14	All Data Storage		
15	Will the research activity involve any of the following activities:	YES	NO
16	Electronic transfer of data in any form?	☒	☐
17	Sharing of data with others at the University?	☒	☐
18	Sharing of data with other organisations?	☐	☒
19	Export of data outside the European Union or importing of data from outside the UK?	☒	☐
20	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☒	☐
21	Publication of data that might allow identification of individuals?	☐	☒
22	Use of data management system?	☐	☒
23	Data archiving?	☐	☒
24	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and DPA (and/or any international equivalent):		



PG2 / E1 FORM

	As mentioned previously, all research data, project drafts and information will be kept in the university's SharePoint Office 365 platform that is password protected for my personal use. There will not be any transfer of data other than for mentoring purposes. In terms of participant personal information, the data will be categorized under distinct identifiers to ensure the anonymity of the participant. The list of identifiers and their corresponding participant will be in a separate password protected folder on my personal laptop. All data will be securely stored until the end of the research process, where it will then be deleted. Throughout the entire research process, the participant holds the right to inquire about any of their own personal data being stored and can request the data be deleted and discarded permanently from the research and analysis. (this box should expand as you type)		
25	List all who will have access to the data generated by the research activity:		
	Anna Holden - principal researcher Debbie Winter - mentor (partial access granted by principal researcher if necessary) Kate Cubley - mentor (partial access granted by principal researcher if necessary) (this box should expand as you type)		
26	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Anna Holden – principal researcher (this box should expand as you type)		
27	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	All research data will be stored in the university's SharePoint Office 365 system which will be used as a personal storage platform. This cloud storage is password protected and the data will not be shared outside of instances involving mentoring. All data will be stored virtually until my research is completed and then promptly deleted. (this box should expand as you type)		
28	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. (Most relevant to academic staff)		
	(this box should expand as you type)		
29	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	☒
		NO	☐
30	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	YES	☒
		NO	☐



PG2 / E1 FORM

SECTION K: Declaration

31	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
	Signature of applicant:	Anna Celeste Holden	Date: 04/08/2022

For STUDENT Submissions:

32	Director of Studies/ Supervisor:	Louise Emanuel	Date: 13-9-22
33	Signature:	Louise Emanuel	

For STAFF Submissions:

34	Academic Director/ Assistant Dean:		Date:
35	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☒	I have attached a copy of final/interim approval from external organisation (where appropriate)
☒	I have attached a full risk assessment (and have NOT completed Section H of this form) (where appropriate) ONLY TICK IF YOU HAVE ATTACHED A FULL RISK ASSESSMENT
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.
☒	I have deleted the guidance notes before submitting the PG2 for consideration



PG2 / E1 FORM

RESEARCH STUDENTS AND STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name. You will be informed of the outcome of your claim by email; therefore it is important that you check your University and personal email accounts regularly.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module

This form is available electronically from the Academic Office web pages: <https://www.uwtsd.ac.uk/academic-office/appendices-and-forms/>

Application Process

All staff research projects and all research students must submit the Ethical Approval Form to the **University Research Ethics Committee** via the Academic Office (pgresearch@uwtsd.ac.uk). Staff research directly in relation to personal study for taught undergraduate or Masters programmes should be submitted via the Institute procedures explained below.

Taught masters and taught undergraduate research Ethical Approval Forms are considered **within Institutes**. Institutes will provide details of the specific processes for this. Where the Ethical issues within any single ethical application are of particular concern the Institute will refer these to the University Research Ethics Committee. Any student activity that involves the collection of primary data needs to undergo Ethical approval, this includes assignment work as well as dissertations.

Appendix 2: Self Permission Letter

Anna Holden Voice Studio
15th July 2022

Dear UWTSD,

This letter verifies that I accept the research presented as "Qualitative Findings on Exercise Use in the Voice Studio" to be executed by Anna Holden, owner and operator of Anna Holden Voice Studio. Research will be conducted by means of private voice instruction, as well as survey, interviews and journal observation methods. The research process will span between September 2022 to January 2023.

Kind Regards,

Anna Holden

Appendix 3: Information and Consent Form

Researcher: Anna Holden
University of Wales Trinity Saint David
The Voice Study Centre - Voice Pedagogy Masters Program

Introduction:

Hello students, families and colleagues. For those that do not know, I am currently a Masters student in Vocal Pedagogy through the University of Wales Trinity Saint David and the Voice Study Centre. For this program, I have been tasked to undertake a research project on an aspect of voice coaching utilising my students and network of teaching colleagues. Participation in this study is completely voluntary and will not affect instruction or any facet of our professional relationship. Please read and understand all research details below before consenting or withdrawing. I am more than happy and available to answer any questions or concerns you may have - my contact information can be found at the bottom of this document.

Purpose of Study:

To understand students' and teachers' thoughts and feelings surrounding the incorporation of regimented exercise in the voice studio to enhance vocal performance. I hope to further prove that exercise, if used in a balanced, regimented manner, can be an effective tool in training vocal athletes. This research will help address and hopefully dismantle stereotypes and myths encompassing exercise, and resulting 'tension,' in the voice studio. I aim to research students' and teachers' mindsets and views on exercise and if they believe it can be a useful tool to enhance vocal performance.

Study Procedures:

The study will comprise of questionnaires given to the consenting student sample and voice teacher sample. The questionnaires will be administered virtually. Questions for students may range from general thoughts on exercise, prior experience with exercise and its incorporation with the voice, and any performance scenarios that are believed to be physically demanding. For the teacher sample, questions relating to their prior vocal and exercise backgrounds, awareness of research pertaining to exercise and the voice, teaching styles, and use of kinesthetic movement during voice instruction can be expected. Data from the questionnaires will be confidential and used to extrapolate data to generate interview discussion.

Following the questionnaires, the data rendered will be used to create questions for semi-structured, one-on-one interviews that will last for about fifteen minutes. For students, these interviews will be in person, scheduled in advance either before or after a student's lesson, and will not be charged. As for the teacher sample, the one-on-one interviews will be completed via zoom and scheduled in advance. Nothing from the interviews will be audio or video recorded. Topics of discussion during interviews may range from personal recounts of experiences with physical exercise and vocal athletics as a performer, coach or both, beliefs of stereotypes surrounding physical exercise and vocal performance, and specific thoughts and feelings on the matter. The interview data from both samples will generate the primary analysis of my research question to research the goal of better understanding the qualitative nature of voice and exercise training in tandem.

As the researcher, I will be keeping a journal to organise my thoughts and analyse data. This will be completely private, under password protection, and be the only record of personal questionnaire and interview data to ensure confidentiality and validity throughout the project.

Duration:

For both students and teachers, the questionnaire will only take a few minutes to complete and the scheduled interview will be approximately fifteen minutes. Both of these procedures will be outside of instruction time for students and will not be charged. For teachers, the link to the virtual questionnaire will be emailed. Once consent is given, the questionnaire link will be sent and interview scheduling will be discussed.

Risk to Participant:

Due to the sensitive, and potentially triggering, nature of health related topics, writing or speaking about exercise may bring up uncomfortable thoughts or feelings about one's body, body image or health. It is also possible that this project can prompt unwanted thoughts or feelings about previous experiences pertaining to both vocal performance and exercise.

Voluntary Participation:

If undesired feelings or complications arise, understand your participation is entirely voluntary and you may terminate participation at any time without explanation.

Professional Support:

Below are contacts for professional support to contact if negative thoughts and emotions arise from participation in this research. There are various platforms of support you can choose from, here are a few that are accessible.

Informative Websites and Online Therapy Options:

<https://thebodypositive.org>
<https://www.goodtherapy.org>
<https://www.nationaleatingdisorders.org>
<https://www.bodysense.ca/en/home>
<http://www.any-body.org>

Indianapolis Students and Coaches:

- Heartland Healing Counseling and Consultation (Clinical Social Worker, LCSW, LISW-S, LMHC, LMFT) Located in Indianapolis, Indiana. +1(317)707-9040
- Meghan Farr (Clinical Social Worker, LCSWN) provides body image therapy. Located in

Fishers, Indiana.

- Steph Troyer Williams (Licensed Mental Health Counselor, MA, LMHC) provides body image therapy. Located in Noblesville, Indiana.

Greenfield Central Students:

Mrs. Sarah Graham (Director of School Counseling) sagraham@gcsc.k12.in.us or
+1(317)462-9211 ext. 34201

Contact Information:

Please let me know if you have any questions, comments or concerns pertaining to the research project. I am reachable by email at anna.holden20@gmail.com or by phone at +1(630)731-7562.

Consent:

A parent or guardian's signature is required for participants under the age of 18. I have read the information above and understand the possible risks. I, _____, voluntarily give my consent to participate in this study conducted by Anna Holden towards her degree in Vocal Pedagogy through the University of Wales Trinity Saint David and the Voice Study Centre. Please either return to the email above or hard copy. I appreciate your time and consideration.

Signature	Relation	Date
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Please sign below if you do not consent to participate in this research.

I, _____, wish to withdraw my consent for this research. I understand that abstaining from participation does in no way affect my professional relationship with the researcher or my voice instruction if applicable.

Signature	Relation	Date
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Appendix 4: Journal Entries

Entry: I fear that the tension stereotypes that I experienced (and what motivated this project) will not be noticed/expressed by participants. How will this effect outcomes of my Research?

Schön (1983) Reflection-in/on method

- On: 'Tension' claims mostly in literature. Review rather than participant experience
- In: During a TP interview today a participant finally spoke on classical rigidity/tension/aversion to exercise.
 - validating

Graye (201) Strength based reflection (+)

- Identify/clarify: fear of being only one to experience this or that reflection is meaningless
- Affirming/understanding: My research is ethical and valid even if it only helps me/my practice.
- Execute/integrate: Reframe questions (possibly) for clarity. Refocus expectations, this is your 1st research project.

Entry: 'Tension is extremely necessary for structural integrity yet cannot be noticeable in the body or voice. It must be balanced and dynamic (not static/rigid). How is this achievable without understanding of body/muscular release/symbiotic instrument/coachability?

Schön (1983) Reflection-in/on method

- On: I believe my past and present with exercise has allowed me to notice and relieve/balance tensions/integrity relatively easy
- In: I realized today there are only vocally focused (structural/posture) techniques (Alexander/Felden) to foster this... Can physical exercise prove to do this with form and kinesthetic/body map of musculature

Graye (201) Strength based reflection (+)

- Identify/clarify: All bodily techniques are majority posture/align. focused. Body is involved but not focused on.
- Affirming/understanding: If voice is a body instrument, more emphasis needed on it other than just posture.
- Execute/integrate: Physical exercise can provide an accurate body map, allow for kinesthetic reception and control/coachability of body.
 - can it?
 - coordination

Entry: with physical exercise in voice instruction being so new/unsubstantiated, teachers don't know how to incorporate it... neither do I fully (even in personal training cert.) How can the knowledge of benefits (of PE) be spread so that incorporation and development can be widespread?

Schön (1983) Reflection-in/on method

- On: Only 2 exercise professionals (with vocal experience) marketing exercise to vocal artists
 - * built for the stage
 - * the musical theatre
- In: How can I fill this gap?

Graye (201) Strength based reflection (+)

- Identify/clarify: need for niche exercise professionals who have voice experience (diff. genres = diff fitness form?)
- Affirming/understanding: Balanced/individualized PE really benefits VA performance. longevity, technique, harmony, health
- Execute/integrate: research more (quantitatively) to become credible to fill industry gap
 - personal call to action

Appendix 5: Questionnaire Responses

Student Responses (SP = student participant):

Question 1: Do you consent to participate in this study?

Answers:

Yes, I consent - 50%

I am under 18 and I consent. My parent or guardian is aware and consents - 50%

No, I withdraw my participation - 0%

Question 2: Briefly list your vocal experience.

Answers:

SP 1: 6 years of choir, (7th, 8th, freshmen men's, concert choir, legacy (show choir) and madrigal for junior and senior year) a lead in Cinderella the musical junior year. Voice lessons for 1 year.

SP 2: Choir in elementary school, school choir in middle school, school choir sophomore year, legacy junior year, 2 school musicals, one outside musical.

SP 3: Choir, show choir, voice lessons, and musicals.

SP 4: Voice lessons and musical theatre

SP 5: I started voice lessons approximately one year ago

SP 6: Choir (show choir and madrigal), voice lessons, musicals

SP 7: Voice lessons, professional children's musicals and choir.

Question 3: Do you have any prior exercise experience? (ex. Sports, general exercise, etc.)

Answers:

Yes - 83.3%

No - 16.7%

Question 4: If yes, please explain.

Answers:

SP 1: I've played soccer for 14 years.

SP 2: Cheerleading and weight lifting

SP 3: General exercise (yoga, elliptical and machines), tennis, track.

SP 5: I played high school football, high school golf & track, and wrestled in college. I also go to LA Fitness a minimum 3 days a week.

SP 6: I used to play baseball, softball, and did gymnastics

SP 7: I ran cross country and tumbling and I am fit.

Question 5: Have you heard of stigmas, myths or bias surrounding physical exercise and voice use?

Answers:

Yes - 14.3%

No - 57.1%

Maybe - 28.6%

Question 6: If yes or maybe, please explain.

Answers:

SP 7: There are ways you need to look and things you have to do to be successful.

Question 7: Have you experienced or witnessed previously mentioned stigmas, myths or bias first hand?

Answers:

Yes - 10%

No - 50%

Maybe - 40%

Question 8: If yes, please explain.

Answers:

SP 7: I was told that I have to fit a look or size for a role for modelling and acting.

Question 9: Describe a voice related performance scenario that may be seen as physically demanding.

Answers:

SP 1: Singing while dancing.

SP 2: Dancing and singing in musicals and legacy (show choir).

SP3: I would say that show choir can be physically demanding.

SP 4: Performing Mele Kalikimaka during my Christmas theatre show.

SP 5: Sometimes during recitals or practising with others it feels physically demanding.

Also when I stand and play guitar while singing.

SP 6: In show choir, either when it's towards the end of a set, or if it's a difficult song, singing gets difficult.

SP 7: A long show or role with a lot of singing, different dances and acting. I also have done shows where I tumble too, it gets to be a lot to handle.

Question 10: Have you experienced a performance like you've described above?

Answers:

Yes - 100%

No - 0%

Question 11: Have you ever felt physical exercise have a negative impact on your singing voice?

Answers:

Yes - 28.6%

No - 71.4%

Question 12: If yes, please explain.

Answers:

SP 3: Because I'm in show choir, I have to dance and sing. It can be hard to control how hard you're pushing yourself. I know sometimes when I dance my best, I force myself to sing even if I'm not getting enough air. It can cause my throat to hurt the next day.

SP 6: It leaves me exhausted and my singing is hindered

Question 13: Have you ever noticed physical exercise have a positive impact on your singing voice?

Answers:

Yes - 100%

No - 0%

Maybe - 0%

Question 14: If yes, please explain.

Answers:

SP 1: Yes, when I am in better shape my voice sounds better because I have more breath support

SP 2: I have more stamina

SP 3: One of my older voice teachers taught me to sing during yoga. The several different positions helped open up my airways to make singing easier. Ms. Holden also uses different positions and physical voice exercises to achieve higher notes. I struggle with and help connect me to my breath instead of singing from my throat.

SP 4: I use squats and tiptoes during big intervals because it helps me maintain my high voice and helps with breathing.

SP 5: I believe my endurance and breathing is enhanced because I do continue to exercise and it benefits my voice.

SP 6: Sometimes even when it's hard, the power intensity of my voice when fueled by the exhaustion of dancing can be good.

SP 7: I feel that I can get through a longer show without being as tired. Running lets me pace myself during shows and singing while dancing has gotten easier.

Question 15: Have you ever heard the term "vocal athlete?"

Answers:

Yes - 14.3%

No - 85.7%

Question 16: How would you define "vocal athlete?"

Answers:

SP 1: Someone who can sing. I think training your voice is similar to training your muscles for an athlete.

SP 2: Can be active and sing at the same time? Strong vocal folds?

SP 3: I would say that a vocal athlete is someone that trains their voice and body at the same time.

SP 4: Someone who uses motions that are considered an exercise to help with their voice.

SP 5: I would assume the more you practise your voice the more you strengthen your vocal folds.

SP 6: Someone who exercises while singing.

SP 7: A professional singer of any kind.

Question 17: What benefits do you think a vocal athletic performer can gain from using balanced exercise with voice training?

Answers:

SP 1: I think it will help them be able to hold longer notes and be more supported.

SP 2: Being able to perform for longer and with more energy to keep the voice strong.

SP 3: When doing yoga and the wall push-up position, I noticed how well it took the pressure off my voice and breath. It allowed me to put the pressure somewhere else and achieve the high notes I was struggling with.

