

LEGITIMATE VOICES: A MULTI-CASE STUDY OF TRANS AND NON-BINARY
SINGERS IN THE APPLIED VOICE STUDIO

by

William R. Sauerland

Dissertation Committee:

Professor Jeanne Goffi-Fynn, Sponsor
Professor Harold Abeles

Approved by the Committee on the Degree of Doctor of Education

Date May 16, 2018

Submitted in partial fulfillment of the
requirements for the Degree of Doctor of Education in
Teachers College, Columbia University

2018

ABSTRACT

LEGITIMATE VOICES: A MULTI-CASE STUDY OF TRANS AND NON-BINARY SINGERS IN THE APPLIED VOICE STUDIO

William R. Sauerland

This qualitative, multi-case study examined trans and non-binary singers in the applied voice studio. The purpose of this study was to explore (1) the impact of music participation on the identities of trans and non-binary singers, (2) the experiences of trans and non-binary singers taking private singing lessons, and (3) the strategies and practices of their voice teachers. Purposeful sampling of four singers included two trans men and two non-binary individuals. Four teachers with prior experience in teaching trans or non-binary singers included two teachers identifying as trans men, and two cisgender (one female, one male) teachers. Data were collected through interviews and lesson observations, presented through portraiture analysis to provide an insider's view of the experiences, perspectives, and practices of the participants. Findings and implications emerged through cross-case analyses.

The results indicate that gender impacts musical spaces. While participation in musical activities created an outlet for some singers to explore their trans or non-binary identity, the reification of the gender binary in musical spaces was oppressive for others.

Students modeled high self-efficacy by showing perceived competence to change discriminatory policies and practices in music and the performing arts.

Teachers demonstrated emotional support in the applied studio by being cognizant of student needs. While the training of each student looked distinct, teachers affirmed students through student-centered pedagogical approaches, allowing students to guide their vocal training and development. Teachers discussed the need for adept understanding of vocal technique in training trans and non-binary singers. All four trans men (two students and two teachers) discussed their voice modification through testosterone replacement therapy. The two non-binary singers, not engaged in medical voice modulation, discussed changes in their voices through singing lessons.

The research posits that curricular development in vocal pedagogy courses is needed to educate singing teachers on cultural competency and trans and non-binary vocality. This study revealed the need to examine applied teacher readiness in educating trans and non-binary singing. Research on the longitudinal effects of testosterone on the voice is warranted. Additional scholarship is needed in working with trans or non-binary voices not engaging in hormone replacement therapy.

© Copyright William R. Sauerland 2018

All Rights Reserved

ACKNOWLEDGEMENTS

I wish to express my gratitude to the participants in this study. Without your inspiring work and willingness to allow me to observe you and ask probing questions, this research would not have been possible. I want to thank my defense committee Dr. Goffi-Fynn, Dr. Abeles, Dr. Parkes, and Dr. Schmidt for your insight and support. I am grateful to all my professors at Teachers College, especially Dr. Goffi-Fynn, Dr. Volpe, and Dr. Custodero who provided important guidance for this study.

I would like to thank my friends and colleagues, Paul McCurdy, Dr. Joshua Palkki, George Nicholson, and Emily Good-Perkins, for listening to my struggles and providing support during this endeavor. I also want to extend my gratitude to two music teachers in my life who have offered years of guidance, affirmation, and emotional support. Thank you, Audrey Luna and Sheryl Mabry. I am grateful to my entire family for their love and support, with special gratitude to my mother, who provided important guidance in organizing the last two chapters of this dissertation. Finally, to my incredible husband, Tom, who spent endless hours listening to my ideas, reading this document, and holding my hand when I needed it. I love you.

A dear friend and mentor, Karen “Mama” Dawisha (1949-2018), insisted I apply to Columbia University, even though I lacked confidence in attending such a prestigious institution. I dedicate this dissertation to her.