SP 4: Their voice will sound much cleaner and it can help them reach higher notes for a longer time.

SP 5: I think breathing and vocal range would improve. As well as endurance during performances.

SP 6: A better sense of **breath control** and knowing how to **control it with their muscles**.

SP 7: **Knowing their instrument and their body and how to use it for performance**. Also **knowing the limits** and how to go about them.

Question 18: Would you be willing to discuss and explore how individualised physical exercise can benefit voice instruction?

Answers:

Yes - 85.7%

No - 0%

Maybe, more discussion is needed - 14.3%

Question 19: Anything you would like to add?

Answers:

SP 5: I have found from personal experience **practising in a consistent and systematic manner while incorporating exercise** has dramatically **improved my singing ability**.

Teacher Responses (TP - teacher participant)

Question 1: Do you consent to participate in this study?

Answers:

Yes, I consent - 100%

No, please withdraw my consent - 0%

Question 2: In brief, please list your teaching experience and genres taught.

Answers:

TP 1: I have been teaching for about 7 years. I teach older teens and adults privately in my home studio, of all levels from beginners to [REDACTED] professionals, and I teach one day a week at a Drama School [REDACTED]. As an **Estill Master Trainer** I teach all voice qualities, but the bulk of my teaching is in Musical Theatre, pop, rock, jazz, soul.

TP 2: I have taught: Songwriting and Recording workshops, On National Choral initiatives ([REDACTED]), on a Level 3 **Music Industry Qualification** with Vocal artists, and Privately (over the course of the last 10 years) in person and online

TP 3: Twenty five years teaching mixed abilities, classical, pop and music theatre

TP 4: Choral music education/children-high school (30 years)

Question 3: Do you have prior physical exercise experience of any kind?

Answers:

Yes - 100%

No - 0%

Question 4: If yes, please list.

Answers:

TP 1: **Dancing** - tap dancing and ballet.

TP 2: Not in a capacity as a teacher, but I practise **yoga, pilates**, and I do regular **strength training** and short **runs**. I also **danced** as a young person.

TP 3: Yes I am a trained **exercise to music instructor**.

TP 4: I use **gesturing** in rehearsals on a normal basis. I also **walk** for personal exercise.

Question 5: Do you utilise kinesthetic or physical movement before, during or after voice instruction?

Answers:

Yes - 100%

No - 0%

Question 6: If yes, please describe.

Answers:

TP 1: It varies, but I would say most of my lessons incorporate some sort of movement, as **part of warm-ups**, to **stretch and align the body**, or during vocal exercises or repertoire (either through **gestures e.g. moving/swinging arms, or sitting on gym balls, squatting, bending, standing on balance balls, using resistance bands, or other dynamic movements as required**) to bring **awareness and/or enhance the balance in the client's voice and body**...

TP 2: We always do a **physical warm up working through the points of balance**. Typically this will involve **releasing the neck** (with **gentle circles** each way, sometimes also stretching the sides of the neck more intensely), moving onto **shoulder rolls** in both directions, sometimes making the **motion of throwing a ball** under the arm and allowing it to swing back freely in a circle (as per **Patsy Rodenburg's teaching**). Then we do some **side body stretching** (either basic side body stretches or "ladder climbing"). From there we move onto the **hips**, generally moving in **circles from one side to the other**. To release the **knees**, we will do some **gentle bouncing**, or sometimes I will get the student to lock the knees, and then release them, to avoid over-bending the knees. To **release the ankles and knees together**, we sometimes bring the **legs together, bend the knees and then move them in gentle circles in each direction**. I will also add additional exercises as I see the need in the student's posture to get them **familiar with the sensations of the**

different points of balance. I tend to spend some time setting this up with them in our first few sessions. We then move onto breathing, where we work based on the principles of accent method (closely related to Janet Chapman's structure in SATS) - this is to get the student to notice and connect to the sensations of their own breathing, and to strengthen the muscles of the abdomen. If a student struggles at any point during the session with support, we will return to the vocabulary of the warm up and remind ourselves of the movements in the lower body that we can harness to sing. I often pair singing exercises with physical tasks to get more relaxation in the body, or to encourage abdominal release on an inhalation - I borrow from Kari Ragan here (using a ball with the students). I have some exercises for students looking to find a more forward placement in their sound if they are struggling - in one I get them to sit, spread their legs, and flop in between their legs with the palms of their hands gently over their eyes, and then get them to repeat the phrase again. Sometimes I place a pilates ball (a small one!) on a table and get them to rest their forehead on it to sing the passage. We tend to do less physical movement towards the end of a session. Some of my students live with different disabilities, and so all of this is readily adapted to suit their needs and their mobility. For some students with anxiety, we will also use a variation on our breathing exercise to help them regulate if they become worried or upset in a session.

TP 3: I always seek to warm up the body prior to vocalising. I often play "catch" with students vocalising at the same time to connect voice to breath and body.

TP 4: simple gestures or movements to reinforce the musical concepts.

Question 7: Have you used physical exercise or movement to enhance your performance or instrument?

Answers:

Yes - 100%

No - 0%

Question 8: Are you aware of any bias regarding physical exercise and the voice?

Answers:

Yes - 25%

No - 75%

Question 9: Have you experienced any bias first hand surrounding physical exercise and voice performance or instruction?

Answers:

Yes - 50%

No - 50%

Question 10: If yes, please describe.

Answers:

TP 3: Not a bias exactly, but an awareness that dancers can find it difficult to let go of abdominal muscles and I have been advised to not train these muscles too much as this is contraindicated for singers.

TP 4: Varying opinions are often expressed about what a choir should look like during a performance (stand still and upright or move)

Question 11: Are you aware of any research or literature on the subject of physical exercise and exercise science as it pertains to the voice studio?

Answers:

Yes - 0%

No - 100%

Question 12: If yes, please share your thoughts on said literature.

Answers:

No responses

Question 13: Describe your personal definition of "vocal athlete."

Answers:

TP 1: Somebody who has a high level of vocal fitness, agility, stamina.

TP 2: I first came across this term as a book title (I believe one volume is a discussion of singing, and the follow up primarily offers exercise). I don't use this term often myself, but I think if a student asked me what a vocal athlete was, I would say it was a person who has developed the muscles of singing to an athletic level, such that their singing is consistently at a high level. I would also say that regular training and support will feature into that picture for most singers, in the same way as an athlete in a sport would train and seek out support.

TP 3: I want to engage the whole body as much as possible in voice production so that the load is shared and not all carried by the vocal mechanism located in the throat.

TP 4: One that understands that the entire body is our instrument and should be treated as thus.

Question 14: Have you noticed an increased physical demand on performers in the voice industry?

Answers:

Yes - 50%

No - 25%

In some genres - 25%

Question 15: If so, please explain.

Answers:

TP 2: I'm not sure it qualifies as being within the voice industry, as many of my students are either young or not singing professionally, but I would say that I notice the music my students want to perform typically **requires an advanced command of the instrument**. I know from research about belting that within the professional industry, many musical theatre performers must be able to **manage a vast range of techniques**.

TP 3: I'm not sure. I think that to be a **full time vocal performer in any style is very physically demanding**. There is **increasing recognition of the need to look after the voice** in every style which is a very good thing. An increasing **recognition that vocal injury** happens just as it does in sport and should **not be a thing of shame**.

TP 4: There is an increasing need to **vary your vocal style** with respect to **diversity and multicultural music**. It's a good thing but has changed our industry. Our singers need to be able to **sing with a much wider scope of colour/weight**.

Question 16: How do you best instruct and encourage vocal athletes to excel, both physically and vocally in a dynamic industry?

Answers:

TP 1: Mainly by trying to encourage my clients to have a **positive relationship with their voice**, to **appreciate** how wonderful it is, **how to look after it** (both prevention and cure), making sure they're **aware of when to seek additional support and help**, to **learn what feels normal for them**, and to **give it the attention and care it deserves, including rest**. I also help them to develop a **sensible and achievable practice routine** in line with their ability and potential, and the demands on their voice that is realistic in terms of their vocal load in the rest of their life, that **works parts of their voice they're seeking to make changes to, and maintaining the parts of their voice they're happy with**.

TP 2: Despite not yet being professional singers, many of my students do aspire to work in the music industry. I remind them that in most of their working environments, **they will be the person who knows the most about their voice, and the one who must advocate for it**. I tell them that by **working consistently with their voices through exercises and**

repertoire, they will come to be so familiar with their instrument that they will be able to rely on what it can do - and that they will be sensitive to changes in it should they need to adapt, and that if they are to be professional, that consistency is going to be important. I celebrate every win with my students, I help them to understand difficulties and challenges in the music they want to work with, and with the stage development that they are at in general.

TP 3: To ensure that they have a regular individualized vocal "workout" they do daily if possible to warm their voice up and ensure that they are always ready for action and every event. This will include posture work, breath work, tongue work, diction work, vocalisation including many and varied SOVT exercises, & warm ups specific to their current repertoire. I'm just beginning to recognise the need for warm down protocols as well.

TP 4: Be as healthy as you can be in all areas. Drink water. Sing daily. Straw phonation on a daily basis

Question 17: Please leave any other comments about physical exercise and the voice.

Answers:

TP 1: My easiest gigs were definitely when I was at my fittest!

TP 2: I always advise my students to engage in some form of physical exercise regularly. The way I often pitch this is by telling them that in a 30 minute set of music, if your body isn't used to being active for 30 minutes at a time (or more!), how can it have a frame of reference for the level of energy required not just to sing the music, but to manage the energy it takes to be open with an audience.

Appendix 6: Interview Transcriptions

SP1:

Anna Holden

Ethics first, if there is a question you do not want to answer, just let me know and we will move on. Your participation is completely voluntary and you can stop at any time if you'd like. Let's get started. First off, have you ever felt extremely tense while singing?

Interviewee

Yeah.

Anna Holden

Where do you feel that tension if you could localise it in your body specifically?

Interviewee

For lower notes, like directly in the centre of my throat and for the high notes, everywhere in my neck.

Anna Holden

What do you think could change that tension?

Interviewee

Well, comfortability like being comfortable in my range instead of always being like, oh, this is high,

Anna Holden

So it's more of a mental switch?

Interviewee

That and more breath support.

Anna Holden

So finding that support system lower in your body rather than singing straight from your voice and your larynx itself. Great. What do you think causes that tension?

Interviewee

I think just not having enough **breath support**, like just singing from my vocal folds instead of from my breath.

Anna Holden

Have you ever felt that your experience with exercise and soccer has affected that tension in any way?

Interviewee

I know that **singing after a game would probably be difficult**, but I think it's honestly helped me because I have more **lung capacity**, like the ability to have more breath, but I never really use it very well.

Anna Holden

So you're noticing that you're able to coordinate and strengthen your breath a little bit more from your exercise experience and then you're working on transitioning that to vocal experience.

Interviewee

I feel almost a **coachability** of myself. I know what muscles to engage because of athletics.

Anna Holden

Have you ever felt that when you translate it to either singing or dancing and legacy?

Interviewee

Yeah definitely

Anna Holden

You also mentioned that the support systems, both posturally and breathing, are really important and that your **voice sounds better when you're in better shape due to that support**. What do you hear in the tone with your voice? How does that change with your fitness?

Interviewee

My voice is not as shaky and I am able to **dance and sing for longer periods of time**.

Anna Holden

You have a little bit **more intensity to the sound and a little bit more stability** to it. Great. Have you ever had voice teachers other than me, or choir directors or any other vocal influence mention anything relating to fitness?

Interviewee

I've had a **choreographer** for legacy mentioned that in order to sing the song while dancing you **need to go get in shape**.

Anna Holden

And have they mentioned any sort of exercises or tools to do that? Or is it mostly on your own?

Interviewee

Do you mean like, vocal specific exercises or just exercise exercises?

Anna Holden

In general in order to meet that demand of singing and dancing.

Interviewee

She tells us if we don't start singing and dancing well, with breath support, then **she's gonna start making us run up and down the stairs**.

Anna Holden

So you'll run stairs to get that stamina and endurance up. Okay, so that's definitely a good way to get the body moving, but then incorporating that with the voice sometimes has a little bit of a disconnect. Even professionals, even myself, don't fully understand the connection adding exercise into the voice. It definitely has to be an individualised regimented exercise to benefit each performer. I know that we briefly talked about the support system and professions surrounding professional athletes. We mentioned that there weren't really any of those systems for vocal athletes. Could you think about an idea of why that might be?

Interviewee

I think people don't know or realise how physical singing is. At least I didn't before like I started voice lessons. I didn't really realise that there was much to it. Like just singing.

Anna Holden

They think that you just sing songs all day, right?

Interviewee

Yeah, I think that's like a stereotype. People know physical athletes like they're running 90 minutes in a game. 10 miles a game, really. That clearly shows physicality but like someone's singing, dancing, acting for extended time people don't really put two and two together.

Anna Holden

It's great that you're noticing the physicality of performing, and I do agree that there is a stereotype that athletes are more physically demanding than singing and performing. Even if it's just the small muscles of the voice and you're standing and singing, there's a lot of physicality that goes into that, let alone dancing and running around or playing guitar or all the other things that artists of any genre need to do. Have you ever been physically or vocally tired after demanding performances?

Interviewee

Yes absolutely.

Anna Holden

What does your sort of recovery process after a performance look like?

Interviewee

Usually it's just not doing much like I'll sit down or something. I remember last year, most people got off the stage at our last show and couldn't keep standing up. We all laid backstage.

Anna Holden

Have you ever used physical warm ups or cooldowns in any way?

Interviewee

We've never used cooldowns but we've used warm ups.

Anna Holden

Okay. Is that like physical or is it mostly vocal?

Interviewee

Mostly vocal, but physically we do a run through of the show to get the blood pumping, but it's expected to be more physical than a warm up.

Anna Holden

Okay, well, this really gives me some great input, thank you.

SP 2:

Anna Holden

So let's dive right in, just so that you know you are more than welcome to not answer any questions. This is not some sort of interrogation. I just want to get your ideas and thoughts on some things. If you don't feel comfortable answering a question or if you would like to stop the interview, please just let me know. Your participation is completely voluntary. I know that you said you have done choir through elementary school, middle school, and in high school and you obviously are in legacy and you've performed in various musicals and you want to pursue theatre in college. So, with that experience, have you ever felt really tense as you sing or perform?

Interviewee

Yes.

Anna Holden

Okay. Where have you felt that tension? What would you say if you could kind of localise it in your body?

Interviewee

In my chest area, I've really struggled with using my **breath for a long time**, especially while dancing and singing.

Anna Holden

Okay, so in your chest because you feel that you weren't supporting enough with your breath in your body. What do you think caused that tension?

Interviewee

The lack of breath and trying to push the sound without breath.

Anna Holden

Do you ever feel as though your experience with cheerleading or lifting has caused tension to add to that loss of breath feeling?

Interviewee

Not unless I'm hurt, but **when I'm healthy physically I feel that it is easier to control my breath**.

Anna Holden

Okay, so you don't feel as if your exercise has hindered your voice at all?

Interviewee

No. If I'm tired, like if I'm working out a bunch before I perform, I feel fatigued, but if not, I think that working out generally allows me to stabilise my breath.

Anna Holden

So, for example, if you had a super hard week at practice, and then you sing the following day, do you feel the effects of practice?

Interviewee

No, I feel that participating in sports and exercise helps me have breath stamina while singing, unless the singing comes right after.

Anna Holden

When you have that physical activity of cheerleading or lifting or just general exercise, you mentioned that you have more stamina when you sing. So you obviously work up that stamina in your exercise. How do you notice that in your voice as you perform? Do you hear any tonal changes? How would you describe that?

Interviewee

Don't necessarily change other than support and stamina from my breath. I see improvement on how long I can sing and keep dancing without being winded.

Anna Holden

How do you notice that physical activity and that stamina affect your body as you perform?

Interviewee

I don't get tired as easily.

Anna Holden

That's a great thing that performers can take for granted at times. And I would say, even from working in lessons, I've noticed your posture is more stable and upright. With this you are able to sing from your whole body rather than feeling like you're singing from your throat up. I've definitely noticed this improvement throughout your lessons during cheer season, which is great. Do you ever think or do you think your exercise experience with cheerleading and lifting has had an impact on your vocal instrument?

Interviewee

Just being able to sing longer and have more confidence in my voice and dancing.

Anna Holden

So definitely referring to breath support again. Have you ever had any voice teachers or choir directors, or any other vocal influences or even musical directors mention anything relating to fitness?

Interviewee

Other than what we've talked about in lessons, just our choreographer mentioned she was gonna make us run upstairs so we are able to get through the song and dance in Legacy.

Anna Holden

So she's referring to the group needing to up endurance levels to be able to get through these songs.

Interviewee

I've never had any standing choir directors say that to me.

Anna Holden

Right. Have you ever done a physical warmup before legacy?

Interviewee

Yes.

Anna Holden

Do you do that occasionally, every rehearsal or before performances?

Interviewee

Ones with vocals we do every day, but physical ones just kind of depend on the day. Mostly just running through the dances.

Anna Holden

Are the physical exercises just to get that kind of blood pumping a little bit? Does it involve stretching or full on body exercise?

Interviewee

It's just getting the blood pumping and an occasional stretch. We typically sing as we do it, too.

We haven't gotten far enough into working on the entire show, so we haven't done a physical warm-up at all this semester.

Anna Holden

Are you aware of the support systems of professional athletes?

Interviewee

Like they have their coaches?

Anna Holden

Yes. They have their coaches, physical therapists, trainers, massage therapists and nutritionists to name a few.

Interviewee

Yes, I understand now and I know those.

Anna Holden

Do you know if there are the same systems or professions to support professional vocalists?
Would you be able to describe some of those professions or positions?

Interviewee

So voice coaches, directors, choreographers.

Anna Holden

Do you know if there are any professions that work with the body of the vocalists specifically?

Interviewee

Yeah, there definitely aren't as many as professional athletes. It seems like artists just have to find regular personal trainers rather than ones special to singing or performing.

Anna Holden

I want you to think about a musical on Broadway. The act of performing, vocally, theatrically and physically is intense. That's what we refer to as triple threat performing, you act, you dance, you sing at the same time. Performers don't really have the support system of professionals caring for their body other than the musical directors and their vocal coaches. They have people who care about the production or the voice, but as an artist, as a vocalist, you tend to have the pressure of advocating for your own voice in your own body. This is important, but sometimes you don't know all of the answers of how to exercise or how to eat to fuel your performance, right? If you were to think about a personal trainer for an athlete, there isn't widespread acceptance or use of that profession for singers even though there can be benefits. So that's what my whole study is to see if that would be beneficial for students, or beneficial for vocalists in general. Last few questions. Do you notice your vocally and physically tired after a challenging performance?

Interviewee

Yes.

Anna Holden

How does that feel for you? Can you explain how your voice and body feels?

Interviewee

My voice will hurt and be more strained. Usually after performing my body feels tired and fatigued. Similar to how I would after a cheer competition.

Anna Holden

So performance and cheer are pretty comparable physicality wise, you would say?

Interviewee

Yeah, but if I'm like standing and singing, no, but if I'm dancing I feel they're comparable fitness wise.

Anna Holden

If you have that physical act of moving your body, ex. dancing, as you sing it becomes as demanding as a cheerleading competition.

Interviewee

Exactly.

Anna Holden

I think that's a really great thing to bring up as well, thank you. Last question, what does the recovery process after physically and vocally demanding performance look like for you?

Interviewee

Usually I just sleep a lot. I'll purposefully get homework done before shows so I don't have to do it after because I know I will be tired. Right after the show I typically sit or lay down in order to catch my breath.

Anna Holden

It's really physically demanding and you feel like you need to take some time to rest. With that, do you do anything specific for your voice to kind of rehab it the next day?

Interviewee

I know a lot of my friends do. I don't remember since I haven't had a role where I've sung a whole lot since my freshman year. For legacy I try to take it easy the next day vocally and I definitely feel sore in my body. I try to hydrate. What else can I do?

Anna Holden

Hydrating is great. Stretching would be something I would add, both before and after performances. Similar to how it's recommended to stretch to loosen up your body to get rid of that tension before and after working out. Stretching the voice by doing some vocal glides, lip trills or humming is another recommendation. The point of this is to cool down the voice a little bit. I think that you came up with really great responses and I think it's really going to be helpful. Anything else you would like to add? Or any questions that you might have? Well, thank you. I appreciate your help.

SP 3:

Anna Holden

I appreciate you taking the time to do the survey and fill that out. In the interview if there are any questions that you're uncomfortable with or don't have an answer that I asked you now, feel free to just let me know and we will go on from there. You have no obligation to answer all of these questions. I know that you put a ton of great examples into your questionnaire. First question, have you ever felt extremely tense while you're performing or singing?

Interviewee

Occasionally.

Anna Holden

If you could kind of localise that tension, where would it be?

Interviewee

I typically put pressure right here, right in my throat. Okay. Also my shoulders when I try not to brace them when I breathe.

Anna Holden

Okay, so do you feel like most of that tension is vocal or most of that tension is in your body?

Interviewee

I think it's a little bit of both, but like 75% of its vocal and then the rest is in my body.

Anna Holden

Good. Do you think it comes strictly from singing or do you think the choreography, blocking, length of shows, or your exercise routine plays a role?

Interviewee

I think so. Mostly like when I felt like tension is when I'm getting to my part of my range that starts getting close uncomfortable, like pushing up from a mix or even to a belt. And then like, obviously, I think dancing plays a role in it too, because I'm not passive. I'm focusing on dancing, staging, lines and expressional aspects.

Anna Holden

It's like juggling. You have too many things up in the air.

Interviewee

Exactly.

Anna Holden

With that, I know that you said that you had general exercise experience, show choir in the past, tennis track and a lot of different sports. Where would you say your sort of vocal instrument is located? *Confusion from participant* Some people think that their voice is from their neck up. Some people think that it's from their breath or diaphragm up. Some people think it's their entire

body. I just want to gauge your thoughts on this and if your exercise past has affected your standpoint.

Interviewee

I feel like I sing from my entire body. My voice may just be or come from here, *points to larynx, chest and stomach*, but I find support and grounding from my legs. I definitely feel as if my voice and performance changes depending on the state of my body. Growing up athletically inclined allowed me to hone into the coordination of my body and I find that I use that information everytime I sing. I definitely can tell by sound and feel when my instrument is out of whack.

Anna Holden

That is fantastic and I am definitely in the same train of thought as you. Um if you think about the sort of support systems of an athlete like a sports athlete, what professions do you think of? Can you think of any other sort of job titles or professions surrounding sports?

Interviewee

You mean like coaches, physical trainers, medics that are on standby, physical therapists?

Anna Holden

Exactly. Are you aware of any comparable sort of job titles or professions for vocal athletes or musical theatre performers?

Interviewee

Agents, vocal coaches, choreographers, directors.

Anna Holden

So none really having to do with the physicality of the singer other than a choreographer.

Interviewee

Not one that comes to mind, no.

Anna Holden

Okay. I know that you define a physically demanding or challenging performance as when you're reaching the end and you don't feel like you have the stamina to keep going. How does your voice feel in those scenarios?

Interviewee

It's definitely not as strong or supported, but it doesn't hurt like it used to. My breath connection definitely lacks at the end of a show or challenging act.

Anna Holden

How does your voice sound with that?

Interviewee

I've noticed like it's kind of gotten better with practice, but I do not naturally get the intensity I like to vocally have in the climatic points of the show.

Anna Holden

So you're kind of getting that endurance and that stamina, and we've definitely been working on that vocally. Awesome. How does your body look at the end of a demanding performance or song?

Interviewee

I always try to **make the ending strong and powerful**. At times my strength dips in the middle, but I power through at the end to finish things off. You know how **gymnasts or dancers finish**, and then they're just like, stick straight like a rock star. I try to save some energy to do the same during the last scenes to really show my character or bring that intensity to the finale.

Anna Holden

So you're trying to look poised, but also give that sort of finale like feeling with that. Do you feel like your body is super tense or are you pretty relaxed in those moments?

Interviewee

I think towards the end it may get **a little tense since I am really digging deep for that energy**. I typically really feed off the audience in these moments.

Anna Holden

Oh absolutely. Have you ever had voice teachers other than me, or directors or vocal influences mention anything relating to fitness?

Interviewee

Not at all. I have had choreographers mention fitness and weight. Oh, I have seen audition postings or character backgrounds describe weight too.

Anna Holden

Yes, unfortunately fitness and our industry gets into some muddy water when it comes to body image, nutrition and weight expectations or demands. Back to the scheduled questions, do you have a sort of recovery process after a physically or vocally demanding performance of any kind?

Interviewee

I'll just drink a **bunch of water and do some humming, and possibly do yoga**. I have started looking up massage techniques.

Anna Holden

Do you typically do a physical warm up before your challenging performances? Whether it can be within a vocal warm up or on its own.

Interviewee

I have been integrating that more, recently, but before when I first got into performing I would go from 0-100. I've started to feel the effects of that more now. I steam, stretch, jump and get my blood pumping, go through the routine and then do a power stance right before the stage call.

Anna Holden

Can you elaborate on that? What have you noticed that's been different?

Interviewee

I feel like I bounce back sooner after tough performances, like I return to normal quicker. I also feel more fresh before and after the performance. It is less of a stressor on my voice and body. I have noticed that my voice and body feel more natural. I am not sure how to verbalise it.

Anna Holden

Awesome, that's great, I understand. Um, last few questions. Just for reference, where do you mostly feel your breath when you sing?

Interviewee

Mostly in the pelvic floor area like we have been talking about. I feel it expands down and out if that makes sense? Also a bit in my upper ribs in my back.

Anna Holden

Where do you feel the control of your breath, especially on the exhale? Does that feeling change?

Interviewee

In my abs I guess. Your idea of breath resistance or pressuring has really helped me, but I am not sure if I can point to it specifically. But I can definitely hear the control in my sound and can engage it.

Anna Holden

So instead of feeling it in a specific area, you can hear the sound and the difference in the tone. With that, do you feel like the dancing or staging or whatever physical activity changes the way you feel that control?

Interviewee

For sure, it's a lot to remember. Your face, body, expression. All of the choreography, notes and lines. Plus every technique within those.

Anna Holden

It's a lot of coordination isn't it, to put it all off. Fantastic. Anything else you would like to add about either physical exercise and the voice or your experiences?

Interviewee

I feel that it is very hard to work on singing and choreography at the same time. I often have to take time practising them separately and then try to slowly put them together and the process is so drawn out. I also think that there is not enough flow between the two areas. I can go to dance classes and voice lessons, but there never is time for me to work on the stamina of incorporating the two.

Anna Holden

Absolutely, I definitely feel as though there is a gap in the industry. It's basically a sport and not many people recognize how physically demanding it is. They think, oh, you just stand and sing all day. And there's that stereotype or that stigma around it, right? But with being artists and performers, we have to take our training and health really seriously. And that's not saying that you have to fit a certain size or be a certain weight or have a certain diet, but you do have to meet the demands of what your performance is. Having your instrument be within your body, you have to take that extra step in protecting it and also strengthening it. So just a little background of this study, I've noticed, especially through my career and through my growth as a singer, that we don't have support systems like athletes do. And I mean, the arts are always underfunded, but as vocal athletes and musical theatre performers or opera performers or jazz performers, you have to compel the audience, either if that's with you standing and playing a guitar or you standing and singing and dancing or whatever it may be. There's a lot of pressure that's put on the artists to take care of their instrument, rather than having a support system of staff aid in that struggle. Personally, I've had to look for professionals for exercise, because I've always found athletics and exercise to be beneficial to my voice and my career, but they don't have an understanding of it. And they don't understand the breathing patterns that I have to maintain and things like that. So I've found it really, really hard to protect my instrument while finding an exercise professional. I am lucky enough to understand my instrument and the care it needs, but I know there are so many artists, especially young, who don't know the vocal ropes quite yet and can be putting themselves in vocal harm in order to receive exercise help. Also, the benefits of exercise would benefit any artist mentally, spiritually and health wise, so I want to create a profession that supports that exercise journey to encourage artists to enhance their performance and wellbeing. That's what I'm hoping to do over the next few years is to create a

professional standpoint for exercise vocal therapists who understand the industry and the anatomy and physiology of the vocal mechanism to put the artists' well-being at the forefront.

Interviewee

I mean I guess I never thought about it like that. There are a ton of vocal therapists and speech language pathologists, but that's mostly for people who get injured, rather than having a professional to show you how to do it and how to do it well and maintain your instrument, and advocate for that physical well being.

Anna Holden

Exactly. Awesome, well I appreciate your input on this. Let me know if there's anything else you'd like to add at any point, but you're amazing.

SP 4:

Anna Holden

Some ethical things first, if you do not want to or do not have an answer for any of the questions just let me know. You are not obligated to answer every question and your participation is voluntary, meaning we can stop at any time. Awesome, so I really appreciate you taking this questionnaire for me. Did you have any questions about it?

Interviewee

No, no.

Anna Holden

So I know that you listed that your voice experience was voice lessons with me. What about your shows that you've been in? How many shows have you been in?

Interviewee

I know I've sung in six recitals, I think, but I have done eight or nine theatre shows, some with singing and some not.

Anna Holden

Okay, so quite a few other performance experiences, wow. I know that you said that you find singing Melekaliki Maka from your christmas show we've been preparing for to be physically demanding and hard for you. Can you explain a little bit more about that?

Interviewee

There's a really high note and a big jump. Even if I'm doing it on a lower scale, it's still hard.

Anna Holden

And how have we been using our body to help get those higher notes to feel easier?

Interviewee

Squatting to feel my breath connection better.

Anna Holden

Have you been noticing a difference?

Interviewee

Yeah. It doesn't hurt as much since I get more breath behind the sound. That way I don't feel like I have to push from my throat. It doesn't hurt me anymore because I have a raspy voice in general.

Anna Holden

That's great news! I know that you said that physical exercise helps you maintain your high voice and helps with your breathing. What physical exercise has helped you notice that?

Interviewee

Mostly my chin position and being aware of how my chin looks as I sing. I also can tell a really big difference in my transitioning from my chest register to my head register while squatting.

Anna Holden

Ok so you're mentioning the exercises we've used in lessons for your posture and connection rather than exercise like sports and PE?

Interviewee

Yeah.

Anna Holden

In the questionnaire you mentioned that your definition of a vocal athlete is someone who uses motions that are considered an exercise to help with their voice. Have you ever done any of those? Have you ever used any exercise either with me in our lessons or through your shows to help your voice, any exercises?

Interviewee

Well yes, um kind of. Me and you use them in our lessons for sure. In some of our play rehearsals we have used squatting, but I don't know what it was supposed to do. Most of the time we just use exercises to explore our high, middle or low voices.

Anna Holden

Okay. Have any of your theatre directors or choir directors or music influences in general talked about physical exercise?

Interviewee

No, not other than them saying to be sort of physically fit or physically well, for performance. Sometimes with your throat, you have to be really careful since your instrument is in your body, you have to make sure that you are healthy.

Anna Holden

Right, how do you do that?

Interviewee

Lots of water, lots of water.

Anna Holden

Staying hydrated. What else can you think of?

Interviewee

Don't use your voice all the time before shows.

Anna Holden

Okay, so some vocal rest.

Interviewee

And I guess trying not to sing songs that feel super high or low.

Anna Holden

Okay, next question. Where do you think your instrument is in your body?

Interviewee

Everywhere - your whole body

Anna Holden

Okay, so would you say that it is correct in thinking that if you strengthen your whole body, you're strengthening your instrument?

Interviewee

In some ways, yes.

Anna Holden

Can you explain that?

Interviewee

Well, running can help with your breath, which helps you breathe, which helps you sing. And like doing breathing exercises, and staying hydrated. But not all exercise can help with that. I'm not sure how swimming can help you. Okay. I mean, actually, yeah, it can help you hold your breath longer.

Anna Holden

So I think the connection you just made is that there's a lot of different ways that exercise can be beneficial to the singer. Even like strength training, you can notice how to move the muscles in your body and how to release some of that tension. So it's interesting that you kind of made that realisation, good work. Anything else you would like to add about your experience and singing and dancing and being in shows and how it's affected your body and your voice?

Interviewee

I know that having to dance and sing at the same time is very difficult. And I know that because when I practise or perform dancing movements and things, I'm also trying to exercise my breath at the same time. Putting it all together is difficult even during practices. But sometimes, even if you're just practising dancing by itself, it also is a workout on your instrument.

Anna Holden

Right, there are a lot of ways to go about practising that and one of the biggest factors is the endurance and stamina your body needs to be able to work for that long on top of singing. Great, thank you. I appreciate your time and help with this. I will keep you posted with the results from the questionnaire and from the little mini interview that we just had. But thank you so much.

SP 5:

Anna Holden

I want to let you know that if you don't want to answer any questions or if you don't have an answer that is more than fine, we will just keep moving and go from there. I looked over your responses from the questionnaire and it seems like you played high school football, golf track, all the sports, wrestled in college and you have general fitness from going to the gym three days a week. Do you feel that that has helped you become the singer or performer that you are today?