W. R. S.

TABLE OF CONTENTS

Chapter I – INTRODUCTION	1
The Researcher.....	2
Background.....	4
Problem Statement.....	9
Purpose.....	9
Research Questions.....	10
Conceptual Framework.....	10
Explanation of Conceptual Framework.....	11
Approach.....	12
Assumptions.....	13
Rationale for Study.....	14
Significance of Study.....	15
Plan for Remaining Chapters.....	15
Definitions.....	16
Chapter II – LITERATURE REVIEW	19
Introduction.....	19
Theoretical Frameworks: Gender, Transgender, and Applied Music Lessons.....	19
Gender Theory.....	19
Transgender Theory.....	21
Applied Lesson Studies.....	22
Overview of Vocal System.....	24
Voice Types.....	25
Standard “Female” Voices.....	27
Standard “Male” Voices.....	29
Contemporary Commercial Music Pedagogy.....	31
The Changing Voice.....	32
Voice Masculinization for Trans Men.....	33
Voice Feminization for Trans Women.....	39
Surgical Procedures.....	39
Vocal Therapy.....	42
Self-Perceptions of Voice.....	45
Research of Trans and Non-Binary Singing.....	48
Theoretical Framework.....	48
Singing Voice Literature.....	49
Choral Education Literature.....	58
Conclusion.....	60
Chapter III – METHODOLOGY.....	62
Overview.....	62
Rationale for Research Approach.....	63
Participants and Setting.....	64
Institutional Review Board (IRB) and Recruitment.....	66
Pilot Studies.....	67
Second Pilot Study.....	69
Student participant.....	70

Teacher participant.....	72
Voice lessons	73
Short discussion	74
Overview of Information Needed	75
Demographic.....	76
Perceptual.....	76
Theoretical	77
Overview of Research Design	77
Instrumentation for Data Collection	77
Student Interviews	78
Observations	78
Teacher Interviews.....	79
Analysis and Synthesis of Data.....	79
Ethical Considerations	80
Issues of Trustworthiness.....	81
Limitations and De-limitation of the Study	82
Summary.....	83
Chapter IV – PORTRAITS.....	84
Introduction.....	84
Case Study 1: Forest and Darius.....	85
Student Portrait	85
Teacher Portrait.....	92
Voice Lessons	97
Case Study 2: Pete and Naomi.....	104
Student Portrait	104
Teacher Portrait.....	110
Voice Lessons	117
Case Study 3: Kelly and Patrick.....	122
Student Portrait	122
Teacher Portrait.....	129
Voice Lessons	136
Case Study 4: B and Jeremiah.....	144
Student Portrait	144
Teacher Portrait.....	151
Voice Lessons	157
Conclusion	165
Chapter V – CROSS-CASE ANALYSIS AND DISCUSSION.....	166
Introduction.....	166
Student Themes.....	169
Gender in Music Spaces.....	170
Positive experiences.....	171
Negative experiences	172
Discussion.....	174
Voice classification.....	175

Repertoire.....	178
Self-Efficacy	180
Discussion.....	182
Vocal Growth.....	185
Two trans male voices	185
Two non-binary voices	188
Discussion.....	190
Teacher Themes	194
Teaching Vocal Technique	195
Patrick and Jeremiah.....	196
Naomi and Darius	199
Discussion.....	201
Professional Responsibility.....	207
Discussion.....	209
Shared Theme	210
Emotional Support	211
Discussion.....	213
Summary.....	215
Chapter VI – SUMMARY, CONCLUSION, AND RECOMMENDATIONS.....	220
Introduction.....	220
Summary of the Research Design.....	222
Summary of the Findings.....	223
Research Question One.....	224
Research Question Two	225
Research Question Three	226
Conclusion	227
Implications to the Field	230
In the Applied Studio	230
In Musical Ensembles.....	232
In General Music Classrooms.....	234
In Pre-Service Teacher Education	235
Recommendations for Research	235
Closing Remarks.....	237
REFERENCES	240
APPENDICES	
Appendix A – Singer’s Information Sheet.....	249
Appendix B – Interview Protocol	250
Appendix C – Observation Protocol.....	254
Appendix D – Singer Recruitment E-mail.....	257
Appendix E – Informed Consent Form—Singers.....	258
Appendix F – Teacher Recruitment E-mail	259
Appendix G – Informed Consent Form—Teachers.....	260
Appendix H – Participant’s Rights Form.....	261
Appendix I – Compilation of Collected Vocal Exercises.....	263

LIST OF TABLES

Table

1	Eight Steps in Participant Recruitment.....	67
2	Research Questions and Collection Instrumentation	80
3	Participant Overview	167
4	Research Question One Findings and Recommendations	216
5	Research Question Two Findings and Recommendations	217
6	Research Question Three Findings and Recommendations	218