Interviewee

It's not like I'm running marathons now but I try to get my heart rate going while focusing on breathing and so I think that translates into being able to hold longer notes and breathing a little bit better in your abdomen, by working your ab muscles and also your chest muscles so they don't cave during singing. Finally, it allows you stamina for longer phrases, longer performances. And it also allows you better control over some of the muscles, that's my understanding.

Anna Holden

Absolutely. And everybody feels that a little bit differently. So even me as a teacher, it's hard to teach breathing and stamina because everybody uses different muscles to breathe and engages different parts of their body. So knowing how to engage through physical exercise is really important. Have you ever felt really, really tense while you're singing or performing?

Interviewee

More nervous, which probably leads to being tense. And more so when I first started

Anna Holden

Do you feel that anything from your exercise journey caused that tension or do you believe it's mostly the nerves?

Interviewee

Nerves and not enough confidence, not knowing really what I'm doing which translates a bit to my bodily tension.

Anna Holden

After exercise, do you notice a difference in your voice? Do you notice that you can't sing for a while after you exercise?

Interviewee

I really haven't sung a lot right after exercise. Maybe in the car, but by then I'm back to normal.

Anna Holden

Back to homeostasis.

Interviewee

Right. You know, I work up a sweat, there's no question about that, but it's not as intense. But, yeah I catch my breath but I guess it would be hard to sing right after.

Anna Holden

I know that we've worked on that body mapping and postural alignment especially with our head jutting forward or up and being aware of keeping our chest nice and open as we sing. Are you able to tell a difference in how your voice sounds with that?

Interviewee

Yeah, I think so. I don't feel myself cutting things and phrases off as much when I'm posturally more upright and keeping my neck and head inline. I'm not as tense and I'm more relaxed is what I'm trying to say.

Anna Holden

It definitely enhances your instrument because you're finding support from lower down in your body rather than just singing from your vocal folds. I agree. Do you notice a difference in how your body feels as you sing?

Interviewee

A little bit more relaxed, especially while I'm playing the guitar. I'm not as tense when I'm singing and strumming.

Anna Holden

I've also noticed that relaxed state and that sort of comfortability. You have a stronger stance when you sing which I think aids in sort of confidence and decreasing that nervousness during recitals or performance opportunities. And do you believe or do you think that your general exercise has helped with this?

Interviewee

Yeah. I did a lot of back and twist exercises which I think have helped my posture because that's one thing I'm concerned about. I don't catch my posture lacking as much as before, because it helps with your balance, right?

Anna Holden

And it allows you to maintain that posture for longer times relating back to stamina. It allows your instrument to stay upright so that you can get that support from lower, especially when you're playing guitar and have to have all of that movement added in. That's great.

Interviewee

I'd love to get to the point where Chris and I are actually standing, playing and singing.

Anna Holden

Absolutely, I know that you mentioned that sometimes during your recitals or gigs or even just practising, you feel that those situations are physically and vocally demanding. On a scale of 1 to 10, 1 being the easiest thing you've ever done and 10 being the most difficult. Where do those typically fall if they're in the physically demanding category?

Interviewee

Probably seven ish.

Anna Holden

Where is that difficulty localised if you could pinpoint.

Interviewee

I think it's more focused, more mentally difficult. I'm thinking about the chord changes. I'm thinking about the words I'm thinking about the octave and register in the voice. So it's not so

much a physical aspect of it, but it's just more of the mental work and coordination to make everything come together.

Anna Holden

So if you were to give a number of the vocal and physical demand, rather than mental, of those performances, what would it be?

Interviewee

Probably a 2.

Anna Holden

So you're really not having any sort of body tension, discomfort or vocal discomfort. It's mostly just mental and understanding the coordination.

Interviewee

Thinking about confidence comes too.

Anna Holden

How does your body feel during those challenging practices or performances or recitals or gigs?

Interviewee

Tense I guess.

Anna Holden

How does your body look?

Interviewee

Probably tense.

Anna Holden

How does your voice feel?

Interviewee

Hopefully not tense. I'm sure it comes out a little bit.

Anna Holden

How does your voice sound?

Interviewee

Again, hopefully, it doesn't sound tense or shaky. At the end of longer phrases I am noticing they're more stable when they used to be really choppy and shaky.

Anna Holden

After a physically or mental or vocally challenging performance, how do you recover? What is that recovery process for you?

Interviewee

Well, my smart aleck answer is a shot of bourbon. No, I guess I do a lot of reflection on my performance, you know, trying to figure out what I did well or what I can improve.

Anna Holden

Okay. Have you ever done something like a vocal cooldown or a physical cooldown? Even a little stretch to get your body a little looser from that nervousness?

Interviewee

Before performing I walk and vocalise or something up and down the hall before I get on stage. I may just take a couple deep breaths but afterwards I usually don't do anything.

Anna Holden

Last few questions, most people are aware of professions that are support systems for professional athletes like physical therapists, strength trainers, coaches, massage therapists. Are you aware of any of those professions other than a voice coach for vocalists or musicians?

Interviewee

No, but if there aren't any, there probably should be.

Anna Holden

Okay. That's kind of my inquiry with this research project. There are so many musicians of all genres and calibres that are told that they are the only ones in charge of their voice other than their voice teacher. Then they're also told that they have to meet the demands of dancing while singing, or act, or hold instruments. Not many performers are taught how to do that effectively and sustainably. Also, there are varying opinions about it. From my experience, classically based genres have a sort of negative opinion on adding in movement to the voice because it can add tension in your body that you don't want to have as you sing. How are you supposed to meet the demands of an industry where you're supposed to be running around the stage or playing guitar or acting, dancing, the list goes on and on and on, without knowing what to do with your body. So I'm trying to see if there are any ways that there could be a vocal movement coach to integrate both of those things so that it's not just on the musician's plate. You always have to advocate for your own voice but having a professional trainer, per se, who knows the demands of the voice industry and also understands how to integrate exercise and the voice would be beneficial, so that the artist can be their best and perform their best

Interviewee

I can see that especially a stretching example you put on in loosening up and now I can see because you watch these guys like the stones or the Eagles, I mean, they're out there for two

hours plus, probably seven nights a week. That's really demanding. So I don't know if there's anything that they do when they're not on tour, but during tour, I don't know.

Anna Holden

And there have to be even so many exercise science principles used like overload and endurance and gaining that stamina through intensity and time. And all of the same things that relate to exercise, relate to the voice, just with different muscles that you can't fully see and have to use different senses in order to train and have to be very in tune with to help others train. So that's what I'm going about in this project. And I feel like your responses are really helpful. So I appreciate your help. Is there anything you'd like to add?

Interviewee

No, but I can definitely see the tie in, especially as you get older, singing right below the professional level. Like Neil Young he says most of the time when he's playing he's sitting now, but you know, he's still bouncing around, that's a lot on an old man.

Anna Holden

As an artist and performer you must work to gain that consistency, endurance, stamina, injury prevention and fatigue resistance. There are a ton of different aspects that lead back to exercise and just general well being that a vocalist and performer needs to be versed in. The hard part is that some artists don't know how to go about it or what questions to ask when it comes to exercise and physical vocal health.

Interviewee

I know professional musicians go off and they play tennis, they use things like that, but I don't know what they do on tour. When you're doing you know, 50 cities and eight months. I mean, it's gotta be something tied into physical wellness and exercise.

Anna Holden

Right, and the demand is always there and you have to deliver in every performance, which has got to be hard. Especially when your instrument can't be detached from your physical being.

Interviewee

I see that more with Taylor Swift or Britney Spears, because they are always doing full blown musical productions when they're singing, dancing and stuff.

Anna Holden

There's got to be some sort of routine there that shouldn't just have to fall on the artist in order to meet the demands. Some artists may or may not know how to go about general fitness in a way that enhances their performance and their singing instrument.

SP 6:

Anna Holden

Before we get fully started, I want to let you know that if you don't want to answer any of the questions, you are more than welcome to just say, Let's go to the next one. And there is no obligation to answer every single question and if anything makes you uncomfortable or you don't have an answer for it, just let me know. Let's get started. So I know that you have experience in choirs, musicals, and voice lessons here. Have you had previous voice lessons before?

Interviewee

No.

Anna Holden

And from the questionnaire, you mentioned that you used to play softball, baseball, and gymnastics, so you are more than aware of the stamina it takes to be in athletics. Have you ever felt extremely tense while singing or performing?

Interviewee

No.

Anna Holden

Great. We definitely don't want tension in our body anywhere. I was a gymnast as well. And growing up we were always told that you cannot have tension in your body as you do gymnastics. Were you ever told that same thing?

Interviewee

Yes. I was told to have that sort of flexibility, that agility and you can't do that when your body is tense. You need to have relaxation.

Anna Holden

The same sort of thing goes with singing and performing. It's hard to maintain that especially as everything is going on. Do you think that your exercise experience with baseball, softball and gymnastics have had an impact on your vocal instrument and the singer you are today?

Interviewee

Vocally, maybe, but just more like stamina wise, being able to do more for a longer period of time.

Anna Holden

I want you to think about a challenging or physically demanding performance. How does your body feel? How does your body look? How does your voice feel and how does your voice sound?

Interviewee

I feel that my voice sounds **tired and strained and feels harder** to sing. My body definitely feels **tired and I have to push to keep going**. Hopefully my body doesn't look tired. But it probably does look a little bit more tired as the performance goes on.

Anna Holden

Do you feel like your body looks relaxed or tense?

Interviewee

At the end, **probably tense**.

Anna Holden

Okay. You said that it sounds vocally difficult, but in the end we want to make sure that our voice sounds nice and easy. That's definitely something that we've been working on in our voice lessons. But transitioning that from standing in choir or standing in here, into a 10 minute long dance set while your singing is different, right? I know that we've gone over some exercises but have you had any voice teachers other than me, choir directors or musical directors give you any other exercises that could help with that?

Interviewee

No.

Anna Holden

Have you ever had choir directors, teachers, or vocal influences mention anything related to fitness?

Interviewee

I think it's just our **choreographer**.

Anna Holden

Does she have vocal experience or just dance experience?

Interviewee

Not that I know of.

Anna Holden

Are you aware of this sort of support system around professional athletics? I'm talking about strength trainers, physical therapists, nutritionists, coaches, massage therapists.

Interviewee

Yes.

Anna Holden

Are you aware of any of those professions or systems for professional vocalists?

Interviewee

A vocal coach, other than just choir directors. Are there more?

Anna Holden

That's where this study stems from. I personally have seen a lack of profession around the vocal instrument and body as a whole. Obviously there are professionals when you injure your voice called speech language pathologist, speech therapist, or laryngologist but there aren't very many professions other than a voice coach who deal with the voice and how you exercise and how you incorporate your body in physically demanding scenarios. Standing and singing for an hour or 30 minutes is not substantial if you're expected to go out and dance for a whole hour and a half, or perform a musical where you have dancing and singing and acting, what we call triple threat. There's not really exercise specialists for vocalists. Other than the sort of dancers who know dance like choreographers or voice teachers who know voice. There's not there's no mixture of the two. Growing up, I was in choirs, show choirs, you name it. And then I went the classical route into opera and I was told that I could not move. I had to stand still and straight and somehow use my body. There was a disconnect of how to do that safely and effectively. There's nobody to really advocate for the artist's voice and their instrument other than the artist alone. Maintaining physical wellness, from day to day exercising from eating correctly, is accompanied by varying opinions. From my experience. there's no professional to help you navigate those opinions. Do you notice your vocally and physically tired after a challenging performance? How would you describe that feeling both in your body and in your voice?

Interviewee

My body just feels exhausted, not sore almost but like a little bit like dragged down? Vocally just wanting to breathe and relax.

Anna Holden

Do you ever feel like your voice and the vocal muscles or your vocal folds are tired or strained?

Interviewee

I would say not now, but like last year definitely a little bit, yeah.

Anna Holden

What does that recovery process after a performance both physically and vocally look like for you?

Interviewee

Mostly just resting, sitting down for a while and getting water to rehydrate my body and voice.

Anna Holden

Have you ever used stretching or a cooldown method similar to athletics?

Interviewee

I don't think so.

Anna Holden

I would definitely suggest it especially as legacy is getting harder. A warm up physical and physical cooldown will be helpful as well. Circling back, the breath stamina that we were talking about, where do you mostly feel your breath in your body and its control if you could localise it.

Interviewee

pointed to abdominals My diaphragm mostly.

Anna Holden

Are you thinking like upper core lower core?

Interviewee

Upper core, yeah

Anna Holden

Great, I just ask because people feel breath differently and they actually use different muscles to control it. We want to make sure that you're honing in on your breath muscles rather than just me telling you how I breathe. What helps you engage that control best?

Interviewee

I think it's just like working on finding a good time to breathe and not just heavy breathing. Also when I get a chance to breathe, having it be natural and controlled. Then when I need to sing again, starting the sound from my breath rather than having my breath catch up to my voice.

Anna Holden

Yes, letting it be more calculated and systematic rather than emergency breathing, right. I think that's great. We've definitely been working on adding in some light exercise as we've been working here. Obviously, it's not as comparable as dancing for 10 minutes straight, but it's something that we're starting to progressively overload to help. I know that you mentioned in your questionnaire that you've been seeing improvement with that which is great. Awesome. Anything else you would like to add?

Interviewee

What we have been working on definitely translated because I noticed at our last show choir concert I was not nearly as out of breath as I have been or would have been without lessons.

Anna Holden

That is so great to hear. Awesome. Wonderful. I appreciate your input!

SP 7:

Anna Holden

Just some ethical notes to start, you are not obligated to answer questions if you do not want to or do not have an answer and your participation is completely voluntary meaning that you can stop at any time if you would like. If you do not have any questions or concerns we will get started. In the questionnaire you mentioned that you used to run cross country, you've taken up tumbling and you participate in general fitness to remain fit for acting and modelling. Do you find that running or any of your physical activity plays a role in your voice either positively or negatively?

Interviewee

Oh yea, I definitely notice it in my breath and my ability to maintain a relaxed control over my voice and my body as I perform. I feel like I can control my breath through the phrases and know what muscles to contract and relax to get my best balanced sound.

Anna Holden

Amazing, that's a wonderful answer and I'm glad you're able to harness that natural or relaxed control as you put it. It seems like you're also able to work on getting stamina and endurance through your breath. Are you able to localise where that breath and relaxed control is in your body? There's no wrong answer.

Interviewee

Um, I notice it most in the inhale underneath my sternum and in my upper core. On the exhale it's lower in my stomach, abs and pelvic floor. I know in past lessons you've mentioned to start using and feeling it in my upper or middle back and side with my ribs and keeping that inflated throughout a phrase, but that is not fully in my body yet.

Anna Holden

Are you able to hear a difference in your sound as well as feel in your body?

Interviewee

Yes, it sounds easier and I am able to have more flexibility and agility in my sound, especially while dancing, staging and tumbling. It almost is more buoyant, if that's the right word?

Anna Holden

Oh absolutely, I understand what you mean, what a great description. On a scale of 1-10, how important do you think it is for vocalists to be physically active?

Interviewee

That shouldn't even be a question, 10. As you know, I just finished up Newsies and I had to do a ton of tumbling and backflips and aerals. But other than that, even musicals without a ton of dancing or circus stunts you definitely have to be flexible and mobile for staging and keeping your singing voice supported. Also just general exercise can keep you healthy enough to get through tech week and show weeks while working on your breath and body as a whole.

Anna Holden

Great, and I know that production was a doozy and you handled it so gracefully and with so much strength. I'm glad you notice the many ties between the musical theatre singing genre and general exercise. Unfortunately there are no programs for artists to go from couch to the stage, newsies edition, it takes time and practice, which a lot of artists don't know how to approach. Are you aware of any professions or jobs that are meant to support professional athletes?

Interviewee

Uh, like coaches and trainers?

Anna Holden

Yes, any others you can think of?

Interviewee

Nutrition specialists, media marketers, agents, even more trainers I'm sure.

Anna Holden

Exactly, good, now are there any similar professions that you can come up with for vocalists and musicians?

Interviewee

I mean I have you, my vocal coach, directors, choreographers, the agents and administration staff for the shows I do. I also think you mentioned some medical jobs around the voice a few times, but I don't remember specifics.

Anna Holden

Right, good. You came up with great examples. I know we've also talked about the huge responsibility the singer has to take care of their voice and maintain sustainable technique. Other than the vocal coach and the SLP's and voice therapists a singer may have, all of those other professions are probably more worried about other aspects rather than the singer's voice.

So unfortunately, even in professional scenarios, all of the pressure to take care of the voice falls on the artists rather than a support system or staff that athletes have. Also, a lot of the time it is just the vocalist and their coach if they have one doing maintenance. SLP's and vocal medical professionals are not there for preventory work, they have an injury and rehabilitation focus. There are very few exercise professionals who understand the artist's voice and industry demands, which is what I would like to change.

Interviewee

Woah I've never thought of that, that is really cool. Everyone really just thinks that singing and doing musical theatre is easy and doesn't require a lot of work, but they're wrong. My friends who came to Newsies were shocked at how much was happening and how much I had to do. It was cool to show them that it's more physical and not just standing and singing.

Anna Holden

I bet. Thank you for sharing that. After your shows, how does your body feel?

Interviewee

I'm pretty tired I guess, definitely lower energy. Especially if there are 2 shows in a row, I feel really tired then. Even sore and dragging the next day.

Anna Holden

Right, it takes a lot of endurance to keep that energy through 2 shows and stay on top of all of it. Do you have, or does the cast do any sort of physical warm up?

Interviewee

Sometimes. The tumblers especially do some stretches and try some of the stunts before the show. But for everyone in the cast, not really. It's mostly just vocal or on your own.

Anna Holden

Gotcha, I'm sure you've used warm up during cross country or exercise to get the blood moving and get your mind and body ready for the task. Have you ever used a vocal or physical cool down after shows?

Interviewee

No, other than just taking it easy and relaxing I guess. I know we've done vocal cool downs with lip trills or bringing my voice down from a belt and mix. I could probably do that after shows too.

Anna Holden

I would definitely recommend that, and also taking some time to get your body back down to a normal state, stretching and massage would be good. Just to make sure that you take care of

your body instrument as much as possible. This will also let you stay fresh between shows while finding relaxation to conserve energy for the next show.

Interviewee

Definitely a good idea I think.

Anna Holden

If you had to describe where your vocal instrument is, what would your answer be?

Interviewee

uses hands to show whole body I think it's my **whole body**. I mean in lessons you've talked about my **legs, shoulders, back, stomach and abs, head, arms**, you name it. It is **physically and mentally tough to sing, especially when you just sing from your throat only**. I know from experience I can't do that for a long time and it feels awful. Having your voice use your **whole body to perform is much easier and more helpful in the long run**. We have used **squats, band, pushups, body work, balls and all of that almost the same way sports use exercise**. It's all **physical** to make your **voice more supported, full and healthy**.

Anna Holden

I am so glad you think that and thank you for bringing all of that up. I am definitely a believer that the voice is a physical instrument and a physical sport, no matter the genre you sing. I hope that you'd be interested, in the future, to help me inquire how to incorporate physical exercise and the voice to keep enhancing performances and performers. Is there anything else you would like to add? All of this has been amazing input.

Interviewee

I don't think so, but you've really helped me **realise that and use my body**, I haven't had a teacher show me this before. I feel like a new performer and it has really allowed me to get the Newsies role and I want to keep working on it.

Anna Holden

That is amazing to hear. Thank you for leaning into the weird exercises and I am so glad you are able to notice the progress, that is a huge win!

TP 1:

Anna Holden

I was able to look through your questionnaire and I have some follow up questions for you. If you don't want to answer any of the questions, that's okay. We can just skip on to the next one.

Just some ethical formalities I have to do, but let's get started. I know you mentioned that you typically teach musical theatre, pop, jazz, rock and soul. Do you perform any of these genres?

Interviewee

Not so much these days, but I have in the past.

Anna Holden

I know that you mentioned that the easiest gigs were at your fittest so there was sort of a comparison there between physical exercise and your vocal performance. Did you notice any specific gigs where you realised that your physical fitness was most at play? Or when it was most beneficial?

Interviewee

After having children. Basically most of my performing pre children I think I just took my fitness for granted. Then life got disrupted. And the kind of lack of sleep and lack of regular exercise apart from pushing a buggy but, you know, I wasn't really going to regular dancing lessons anymore. I wasn't actively dancing or performing for a while. So I remember one gig when one of my children was like, five months old. And I just didn't have the stamina that I had. I noticed that it was all much harder work.

Anna Holden

Wow.

Interviewee

Physically, I was kind of physically tired by the end. Now that may also have been because I had a five month old baby so much, but generally my physical fitness definitely had dipped.

Anna Holden

Exactly, once those muscles become dysregulated it's hard to upregulate them again, using you know those science principles from exercise science and it's definitely easier to keep them that way. However, when you have a baby, it's not fully practical. Did you find that your previous experience with dance has, or have you found I should say, has impacted your method of teaching or the singer and performer that you are today?

Interviewee

Yes, I think I had to do a lot of work around my abdominals. And because I trained in musical theatre I did a lot of belting with shallow breath - intense kind of go for it singing. Then I did classical training afterwards. So I had to relearn slightly lower patterns. So now I don't think it's changed my the only way it's changed my teaching is in awareness of that bit even being an issue. Having felt it myself, I mean, I knew it was an issue but I came to teaching a little bit later

after lots of performing so I've been through that whole thing. So knowing now, I always ask what their whether they done dancing like in first before they even come for lessons than I usually try and get the lowdown on who they are and what they're coming because I do deal with lots of performance. So, knowing that dancing background, looking at their posture in the first lesson, I don't tend to go too much into breathing if it's not apparently an issue straight away because it just messes with people's minds.

Anna Holden

Exactly. I've looked at a lot of research where even studies cannot pinpoint an exact breathing muscle set that everybody uses, even within a specific genre. So I definitely follow that same teaching pattern as well. Obviously, getting the background, the backstory, and allowing them to experiment more with their breathing rather than it be a regimented thing as a right or a wrong way to do any of it really right.

Interviewee

Very much as a principle of what's working. Let's encourage how it feels, right? Things like that. A more holistic sense.

Anna Holden

I definitely connect with that as well. And going back to your background of starting with musical theatre and then switching to a more classical training. Did you notice any major differences there in terms of physicality?

Interviewee

I was surprised by just how much more I think I needed to move my body although I don't think actually it was necessarily more it was just different. By different I mean all of my ribs and there was a lot more expansion and freedom needed and needed a much greater buoyancy. All of these kinds of slight, I think my connection, my vocal connection previously had been very belty primal, sort of from the chest up. So to actually have to pinpoint different ways of boosting the sound rather than it just being a total belt from the throat. I remember my singing teacher had me standing on the balance ball against the wall, I became aware of my back for the first time. I was like, oh my god my whole body is involved.

Anna Holden

It's great to hear that you use these systematic and holistic approaches, different tools and the balance board and the stretching bands and all of the things that you mentioned in your questionnaire. Where did you learn most of those movement practices or approaches?

Interviewee

Yeah, so some were from my classical teacher and the rest were probably from my Estill training. So in the Estill model we refer to anchoring, which is basically a kind of support. So to support the sound we've got torso anchoring, or head and neck anchoring. And it's a way of stabilising the larger structures to help ones do their job, but in a way that's not rigid. So it's kind of flexible strength. So the resistance bands are really good for helping people to become aware of their lats, or their pecs, the muscles that helped to stabilise the torso. Lots of movement postures I do are similar to when you're in the tube and you try and get from stop to stop without falling over. That kind of posture of being flexible, but ready. That balance that you have to receive motion and balance out with it. For the head and neck stability, lots of the time they'll be things you know, just giving yourself a tiny bit of resistance with your fists to become aware of your sternocleidomastoid or a band around the back of the head. All of those kinds of things. They use the resistance band for torso anchoring to have a little bit of a sense of strength. So yeah, I think probably mostly from that, so training and my previous teacher.

Anna Holden

I am definitely going to have to dive a little bit more into Estill training because it sounds like what I've been doing my whole life through either sport or exercise. I have found it has allowed me to gain that knowledge of being ready for work outside of a singing standpoint and then be able to use it in practice. Sometimes, especially when I'm working with students who are either beginners or have trouble with coordination, they don't know how their body works. And we obviously do body mapping and kinesthesia work, but having that coachability of your own body I have found is really, really important in who I am as a performer and also who I am as a teacher. And I want to see if that can be a more useful link between the athletic community and the vocal community. I've also found that physical therapists or even physical trainers personal trainers don't have an understanding of the demands the voice industry places on an artist or even general knowledge of the larynx and the vocal mechanism in order to train the vocalist. I find that these days when I'm going from a classically opera driven background into more of a musical theatre or even funk, pop jazz, there are different ways that a singer needs to utilise their instrument and there's not as much support as say a professional athlete, rather than just preventative or injury care from an SLP or voice therapist. On a scale of one to 10 Where do you think physical wellness should fall for a performer in terms of importance?

Interviewee

Oh, is this a tricky question, because do you mean just on its own not in comparison to other things on its own or where it will allow them to excel in their careers or towards their vocal goals? That would be 10. I mean, it's a **physical instrument**.

Anna Holden

Exactly. I would be in the same boat as well and I grew up very, very classically based on training. That physicality wasn't always accepted. You always needed to stand at the piano with your hand on it and somehow sing a high C, right. And at times, I would say, Oh, I'm gonna go work out after my lesson or I had physical exercise before my lesson and that would be almost frowned upon. Have you ever had situations similar to this?

Interviewee

No, because in **musical theatre training, you are always having to be physically fit, able to get through a dance routine and sing it at the same time** anyway, so I definitely never felt like it was frowned upon. And that **could totally be just a classic traditional mindset of the instructors that you've worked with**.

Anna Holden

It's definitely something that has stuck with me, those sort of negative opinions, and it's something that I definitely do not want to instil on performers, especially with nutrition and eating disorders and all of those sorts of aspects that really link into it. And with it being so connected as a physical instrument, you cannot detach yourself from it. It brings in the mental capacity of either using fitness and wellness as a cathartic release, or as a punishment and definitely ties into nutrition and other touchy health subjects as well. I know that you mentioned that you encourage your singers to seek additional help and support from other professionals. What do you typically suggest for a beginner rather than like a West End professional or a Triple Threat performer?

Interviewee

Well, it depends on what I think they need. **Don't think I would immediately go to physical exercise or physio. I usually recommend the speech language therapist.** The GP actually is usually the first [REDACTED]

[REDACTED] I always tell them to say that they're very heavy professional voice users. And if they're not, they'll wait for like two years. And say, I really rely on my voice for my job. So can I have a scope please? And then they have to wait six weeks or whatever, right? [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] then I would encourage them to share as much about their lifestyle with the GP. Okay, yeah, they might end up referring [REDACTED]
[REDACTED] And it's very different from stretching.

Anna Holden

Yeah, very different from what I'm used to here [REDACTED]. Is that for preventative care or more for if you notice abnormalities?

Interviewee

Usually for a beginner for example, if they ever come and I can hear some kind of maladaptation or dysfunction, or maybe a slight raspiness or huskiness. I usually give two to three lessons to check if it's just functional and if we can exercise it. Say now they've got a really nice clear tone, so we know that actually it was not maladaptation or dysfunction. You know, you haven't got massive nodules or something. I don't say this to them, but this is my course of action. And then after that point, if, after two or three sessions, I can't even hear any change I'll say it's probably worth us getting a little bit of some other agencies involved.

Anna Holden

And that leads back to your holistic approach which I commend.

Interviewee

And in that conversation, we would discuss hydration, sleep, nutrition, voice use throughout the day. I don't often actually talk about general fitness but I think I will now.

Anna Holden

I'm definitely able to send you some literature and the results of this study and the interviews that I am going through. That is really fascinating and in your few sort of lessons where you're almost feeling it out, if you were to give the referral to the GP or not, do you use any sort of voice therapy exercises? Like you said, with the Estill method.

Interviewee

I try whatever tricks I have him right in my bag. You know, if it's, if it's a kind of chronic breathiness I might try working with onsets then I might try some breath work. I'll do some SOVT kind of exercises. I'll do some awareness to the body and look at alignment and see if they're collapsing anywhere. We might get into some movement by swaying the arms in the air to see if they're just driving too much because that's quite a good way to stop driving through too much or we might look at onsets. We might look at adding some kind of cry to the tone, that kind of thing because sometimes that can help close the folds a bit all of those other things and so, it just depends on the person.

Anna Holden

It does seem that you use movement in some way in nearly every lesson, either as some sort of analysis of the sound or to get the desired sound and connection.

Interviewee

100%. I especially don't know what it is about the movement, but it drives the point across and takes the students mind off of overthinking. Everybody seems so static. Every lesson I make my students move their arms around, or bounce on the ball, or use the bands.

Anna Holden

I definitely see with my younger students who believe that you just stand and sing in a singing lesson or that's what they've been used to in the past and once you introduce movement they open up vocally and mentally. The movement I use ranges from having their hands up, pulling something, bouncing on a ball standing on a balance beam or laying on the floor. It's a very active and physical thing that I feel like a lot of students and even some teachers aren't utilising the benefits for.

Interviewee

I think also sometimes the movement is doing the job I intend it to have because it's addressing something physical. But also sometimes I think the movement is just a great way to distract from overthinking. Letting it be a mental release. You're also working on the vocal stamina, the breath endurance, all of these things. That are sort of masked by tension that might be creeping in where it's not helpful

Anna Holden

I've always noticed and the biggest thing, going back to those sort of negative opinions that I noticed in the classical world is that they don't want tension but standing straight and trying to hold your body in a way that they thought was classically correct increased my tension. I wasn't able to get rid of that until I fully dove into my body and encouraged and explored movement. I hope that I can instil that in whichever genre my students are looking at so that they don't have to go through that process of being so classically and traditionally perfect with their posture, because what is that?

Interviewee

Also I find that it's so much easier to get them to move and make enormous movements and gestures because you can then contain it. So if you want the illusion then ultimately say we are singing a classical song, to have that kind of poise and that elegance, you still kind of maintain that sense of movement inside so you can absolutely hear while still being still ish. Just still

having that flexibility. It's that balance rather than that rigidity outside first rather I'll move a little bit more. Okay, I'll move a little bit more than no just move loads right.

Anna Holden

Absolutely. And I feel like even just going to my athletic background of even strength training or say running, you just have to get into it first and then you focus on form and get it better and work it into your lifestyle. And then you move better. And from my experience when I incorporate both of those forms and focus, I sing better.

Interviewee

Singing and performing really is all about the movement. I remember a lecture from Heidi Moss I believe speaking about how our neural and vocal pathway duplicated at some point in our evolution next to our limbs. So they're kind of identical; the circuitry is identical. And then one day they duplicated, and one went to our limbs and our hands and one went to our larynx. It is a fascinating link to why we're so expressive with our hands and so on. So that there's this kind of really neurological link between the way we gesture and can get moving and it can free up the more free our movement, the more free we can be vocally.

Anna Holden

Wow that's fascinating, I am going to look for that.

Interviewee

As a final anecdote, my voice is now getting older. I lose like a semitone every few years. I think it's really heartbreaking. I'm not even like a proper high soprano. Well, I mean, I could just sing. I could probably squeak out E six these days. Okay, not very not because, you know, C's were really easy. C's and D's are really, really easy. So to get a kind of D or D sharp. I was just thinking of this kind of stretching gesture and as soon as I put the movement in like an exercise, it links and I did this on the top note and all of a sudden it is as clear as anything, as free as anything and easy as anything. Like oh, this is some kind of witchcraft.

Anna Holden

Magical. That is fantastic. Wow. I'm definitely going to have to take a peek at that because I'm intrigued by the neural connection to movement and also the voice and how you're saying that they're linked in that way. Anything else you would like to add? This has been wonderful.

Interviewee

I mean, yeah, every student is different. The more I teach, the more I realise that the voice and performance is about our body. This chat has made me think about my own fitness because I'm really not fit right now. I'm singing at the weekend, so I'm now like ahh.

Anna Holden

Also it gets you thinking that you don't want it to affect your voice or performance in any way and or be sore and carry tension. I understand that that's where a lot of the sort of negative opinions around physical exercise stem from. But in a way, especially in the preparation process, I've found it's a cathartic release to where you can just forget about singing for however long you exercise and then you come at it with a fresh mind and an activated instrument.

Interviewee

The only other thing I'll say about fitness is that this is a massive adjacent topic. There are a couple of exercises and sports which I think people who teach them and train them need to be really mindful of and one is yoga, where they do the thing with their breathing. Can't really think what it's called, you know, the **breathing that is noisy, that constricting**. I always just feel like I want to tell all my students that do yoga, can you just not do that breathing. I don't know whether it's really bad or not. In my head it must not be great. It sounds like an elongated clearing of your throat from my experience. And I think it is just a constriction of the vocal tract to give you the kind of noise that must be quite drying. I always find it quite drying. So that's the other thing and it is also people that do weights in gyms. I've always felt like **I want all personal trainers to encourage their people to work with breathing, not have the grunting**. I am not sure if you've come across that yourself, but seeing and hearing that in exercise scenarios has made the voice teacher in me shutter a bit.

Anna Holden

Agreed. In the newer research I've found that backs up physical exercise and voice integration does mention these vocal warnings, especially with the **Valsalva manoeuvre** in strength training. The manoeuvre is basically taking a very deep abdominal breath and holding it under glottal pressure to increase intra-abdominal pressure to brace the core and spine. As both you and I know, that pressure on the larynx and glottis is not ideal and can lead to injury. Also the holding aspect creates other issues. I appreciate you bringing this up, and it is an area where I believe exercise professionals can be educated on the anatomy and physiology of the vocal mechanism in order to help vocalists in their exercise journey. As a vocalist who has sought out exercise professionals, I know that their understanding of the industry and instrument is lacking and the pressure of supporting and maintaining the health of my instrument was solely my responsibility. My goal with this study is to uncover ways where that support and awareness can be increased both in the vocal and exercise industries.

Interviewee

I think that's genius, it's about time people started supporting the arts.

Anna Holden

I'm with you. Well if you have anything else to add please let me know, but I do appreciate your time and your input, it's been invaluable.

TP 2:

Anna Holden

Thank you for making some time this morning. I really appreciate it. I just have a few more questions about that if you're ready to get started. So I know that you perform, what genres do you typically perform? Which are your tride and true?

Interviewee

Folk, classical choral and sometimes gospel.

Anna Holden

Okay, great. And have you mentioned you engage in general exercise with yoga, pilates strength training, running. Have you found that that has an impact on the performer and teacher you are today?

Interviewee

Yeah, I think so. I think one of my biggest regrets from my own education, is that when I was studying music in university that I didn't have an exercise routine.

Anna Holden

And you think that not having that exercise routine was detrimental to your studies?

Interviewee

Completely, because I realised now, how the degree I did was difficult and a lot of this was very theory focused. So it wasn't fun. And it wasn't a case that I was developing my piano playing, or my singing because there was no tuition on the course I did. All heavy academic stuff. So I know now, when I look back, and I look at resources like the stress response cycle, I can see how severely I was stuck in a stress response for the entire duration of my experience at university. I know that exercise would have helped me to release that or some of that, and at least kind of stay on top of it. So by the time I finished university I had nothing but open circuits, the stress response cycles.

Anna Holden

I had a very similar experience. It's tough and definitely wears on you mentally and physically. And most of the time you feel like there's not even time because you have theory work to do or

other major work to do or let alone prepare for performance or other required things. It gets to be overwhelming.

Interviewee

Yeah, and I didn't have the knowledge then. And I don't know if the understanding of the stress response cycle was as sophisticated as it is now. It's not an area I've researched, so I'm not really sure if that knowledge would have been available. I think that I thought people talking about exercise, something that relaxes you as anecdotal. You know, that was certainly my understanding of it. Even now, with the education that followed, I was lucky enough to study with Judith Mark. In my first session, she squeezed my arms and my thighs which might be ridiculous now, but in the sense of being able to physiologically, she felt my structure, or lack thereof. But she was like, You need to be stronger to do this. And her point was that if my body isn't strong, if my muscles aren't strong, my body is spent expending a lot more energy to just keep me standing up right. And then that extra energy and muscular activity that's required for engaging the abdominal muscles or I need to do with my ribs when belting, for example, that type of thing. And most of the energy that it takes for your brain to focus in that way to produce a singing sound, and to concentrate in a lesson is very physical work. It takes a lot of physicality and focus for your body to be ready to take on work. I don't have a qualification in exercise. For me, I understand that it brings more efficiency in the way my body works. And it brings me a sense of being able to let go of things that have come before, which you absolutely need for singing. Singing is a physical activity, but it's also a mindset activity. That link is very tangible, and very real.

Anna Holden

I'm so glad that you feel that way. Honestly, in my experience, and my training, I trained classically in university. I have always been involved in sports, I've always been active and athletic. I always felt that my body was my instrument, my whole body rather than my vocal mechanism, breath and the vocal tract. But that wasn't always valued or even accepted. And I got a lot of negative opinions and backlash when I would use exercise, either as a stress relief or to prepare my body to take on singing work. I didn't know if this was other people's experience, or if it's just the teachers that I saw, but they saw that any sort of physical activity other than yoga was tension increasing. So I feel like I have almost a trauma response when it comes to singing and exercise, and I don't want to instil that into my students. I want to get everybody's take on how the body actually is involved in all of this. And how best to support and encourage artists, of any capacity, to utilise and explore their bodies in a safe and sustainable

manner. Because I also noticed that in your questionnaire, you referred back to sports athletes, and sort of the support that they need in their careers. And one of my questions for you, is that do you see any comparison with that with vocal athletes in terms of injury prevention, rather than sort of injury care? I mean, I understand that there are medical personnel like SLPs and laryngologists and voice therapists. But do you believe that there are any sort of vocally influenced exercise therapists to aid in artists or vocal athletes similar to an exercise therapist for a professional sports athlete?

Interviewee

My thought I'll just begin with a bit of an anecdotal things, how I've come to the conclusion I've come to because, for me, who's just setting out on this informed singing, teaching, which I've only really been on for a couple of years, a lot of my own experiences are still quite anecdotal. But when I went to **Judith Mark, who really helped me to understand what real training looked like, the singing voice**, I had experienced, really frightening vocal injury, I don't know specifically what was going on here *points to larynx* to this day, but I was teaching workshops at the time, and everything was very loud and heavy for a week of overuse, really heavy. And by the time we came on Friday, we thought it was raw. And I've been there before, because I wasn't, I didn't have any access to good practice around the style that I was singing in. My throat was throbbing, for about three days after. Now, I was fortunate enough to be good friends with this teacher's daughter. And she was like, you just need to come and see my mom. And I was like, but I can't afford your mom. She was like, shut up, come over, have dinner. She's gonna help you. So those first couple of sessions helped me to come back from injury. And I never had unexperienced thoughts in that sense. Because **nobody taught me how to use the mechanics of my voice, to create a healthy sound**. Someone highlighted to me that the techniques and singing I was using was not going to help. I'm using a lot of general language right now with the language that my singing teacher would have used was much more from Bel Canto. And she would have said you can do that for me right now, but if you try and do that six nights a week on the road, you're going to be in trouble. I was like, yeah, I can feel that I understand the need for a different way to do this. From this vantage point, what is it 10 years later from receiving that, I think that what she offered me in that time was something that can be obtained, potentially from a teacher, but also from a therapist. So for example, somebody that I know very well is having similar vocal problems to the ones that I used to have. I'm looking at them and I'm thinking okay, there's a range of supportive options they could have. They could go to a singing teacher for a couple of sessions to re-attune the system. And then if it's still a problem, then progress on to a

different professional then it's time for a scope, then it's fine for going to an SLP. You could go straight to the SLP, you could go for laryngeal massage, there's a lot of different ways to tackle vocal injury. And that there are a lot more people who see the other side of this is our professionals talking to each other, which we're seeing often. Where we have things here I'm

has a voice clinic that has Speech and Language Therapists, surgeons, but they also have singing teachers. At the time that I went to the singing teacher with that injury, way back when she said to me, come to me, because if you go into the hospital, they'll charge you to put a camera down your throat. And they will give you information that's going to help you see that my vocal injury came from vocal misuse, right? Because I use my voice in a way that is specialised as a teacher, as a singer. That's where my injury came from. So her expertise, she was able to hear exactly what I was doing that was causing the injury. If I'd gone for a vocal scope, yes, they might have been able to tell me I believe they likely would have found something, I don't know but maybe my vocal cords were quite swollen, the false vocal folds can flare up to protect the vocal folds. That wasn't necessarily going to coach me in how to use my voice in the situations where I've gotten injured in the first place.

Anna Holden

Right. I feel like I've been mulling this over for probably almost six months. But if you were to think about the body of a performer, other than going to a general exercise professional, physical therapist, or even a personal trainer, they their knowledge of the voice and of the demands that an artist must meet is probably pretty low, unless they've experienced it before or done some research or maybe have, you know, been an artist. So I feel like advocating for your voice in scenarios like that when you're trying to get physical exercise experience is very hard, because most artists, from my perspective, don't understand how to train their bodies in accordance to their vocal goals.

Interviewee

This is an area that I would love to know more about myself. My experience of exercise, what I bring into the classroom was mostly to help with alignment and kinesthetic awareness on just routine relaxation. Similar to Claudia Freedman's book.

Anna Holden

I have it right here. "Complete Vocal Fitness for Singers." And Rosenberg is the vocal athlete, which has a little bit more vocal standpoint. But I did read the Friedlaender book, and it's phenomenal, I would highly recommend,

Interviewee

I want to know more for myself as well, like, I'm not in a position where I cannot afford a trainer at the moment. To be learning like, you know, do I swap away down a particular area of my body based on what I need to do? Or is it the case that if I want to become strong here, I put more effort into flexibility as well.

Anna Holden

Going back to Judith Mocks touching the structure of your instrument. Understanding that is the structure in which you have to have both tension and relaxation through. I feel that exercise, at least for me, and please bring your input on this. It has allowed me to be coachable with my own body and feel where tension needs to be released or more sort of integrity of the structure needs to be placed. And knowing how and when to do that, in your own instrument, is very important. It's almost like thinking about the pedagogy and techniques of playing any sort of instrument, say violin, you have a structure, keep the foundation for and work on form from there. And how can you do that in your body without physical exercise?

Interviewee

It's very difficult because I think when I'm working with students on vocal exercises, I haven't quite found my happy place between explanations of biology and exercise, but there's a lot in our culture where we say to our teenagers that they don't do what we ask. And we wonder why they didn't do it? Well, they didn't do it, because we didn't give them any reason. So I like to say to them, you know, like you're having this issue, it's generally registration stuff and registration balancing. And also that they have a different voice than they probably had two years ago. And I explained to them that their body is a different body or is outgrown. I explained to them how if you lost an arm, God forbid, you would need to spend time rewiring, so that your body can understand and balance itself in this new way. Because just because the arm is gone, doesn't mean this *points to the brain* has gone on. Just because this has changed doesn't mean that that has changed.

Anna Holden

It seems like you're doing a lot of body mapping and kinesthesia awareness as they grow as singers, which I do as well. And it's something that I've been using and haven't had the sort of

research to back it up until this degree. Because they're going through all of the changes, and they need to adapt, especially teenage students. That is really fascinating.

Interviewee

Yes, so I always try to do this exercise. I use the stress response cycle with my students a lot. So here's kind of the two types of explanation, I would give one, I would say, **there's no amount of us doing this in the session that's going to make you truly understand how this fits in your voice**. You have to take this home and work with it. Because **you're developing a muscle here, as well as your brain's connection to that muscle, so that when you have a need for this sound and an artistic moment, it needs to be available and autonomous during the nerves**. So the stress response cycle, I remind them, is that if your body thinks there's a mountain lion there, it's going to choose its strongest chance for survival. Most of my teenage students are in a zone where chest voice is everything, there's very little development at the head voice and almost no balance at all, or ability to swap between the two wills. And I say to them, you should be able to sing this song with where you are in your vocal development, at the moment, your body has that note in your head voice range, let's say for example, you are not used to the physical sensations of voice. That's what it's supposed to sound like with where you're at. If you don't work on that to make it strong and comfortable in your body, then when you're in front of an audience and your body goes, oh my god, it's an audience. It's the same thing as a mountain lion, it's going to kill me, it's going to judge me, it's going to evaluate me. Your body is going to make what it perceives to be the stronger choice, it's going to try and sing that note in your chest voice and then you're going to be working with something that's unstable. So **you need to go and work with this muscle individually on your own without distractions and feel what your body does**. And that's the same thing as exercise. There's the gym, pop in my headphones to do strength workout. It's me, the instructor. And I'm looking in the mirror. I'm looking for my form. I'm looking for how it feels, but I've used a heavier weight today. Well, maybe on this exercise, but not on this one. Then **that reinvigorates my sensitivity then when I'm singing because I can get very complacent in the focus of a vocal and physical warmup**, because it's something I've simply done so many times at this point in my life. You know, **when I come in from a strength training session, and I go to think about my posture to sing. It's a different ballgame, because I've cultivated that time individually to get into my body**.

Anna Holden

Yes. And that's fantastic. I love how you said that and how you brought that seamlessly in. It also deals with so many exercise science principles of intensity, like you talked about the weight

and the chest voice versus the head voice. You talked about the overload, putting those muscles in the uncomfortable position of going into your head voice, just like putting yourself into the uncomfortable position of doing a workout or doing an exercise, and then the time in which you do it, and you can keep that focus and that intentional work with the good form. It all ties back in and allows your muscles to upregulate to the new demand, have the stamina and the endurance, it all really flows in beautifully. Honestly, I'm definitely not new to this idea that there should be physios for artists and musicians. However, I feel like it's not as accepted or quite valued. I feel as though personally, I've seen so many more vocal and physical, even mental, benefits than I have negatives from my exercise. Especially while going through this research and connecting all of the dots throughout my experience and my training and my exploration with my body. It's pretty powerful. It seems like it's something that I would like to have in my coaching toolbox in order to instil that in students.

Interviewee

Now, there's a lot to be said for **being in your lane and understanding when to refer**. That's the golden standard. And I do believe in that as well. We can use exercises we know and how it's recommended to use them. But if you're not seeing a noticeable improvement in a few weeks time you have to take the next steps. Go to a speech and language therapist who can really help. Actually, even at that, I think it might be a good idea for you to take a session off and go to an SLP because I'm not a speech and language therapist. I think that there's some truth based on what I can see and what I'm hearing. **So these things about being a voice teacher, yes, we can sometimes help and we can sometimes be very close to identifying what the problem is.** However, when the pupil carries on without you, or goes to a teacher who has a different approach, or moves on to go to university or just wants something different. Or they're out on tour and they know that what they need isn't a singing lesson. **They know they can, it's a little more focused, they now are aware that there is a team of people that can support them.** Support from a voice teacher might take a little longer because we're trying to be careful, because we **know our limits**. And we know that when we're working with something that's a little close to the edge for us. Like **kinesthetic communication, I take that type of thing really slowly**. I ask the students lots of questions about how they're feeling and if it's comfortable and everything so that we're really **consciously monitoring how they feel**. But they might want to go to someone who is more direct, more focused. This is what's happening. This is what you need to do.

Anna Holden

Absolutely, and what negative impact is more support to a student?

Interviewee

I always say to my students, I do tell them, don't lump yourself with just one teacher for your entire career. I think absolutely different vocal professions are necessary because it all connects together.

Anna Holden

Absolutely. And with that, just circling back to the instrument being your body, there are so many different aspects that I feel need to be explored other than just the vocal mechanism, I feel like we've just touched the surface. For example, now with the addition of the pelvic floor in certain genres being added into breath work and pelvic floor therapists even emerging into physical therapy and things like that, I feel like there is so much more depth of the instrument that can be understood and connected through exercise and support of the artist at the forefront.

Interviewee

Yeah, I think it's helping options for the artists to go safety wise like someone who's a PT that specialises in voice users professional voice use, would be absolutely invaluable. Where I'm uncertain in my practice, a lot of information, unfortunately, can only really be based on recommendations to go and explore for yourself, especially because exercise is often synonymous with shame for a lot of people. Unfortunately, it's ingrained that you should be ashamed of your body.

Anna Holden

It also really ties into nutrition and eating disorders, and very touchy subjects of body image.

Interviewee

Again, a lot of my students are in that younger demographic, where they are being bullied by the media. If I were to say to them, I want you all to have an exercise routine. I couldn't care less what you look like, that doesn't matter. As long as you can meet your vocal goals and the demands that those goals involve.

Anna Holden

That is one of the pivotal moments that I've noticed in the research is now that that's more of the, or moving towards the frame of exercise for health rather than weight or size. I cannot think of the name of the article or the author at the moment, but I will send it your way. And it's very eloquently written. But yes, it's definitely something that I absolutely tread lightly with. And that's all what I'm envisioning for myself and for the rest of this degree and the rest of this project is that it will be individualised, regimented, balanced exercise, and that incorporation in order to

meet the artists goals and industry demands in a healthy, stress reducing way. back to the ideas of nutrition and those sort of touchy exercise subjects, the dynamic demand of the voice industry of any genre involves playing and running around a stage with a guitar or any instrument or singing opera these days and running around and laying on the floor or musical theatre dancing singing show choirs there are so many different aspects to utilise the body here that I don't feel are being taught in a sustainable manner. If taught at all. To really own your instrument and to up regulate it to hone in on stamina and endurance without interfering or creating tension in the voice is something I was never taught.

Interviewee

It's exactly what you said, I use exactly the examples to suit students, I'm like, think about your favourite performer. They're running around, and if they're not, they're still in a zone where they're simultaneously communicating with 1000s of people. And they do that seven days a week, if not more. It's a colossal amount of energy. That's why you need to have an exercise routine. I don't want you to miss the industry, on someone telling you that you need to work out because they want you to look a certain way, I want you to know why you're doing it for the benefit of your health and your instrument. To repeat something I think I put into the survey. I always remind my singers that when you go into professional scenarios, whether it's working with a director, if it's an amateur musical theatre, society stuff, if it's in a studio with a producer, you know more about your voice than that person. And it's likely that you know more about how your voice works as an instrument. I've been in studios where I've heard studio engineers just say ridiculous things to singers, and work to ridiculous schedules. But the engineer doesn't know the voice or vocal misuse, but the singer must know how to do their job by protecting their voice.

Anna Holden

Right. And it's very similar to seeking out professional personal trainers. I believe there is a gap for artists and their physical health. It is hard to seek professional help with exercise of any sort and trust that the professional understands your instrument's demands and can instruct you to strengthen your instrument to enhance performance. It is very niche. And it's not that it's not that exercise professionals have any sort of malicious intent to cause vocal harm, it's just that they're unaware.

Interviewee

And there's so much knowledge to have, right? There's just so much to have. I am astounded constantly by how no amount of reading I do gets me to the top of the mountain.

Anna Holden

Right, on top of that I believe that musicians have very specific demands that other professions, either audio engineers or exercise professionals, don't understand and also they cannot know every demand or have an understanding of what every client does right off the bat. Going on, on a scale of one to 10 where do you think physical wellness and its importance should fall for a performer?

Interviewee

Absolutely 10, because I don't think you get the best out of your instrument when you're not balancing your health. I've been doing performance streaming the last few years, and the days where I come to do a stream and I've had enough rest, I go to do my warmup and I have the energy to be engaged and to give heartfelt performances to the people who show up to watch. On the days where I've expended all my energy in a classroom, it's not the same. My well being impacted on two fronts. I think that singing is like the apex of a triangle we're different forces are kind of coming together. Trying an analogy mind you kind of like Maslow in a way that resonates with us on a soul level, on an artistic level, on a this is what I'm born to do level that's incredibly good for your well being. At the base of that pyramid, you know, help your health and your well being. You can't achieve anything. I think it's well being on a physical level, on an emotional level, on a spiritual level, which we don't have a lot of room for in the sciences, we'll talk about the impact of spirituality on well-being off and kind of like psychology. But, that's what the arts do for people. That's why we're like a moth to the flame.

Anna Holden

And, I don't mean to interject, but for a lot of people exercise is really spiritual. It allows you to find that introspection. It allows you to take time for yourself, and explore something that only you can experience in that moment. And I actually had a friend who's just finished her master's in performance, her thesis has a lot to do with spirituality and the sort of emotional, physical, mental, spiritual well-being of a classical performer. I'll share that with you as well. Her point is that knowing yourself and your body so well to where you can just sing for joy without having attention towards other things. For example you don't have to think about all of those aspects of judgement or aspects of technique, or other facets that tend to run through your brain as you're performing.

Interviewee

Yeah, and if we're taking care of our bodies, it allows our practice to be simpler almost. I just saw the other evening, a student who hasn't practised the guitar loads. So she was thinking

about the guitar and not about her singing. So I was like, **you need to practise those separately so they both have their space**. That's the singing voice instrument as well, there's a lot of **coordination** happening in practice and once all of those things are quote unquote mastered, then you will sing for joy. Because you've put in the work. I remember once asking, asking myself, should I be thinking about this? When I was on stage? She was like, of course not. But, again, there's so many aspects of our teaching that I see reflected back to me in scientific language in different pedagogical language and stuff. She was like, No, when you're on stage, you just think.

Anna Holden

Right, it's almost oxymoronic to put so much work in to make it automatic and not think about it in performance.

Interviewee

Yes, you put the work similar to that choice I tell to my students about the mountain lion. The caveman part of your brain recognizes danger in performance. The caveman part of your brain needs you to strengthen these options so that they become the best option that you can use in action. On another note, I was fortunate enough to live with a personal trainer for about two years when I moved here and she was going through a strength training journey herself at that point. She was unpacking years of **stigma around strength**. Mostly around the thought that you're gonna **look like a bodybuilder just because you lift weights**.

Anna Holden

I've heard that and had thoughts like that too, especially as a woman.

Interviewee

But she kind of started to **demonstrate through her own experience just how important it was to be strong in your body as you age. That's one of the reasons I train and go to the gym, because I see how it benefits me now and benefits me in the future.** I'm really keen to the point where I'll gently nudge most people I know to do some sort of strength training, even at home. It will, number one, **benefit your physical and your voice for as long as possible. In the end it's about when we encourage our students to exercise, we're also encouraging them to do something that feeds into their lives and wellbeing.**

Anna Holden

It is true, the effect of one choice ripples throughout one's life, and I can say that exercise has done that for me even outside of general health and performance. I mean, it's a choice, every day that you choose to participate in exercise, it is not just one single choice, you're like, I'm

gonna do this, every time you have to put in the motivation to go. Same with the motivation to practise. Same with the motivation to get technique with form. There's that same repetition of being bad at something at first, and getting and working towards it being better in order to better your life, better your well being, better your instrument.

Interviewee

I think as an artist, it seems such an interesting space because pedagogy meets biology, science, disorders, muscles, athletic training, but also harsh spirit and artistry. And when you have a body that you trust to take you into your own life, again, then you will take that into your instrument and performance.

Anna Holden

If you have a body that can bring you through a performance seven days a week, where you feel that you brought that joy to other people, that's really empowering as well. Again, that sort of up-regulating the endurance of the muscles that you're working rather than just going gung ho. And, you know, risk either injury or you know, getting that negative or not negative. What do you think are the 3 biggest areas where exercise and the voice align?

Interviewee

Warm-ups for certain. For exercise and singing, the warmup gets blood flow to the muscles. It attunes you to what your instrument and body is doing today. It lets you know where the parameters are today and allows areas for future development. It's also a daily process. Also, everyone is familiar with the vocabulary of exercise at the most basic level. So anybody can very easily explain to a student why warming up is important. For example why they shouldn't skip it, I would say, do you think Serena Williams goes out there cold? No. So what do you think she did that day, which probably got off and had a really good breakfast? And then she's been training for months and months with a coach. And yeah, and then she probably likes, does stretches and stuff? My question is why do we as singers not treat ourselves like that. Also thinking about athletes, the ending of Serena Williams match, she probably has a cooldown to come back to homeostasis before she goes and does other activities, or else she would be putting her body at risk, and her sport at risk. Well certainly in Western cultures I would say sports are more dominant. The artists don't have an Art section at the end of the news, but you have a sports section. It's a good thing, though. It is a joy to countless millions of people. So it's, it's great that it's there in that respect. And we can use the language to communicate to our students really easily.

Anna Holden

It's so universal for the most part, almost.

Interviewee

And I think that's one of the things that's a great gift of the level of coverage that sports get is that even with students who are very much like me, I'm not into sport, they've ingested some that they can understand in order to translate to their craft.

Anna Holden

Right, and they've also probably been in physical exercise through school as well, where that same vocabulary is used.

Interviewee

So exercise and sport links into the world and into the way they understand in order to bring it into an instrument they cannot see or touch for the most part. Also, athletes exist in this interesting space where they are simultaneously revered, but also exposed to horrendous levels of toxicity and within their own industry. But largely, the public perception is that they are revered. So I think a student understands, when you say to them, the word athlete, they will understand why that's a good thing to aspire to.

Anna Holden

Similar to artists in mainstream media, unfortunately. And I've actually found that in my questionnaire to students that they are making that connection between vocal athlete and sports athlete, when I asked them for their own connotation or definition about vocal athlete, and that's really something interesting that you're bringing up about sports athletes being revered.

Interviewee

No, I've never been particularly into sport. But that doesn't mean I haven't been floored by this pure representation of energy zipping down the pitch. Throw it up in the air and hitting the hurling getting over the bar. I think this is something that a lot of us connect to really easily. So this is an area where exercise actually supports us to teach and practice voice and relate to students in a way outside of the performance realm.

Anna Holden

It's almost an imagery factor as well, something that students can really attach to. With this research I hope to find more links in order to strengthen that connection and appreciation between the voice and exercise. I have to run and get to another meeting, but I really appreciate all of your input on this. I am so excited to go through all of this.

TP 3:

Anna Holden

I appreciate your time and we'll keep this short and sweet. Starting off with my ethical checklist, you're not required to answer every question and your participation is completely voluntary. Unless you have any questions or comments, we will go on. I appreciate your responses from my questionnaire and I look forward to delving into some of that with you now. I know that you have great experience teaching. It says here classical pop and musical theatre and you are also a trained exercise to music instructor. What does that look like for you?

Interviewee

Yeah, um, I don't do it anymore. I still kind of run an exercise class with a friend and she does most of the teaching, but occasionally I dip in and warm people up. So basically, I used to teach a variety of classes from **aerobics to step two and body balance**. So I've done a variety of those sort of classes and like more dance classes as well.

Anna Holden

Wow, that's great. I know that you have that sort of exercise background and also a vocal background. Have you ever melded the two or do you feel like your exercise experience has impacted the teacher or singer you are today?

Interviewee

Yeah, I mean, definitely. Oh, where do I start? When I was at university, I studied music a very long time ago. And my final year project was in dance therapy. Looking at dance therapy and music therapy. I **couldn't quite understand why these two disciplines were so separate**. So I've always been interested in sort of music and exercise and obviously dancing for me is like one of the biggest overlap because you dance to music, right? And I look at kind of like how other cultures don't. In the West very much compartmentalise seeing is one discipline and dancing is another discipline. But if you're looking at others, if you look at other ethnicities, though, there is not that distinction. Very often people are singing and dancing at the same time and vocalising at the same time, so I kind of like that in my final year project. I then trained as you know, I then trained sort of simultaneously really as a singer and as an exercise to music instructor and did those sometimes side by side and then lately I've done less of the exercise teaching and more of a singing teaching. I definitely think that **my whole approach to the voice is that it's a whole body thing**. For me, it's really, really vital that I often say to my students, **the more it's just here *points to the larynx/throat*, the more dangerous it is. When the singing involves the whole body the safer the singing will be**. And so yeah, I suppose my whole approach is I'm seeking to get the whole body involved and engaged when people are singing.

Anna Holden

That's fantastic. And I am definitely in the same boat as you. I'm encouraging my students to explore that support from different areas of their body using movement using the action of moving your body in order to free things up. This sort of study just as a little background comes from my experience. I grew up singing in choirs and in show choirs things like that. Physicality and exercise were always really celebrated and necessary to complete the demands of the task. Then I went to university and I went to a very classical operatically based university and that's where you just stand straight and are supposed to have the support somewhere in your body in order to sing. And there were some instances where my views and my past with exercise were frowned upon because of the "tension" that it caused. So I have definitely carried around that weight of those thoughts throughout the rest of you know my career as a singer and also starting my career as a teacher. It's something that I definitely want my students to be able to explore rather than telling them that they just have to stand straight and know how to do it without giving them any practical information on how to use your body. For example, what exercises you can do to strengthen that body or that structure. And going back to your questionnaire response, what really stood out to me is you mentioned having an individualised vocal workout to warm up their voice and ensure that they're always ready for action, allowing the body to be ready to fulfil that demand. But how are you supposed to know that as a young artist or as an emerging musician, so that's the sort of gap that I'm hoping to fill with at least this primary study and hopefully studies down the road.

Interviewee

One thing is I would like to give feedback to you, Anna, is that I have trained up classically as well and I know totally what you're talking about, about the kind of like the static nature of it and yes, and yet the body has to be really engaged. When I did the vocal first aid course one of the things that they said really strongly was that one of the one of the big antidotes to tension is movement. Kind of like and I am very aware of that as soon as we stand stockstill, I think tension kind of like rigidity gets into the body. And I I think that's one of the biggest challenges and actually, the funny thing is, if you think really about opera, opera singers once they're actually performing opera, they're not static, they run, they are acting, they're fully performing. So it's kind of like this really bizarre concept that we have to stand very still, and I think it's very unnatural. I think it's incredibly unnatural. And we all struggle. It's like, what do we do with these? *shakes hands and limbs*

Anna Holden

Exactly, and then how do you translate what you work on in a practice room or in a lesson when you are told to stand straight like a soldier? How are you supposed to take up a stage and command that audience and that role? I see what you're saying that the translation doesn't make full sense. What I have found actually in my research, is the idea of tensegrity, the collision of tension and integrity, allowing the structure not to be tense, but to be solid and allow action to act upon it, but to not lose its balance. This term really resonated with me because it is something I've really found through movement by means of exploration within my own body and my muscular structure. However, relaying that to a student is difficult because it's a different body entirely and they have different mental frameworks of their body maps. So you mentioned that you have sort of a classically based training and then have gone from there from your training on a scale of one to 10 where would the importance of physical wellness fall on that scale?

Interviewee

I think from my own personal viewpoint, I would say 10 I'd say it's really important because like, I mean, we all know how horrible we feel if we're trying to sing with a cold or you know the voice, though. You know, it doesn't matter if you have a cold and you have a piano recital to do. But if you've got a vocal recital you're very sensitive to any respiratory type infections and it really affects the voice. So I'd say that's like a complete 10.

Anna Holden

I definitely agree with you and where do you feel that physical exercise would fall on that scale for you specifically in your teaching?

Interviewee

I would say 10 again. I mean, exercise is really important for me, personally. Even though I'm not teaching as an exercise to music instructor professionally any longer, exercise is still really important to me. So I pretty much do something every day. And I think it's **important for stress relief. I think it is beneficial for your psychological well being as much as it is for your physical health if you like sort of helping you fight**, you know, having a good strong immune system. So I think it's, it's kind of like both and for me, it's really, really important.

Anna Holden

Absolutely. Even just the exercise science principles that are ingrained in the act of exercise, so endurance, stamina, the time that you devote to it, progressive overload can really be translated into the voice studio, and we've seen that a lot through voice therapies, and it's more emerging now, within the last 15-20 years in the voice studio. It just allows the person who is exercising or

the student who is singing to really get those movements in their body and up regulate their body to meet the demands of their goals. Kind of branching off of that, I asked about your definition of "vocal athlete" in the questionnaire and you had a great response to engage the whole body throughout voice production and I know that that is your holistic approach to the voice in itself. Relating that towards more sports athletics, it is very apparent in our western cultures that there are a ton of professional support systems for professional athletes, like coaches, athletic trainers, nutritionists, massage therapists, physical therapists. Are you aware of any or do you see any comparisons I should say, for vocal athletes looking to perform at a high level?

Interviewee

That's a good question. My daughter is currently studying opera. She's doing an undergraduate level. So I'm just trying to say I know they've had a couple of lectures, but I don't think that I was going to have a conversation with her for example because I have concerns about how well hydrated she is. And I was kind of thinking, **is she being taught these voice support topics at college?** For example how vital it is, how vital hydration is, I think I was really struck by one of the lectures we had recently where he was saying that if you're fundamentally dehydrated it takes a month for that to be replenished. Which is really shocking, very shocking.

Anna Holden

Going off of your experience, and my own, it seems that the whole basis is that the vocal health pressure or stress being put on the artists themselves rather than them having a support system or an educational tool, I guess, in order to understand it all to make informed decisions that benefit the voice and performance. I understand your concern since I am a recent graduate from a classical music school program and you just have your teachers who are there to teach you the course content and you have your vocal coach and unless your vocal coach is telling you these things or your voice teacher, it is up to you to advocate for your own voice. It is a lot of pressure for a young artist or an artist in general. Sometimes you don't know the correct actions to take or the correct questions to ask. So what also kind of fueled this intrigue for me is seeing how I can integrate physical exercise and the voice in order to allow and encourage students to explore their body physically, with a lens of the voice. Because if you were just to go to a regular exercise physical therapist or personal trainer or physio, their knowledge on the voice is probably pretty low, unless they've sung themselves or had a previous client. Otherwise the artist has to advocate for their voice doing correct breathing techniques not holding the breath anywhere. It's almost as if you have to be a professional when you're seeking professional help

from someone. I want to kind of fill in the gaps and allow for more support in order to engage the entire singing body and get rid of that tension to gain awareness of the muscles that we use during singing in order to enhance performance. Whether it be for strumming instruments, running around a stage or dancing while singing. I want to have a tool or support for vocal athletes to have control and relaxation of their body to enhance performance.

Interviewee

Yeah, genius. I completely agree and I also notice the gap that you're highlighting.

Anna Holden

I know that you mentioned you try to encourage your students to take on their vocal workout and to live a healthy lifestyle that meets their goals. How do you notice the effects of that encouragement throughout your students? Either positive or negative effects of using movement or encouraging that lifestyle of exercise and movement throughout the voice?

Interviewee

I wouldn't say that I particularly encourage a healthy lifestyle. I don't feel like that's kind of like my remit really. Interestingly, I will often tell people that I am an exercise teacher and I often encourage them and just say look, you get a buy one get one free when you do a singing lesson you get to work your abdominals and get a workout. So that's kind of like quite a standard joke that I often have with my students. But I think I mean, it's interesting, since I teach mainly teenagers and kids and I think kids are slightly easier to teach in a way because they're not so afraid of their bodies. I think teenagers are much more self aware, self conscious, and they often won't. They're the ones that I think are the hardest because they're too self conscious to do kind of crazy things. I've done sort of things where I'm trying to get people to release through their bodies and the sound and you might do a kind of like have hands in the air and go down to the floor and vocalise at the same time. And that is really hard to do with a teenager that's far too self conscious. And then you've got this issue of like, most people are not very aware of their bodies. One of my favourite warmups is literally throwing a tennis ball. I'm hoping to get a nice, soft, big one. And we always warm up with this in every lesson. All my students love this and even my teenagers love this is like that exercise where you just go know when you throw the ball ball and you can go higher or lower and you go you bend down and you roll the ball when it ball when you're going lower and then when you try how high you can go and go. Like always, the thing that's really lovely about it as well is that because people drop the ball, it always kind of causes a giggle. And I think that's really healthy as well. So it's fun. It's kind of like it helps them relax. And it works really well and I thought there must be other things that I can do that are

similar to this, but I haven't so far been creative to think of anything that is quite as good as that. That's one of my vices and they all love it.

Anna Holden

Right and it seems like it's a body release and also a mental release while still getting productive vocalising work which is fantastic. That almost seems to synthesise your first statement of how exercise is a cathartic release. It allows you to de-stress. It takes the pressure off of getting those notes and it's an almost visual representation of that singing that allows you release mentally, vocally and bodily as well. That is great. I might have to steal that one. I also work with some teenagers in a show choir. And I definitely understand their sort of reluctance and their self containment and lack of self confidence. They're just going through so many changes. They have no idea what their body even is anymore and I feel like somehow through movement, we can bridge that gap a little bit in order to enhance vocally and just have a better understanding of your body. The idea of being able to coach your own body with the form with its posture with knowing what to sort of tweak, what to relax, what to add a little bit more structure to to get that body ready for work. I think we have gone through at least all of my questions. Do you have anything to add or any sort of comments?

Interviewee

I don't think so, but I would love to see your results!

Anna Holden

Yes, absolutely, of course. It has been a pleasure talking to you. I have to run and get ready for another student but I really appreciate your time and your responses.

TP 4:

Anna Holden

So I just have a few extra questions based on your questionnaire responses. I'm just trying to keep it short and sweet. If you do not have an answer or want to skip a question for any reason, please let me know. Also remember that your participation is voluntary and can be terminated at any time. Can you give me a brief overview or background about what your instruction was like as you were learning voice or even in college as a young singer?

Interviewee

Okay, so I have a very interesting journey. So I was a piano player all through high school, I sang and the community choir was about the only singing I did. And when I went to college, my plan was to teach general music for elementary age students, so I was a piano major. But as a

part of your education degree, you're required to take two years of voice. I studied voice for the first time in college, but my voice teacher was okay. It was just an okay experience. I think it was kind of like we were the leftovers. So where I really got turned down was in the choir program. And that's where I met Mona Wise and Mona Wise says you have a gift with this and then she got me really involved in assistant conducting. Then I was cramming. I was going to every workshop, every conference I could imagine and taking classes. So as a young teacher, I took the Voice Care Network class, which was all about the voice, the physiology of the voice, and care of the voice. And since then, it's just been a matter of taking classes and workshops. I worked with Laurie Sonnenberg who is a vocal therapist, recently learning more about the voice and I picked it all up in that way. So not from my own personal experience. I'm not a vocalist. I'm not a singer, per se, but I picked it up through other avenues.

Anna Holden

That's really interesting. And what I have been seeing in my research and just in my own career is that you pull a lot from the instructors that you had growing up. So that's really interesting. That you didn't have that sort of traditional, quote, unquote, background. But the fact that you're getting that continuing education elsewhere, I think is really important and something that a lot of teachers, not even just choral directors should do. I feel like sometimes we get stuck in a circle of just teaching what you're taught, and not knowing the background and the science and sort of physiology behind it.

Interviewee

In some ways, I always had a slight inferiority complex about it, but in some ways, I always had an advantage because I was a clean slate. I didn't have any bad habits. Even choir directors, I didn't even have any bad habits from choir directors, like teaching like my director, because I didn't really have any experience. So I went to college and then it was I'm just gonna absorb the best practices from all the best people. It was a very unique way to come into the field.

Anna Holden

Pulling from my experiences, I feel as though I had so many vocal influences or even musical influences that you have to juggle all of those opinions or those biases. And as an artist, you have to make decisions and choices that affect your instrument. How do you do that? It's so many things that you have to juggle. And that's honestly one of the points that this study stems from, so that's really interesting. Do you engage in exercise of any kind or have you in the past?

Interviewee

Yes, so currently I mean, I've had some pretty intense health issues over the last few years. So currently, I'm ramping myself back up, but walking is my number one form of exercise. It is a much needed area for me, right I've had some health problems sidelined me a little bit. Yeah, it's so many digestive things. I mean, almost to the point where I thought maybe I was gonna be having surgery to have part of my colon removed this year, but I've been able to push it back.

Anna Holden

I'm sorry to hear that.

Interviewee

That is life, right?

Anna Holden

Have you noticed that exercise, even the walking now or in the past, has affected or impacted how you teach your choirs or how you are in a performance setting?

Interviewee

Yeah, I mean, I'm getting older and the thought of like, just looking ahead to the concerts and going to three concerts. They're usually an hour and 15 minutes each - it's a long day. And waving your arms and breath management and all of that that goes into what we do. It's so physical. Absolutely physical exercise is a must. If I'm going to continue this for the next decade, I have to get moving, I don't have a choice. You have to get out and get moving.

Anna Holden

It increases stamina and endurance in order to have your structure and your body be able to take on that workload for an extended amount of time.

Interviewee

Yes, sort of a mental game, mentally how you feel too, right. A big part of what we do is because we're very artistic emotional beings. So yeah, without question,

Anna Holden

Yes, exercise almost clears a space and prepares you both mentally, emotionally, physically, spiritually. It's a very powerful thing, which I utilise as well, and I feel like it is almost under utilised in a lot of the voice field.

Interviewee

It's interesting. Yeah, it's a really interesting topic. When I got your questions, I was like, I'm not sure if she's coming from the standpoint of exercise or kinesthetic movement.

Anna Holden

And I feel like kinesthetic movement is utilised in a lot of choirs and even in the voice Studio 1 on 1, but being able to bring that into a general exercise scenario, I think is tough. Say, just for personal goals, you go and get a physio or exercise trainer, a personal trainer. Their understanding and knowledge of the voice is probably pretty slim, unless they've experienced it themselves. And then all of the pressure is put on to the vocalist in order to protect their voice, which is necessary. But if you're seeking professional help from an exercise professional, you don't know where those vocal boundaries are. How do you breathe correctly to stabilise your instrument? How do you keep your vocal health at the forefront? For example, there's a lot of grunting and different breathing patterns in strength training. You should try to avoid that or the sort of constricting breathing that some yoga instructors do. So it falls on the artist to sort of tackle that, and sometimes they don't know the correct answers. So that's the sort of gap that I'm hoping to fill with not only this project, but in the future as well.

Interviewee

Yeah, that's fascinating. If you have time, there is somebody that you should reach out to as you reached out to **Mona Wise**. Mona is my mentor, so she's who I worked with and I remember when this whole idea of gesturing in choir first started to really hit the scene. She was one of the first to start doing this. **She's always had a kinesthetic background. And I can remember thinking she was absolutely nuts when we did it rehearsal, and then I saw how it worked.** So she did her whole doctorate on that, but the reason I'm bringing her up is she is a yoga master now, teaching it and has worked that into her teaching for singers and musicians. She might be a really good resource for you. And she's done her doctorate plus, I know she was working on a second book doing something with the yoga. I know she did some things during COVID through ACDA with yoga and, and choral directors and singers. So this would be right up her alley.

Anna Holden

Absolutely. Thank you for bringing that up. Just going into this sort of neurological aspect of it. I just watched a lecture from Heidi Moss. I'm not sure if you recognize the name, but she notes that in some form of development, the neural pathways between your larynx and your limbs were connected. So that gesturing and that movement has a connection even neurologically in the brain. That interest can be a sort of culprit to why these gestures work. Which is fascinating.

Interviewee

I would love to send me that info to that because I would love it because it's always helpful to be able to share with your students why. **A lot of times we just default to the Hey, I don't know why this works, but it does. So trust.**

Anna Holden

Right, there's sort of the unknowns of the brain and the movement and the body and the voice because you can't fully see it or touch it or feel it a lot of the time unless there's dysfunction. It's definitely something that I want to explore more about as well. So I will definitely send you that info. Okay, going forward. Do you ever use physical warmups with your choirs?

Interviewee

Yes. We always stretch and I try to vary that so it's more for their imagination than anything. So when I'm warming them up, it's more a matter of body, mind and spirit and waking up their brains, waking up their minds, and waking up their voice. Really, the vocal folds themselves are warm. They've been talking all day because I mean at night. So it's really more a matter of I gotta get them all on the same page mentally and then just do a little bit of technique with them. But yeah, so stretching, breathing. We use some Tai Chi breathing on a normal basis - the gather, rise, contract, expand. That deep breathing, squatting, standing on one foot. Dalcroze movements, gesturing. I would say it's probably rare that we're just singing.

Anna Holden

That is something that I've been noticing throughout these interviews is that it's more and more common to add some sort of physical aspect to a warmup or performance cool down. I remember some, however, I feel that it was more of an importance on the vocal work from my experience. But then, you know, in show choirs or before performance, you're just expected to go from zero to 100 physically. Physical warm ups are definitely more prevalent these days from my experience, which I think is fantastic. Um, good. Going on. Can you explain more about the varying opinions about the general movements or movement that requires?

Interviewee

Yeah, so in the choral world, there's really probably many schools of thought on this. But in my young teaching, I just always wanted my choirs to be expressive. I cycled through almost imposing the movement on kids, if that makes sense. Where you're going to move and this is why and it looks so much better. It ended up bringing in some posture issues. Like heads coming forward, like moving from their head, instead of their upper body. And then I would see them from the side and go, Oh my gosh, that's not good for the instrument. So there are some directors that do not want you to move, just stand tall, stand still, you know, open up the body. So the voice is not impacted by movement. Where I am now is you have to take care of the instrument. However, in most parts of the world, no matter what you're singing, people do not stand strict and still, so the movement though, has to come from a place of authenticity. So

rather than imposing movement on the kids, I approach it by talking about what the piece means. What does this feel like? And let's try moving a little bit to it. So for example, we're singing a piece by Elaine Hagenberg called "By Night" and it feels like the sound emulates flying and soaring. Using this method they move their bodies and free their arms until the sound frees up. So we've talked about how it's really silly to stand totally still. But if they capture the imagery, like if they're thinking about oh, this is kind of like being on the ride at avatar and riding at Disney World on that ride that simulates flying, when they think about that imagery, they move very authentically, right because their brain has captured that sensation of flight.

Anna Holden

And they're pulling off of their own experiences.

Interviewee

There's a great book about this called coral charisma. I can't think what the author's name is, anyway, years and years ago, I read it and I was like, Oh my gosh, this is what's been bothering me for years. It's the authenticity issue and has to come from inside of them and cannot be imposed.

Anna Holden

Absolutely. That is really beautiful. And what I've noticed as well is that sometimes students, depending on their level of coordination, or kinesthetic awareness of their body, have trouble with that. So what kind of sparked my thinking is that if there were regimented physical exercises, in order for them to get that understanding and work on that coordination, in order to make the general movement or even just staging or whatever it may be, be more authentic and look more natural with confidence.

Interviewee

So it's learned behaviour. There's talent. There's a talent element for sure, with movement but it's also a learned behaviour.

Anna Holden

Yeah, right. And that behaviour is learned through form and a professional or outsider view of that movement and how to better it to get that authenticity and that sort of naturalness. That is very interesting, I'm so glad you brought that up. In the questionnaire you mentioned that your definition of a vocal athlete is one that understands that the entire body is their instrument and should be treated as such. How would you instruct or encourage a budding vocal athlete to treat their whole body instrument?

Interviewee

For the youngest singers, one of our catchphrases as **water is the choice for the voice**. And just **anything that goes in is going to impact your voice**. For older students, I'd give out drinking straws and I expect them to **stretch your muscles**. You need to do some **straw phonation** every single day. Instilling that your **whole body impacts your voice**, so **taking care of your physical body, what you're eating, what you're drinking, getting some exercise**. I find that in my teaching **more than it ever was before**, and I think part of that may just be the mental health crisis too.

Anna Holden

It's just so intertwined and connected with various facets, and sometimes I feel that there isn't enough focus on those connections, more so it's just the vocal mechanism and how that works. But if everybody's saying your whole body is your instrument, what does that mean?

Interviewee

I really think that's part of my struggles, because my health has not been good. And that's part of the struggles I've never won by voice again. Absolutely. **I live in a house with athletes**. So my kids were all musicians and all three of my kids, even my husband, were baseball softball players at a high level, at the college level now. So I live in a house with athletes. So my two worlds are kind of intersected all the time. I think I just have seen from that side, **I've lived with that side of how much they have to work on their bodies in order to perform well**. So some of **that has definitely played into my teaching more** so as my kids have gotten older.

Anna Holden

That's a great connection. I feel like I had that growing up doing sports and also in choir and then going into operatic performance. Exercise in my younger years was celebrated and then going into a very rigid, classically based program, it wasn't accepted as much and I had to really struggle. I was told you stand at the crook of the piano with your hand on it and you somehow have to belt out a high C and sing in multiple languages, wearing heels in an uncomfortable dress to meet the demands of the operatic tradition.

Interviewee

I mean, I've heard like drug usage and smoking is just rampant. Yeah, which blows my mind

Anna Holden

Even now, Opera has exploded the staging, dancing is more expressive and more demanding on the artist. Last few questions. I have here on a scale of one to 10, where would you list physical wellness and exercise for a performer of any facet?

Interviewee

Oh, gosh, that's a tough question. Well, I would rank it from an 8 to a 10 because you're not healthy, you're not going to perform well.

Anna Holden

Good. Do you notice or know a lot of your students engaging in regular physical activity or sport? And if so, do you notice this affecting their role in rehearsals and performance?

Interviewee

Oh, that's a great question. I would say the number of kids doing sports I'd say is low. They're mostly been a push in our society to to be specialised because of the demand of the activity. Even for example, my baseball kids had three times a week six to 10pm for training all through the year. It's demanding. So if you want to do something at a high level, it's hard to do multiple things. And the same is true of the music and arts now. So the theatre rehearsals, the music rehearsals, it's a lot. So I find that there's not very many that are doing physical exercise outside of PE. But the ones that are I don't know that I could say there's a big difference in them. I haven't. I'd have to think about that or really notice. But I would say my guess would be my educated guess would be that they're mentally happier.

Anna Holden

That is a great response. And I know that it's tough to almost retroactively analyse to answer the question. I understand what you mean by specialisation and time constraints around it. I always noticed that my athletic experience brought more stamina, focus, coordination and coachability to my singing journey. The kinesthetic awareness and understanding of my body and how it moves translated to how I used my body to sing and command the stage in various performances. Not only did athletics and music allow for a mental cathartic release, but they enhanced and benefited from the later, almost like a symbiotic relationship. This aspect and the varying opinions about exercise and the voice are what sparked my research. Is there anything else you'd like to add before we wrap things up?

Interviewee

I don't think so, but I am intrigued to see how this pans out for you, please keep me posted. I am so proud of you, keep it up!

Appendix 7: Coding Key and Visuals

Questionnaire In Vivo coding: **yellow** indicates cause and **green** indicates effect. **Orange** portrays interesting information or outliers and **red** designates important or new (sometimes negative) information.

Interview: **yellow** notes the language that was then coded conceptually and holistically. Taking this information and the similarities and differences therein, I created a venn diagram seen below. Within interviews, **green** is used to pinpoint important statements and links to teaching practice, metaphors or learning outcomes.