LIST OF FIGURES

Figure		
1	Conceptual framework for trans and non-binary singers in the applied voice studio.....	11
2	“Ideal” ranges of standard “female” voices	27
3	“Ideal” ranges of standard “male” voices	29
4	Vocal development continuum from disorder to efficiency	48
5	Vocal slide 1 on a fifth for balanced onset and breath release.....	99
6	Vocal slide 2 on a fourth and octave for balanced onset and breath release	99
7	Exercise [ziŋa] for breath release and flexibility	100
8	Exercise [nɛomi] for resonance and released jaw and tongue	101
9	Excerpt 1 from “Tally-Ho!” (Leoni, 1918), sung one octave lower.....	102
10	Excerpt 2 from “Tally-Ho!” (Leoni, 1918), sung one octave lower.....	102
11	Stacked minor thirds, version 1, for rounded lips and forward resonance	117
12	Stacked minor thirds, version 2, for rounded lips and forward resonance	117
13	Stacked minor thirds, version 3, for forward resonance and lifted soft palate	118
14	Pentatonic scale, version 1, for range development and smooth tongue movement.....	119
15	Pentatonic scale, version 2, for range development and breath control.....	119
16	Descending five-tone scale for middle range development.....	138
17	Two-note pairs over a tenth for stretching upper range.....	138
18	Perfect fifth slides on half notes for stretching upper range.....	139
19	Triad arpeggio for upper extension and balanced onset	139
20	Nine-tone scale for upper range development	140

21	Ascending and descending fifth on half notes for stretching lower register higher	141
22	Descending five-tone scale to extend lower range lower	141
23	Descending fifth slides to release subglottal pressure	142
24	Excerpt of “My Petersburg” from <i>Anastasia</i> (Flaherty, 2016).....	143
25	Rolled [r] on five-tone scale in middle-low range	158
26	Humming glide on an ascending perfect fifth for forward resonance	159
27	Octave arpeggio on different vowels for registration management.....	160
28	Five-tone scale on [u] for upper range development	160
29	Octave glide on [ŋ] for aligning lower and upper range.....	160
30	Five-tone scale for lower range development.....	161
31	Octave glide on [i] from lower range to upper range.....	162
32	Staccato octave arpeggios for balanced onset and registration alignment.....	162
33	Nine-tone scale on [i] for registration alignment.....	163
34	Descending perfect fifth glide and scale for registration alignment.....	163
35	Factors of student song selection	179
36	Pete’s vocal range	185
37	Forest’s vocal range	187
38	B’s vocal range and registration	188
39	Kelly’s vocal range and registration	188
40	Revised conceptual framework.....	228

Chapter I

INTRODUCTION

To say, “No transgender people in the military,” is telling all transgender people they are not legitimate, and the movement to deny people their right to use the proper bathroom is telling people it’s not okay to be who they are, and there’s no place for them in public spaces. If you can’t use a public restroom, you can’t be in public for long stretches of time. It’s about keeping gender nonconforming people out of the public space. (Patrick, personal communication, November 10, 2017)

The quote above from Patrick (pseudonym), a trans man, voice teacher, and participant in this study, is a response to recent national discourse on the legal rights of trans and non-binary folks. His statement illustrates the overt transphobia trans and gender non-binary individuals face from oppressive policies and hegemonic cultural ideologies.

During President Obama’s administration, the United States Departments of Justice and Education offered the following guidelines to public schools to legitimize trans and non-binary students: (1) take steps to prevent discrimination; (2) permit trans students access to restrooms and overnight accommodations that align with their gender identity; (3) allow students to use their preferred name and pronouns in school; and (4) have their trans status, birth name, and assigned birth sex remain confidential (Lhamon & Gupta, 2016). In February 2017, these recommendations were rescinded, thus removing basic and minimal protections to a population of often vulnerable individuals (Beemyn & Rankin, 2011; Kosciw, Greytak, Giga, Villenas, & Danischewski, 2016).

This study is about the musical lives of trans and non-binary singers. The intent of the research is to share their experiences, perspectives, and practices. It is also the design of this investigation to understand the pedagogy and approaches of singing teachers who

train trans and non-binary vocalists. The trans and non-binary singers who have participated in this study are artistic and inspiring, and though they face discrimination frequently, they model resiliency and resolve in making their authentic voices heard. Gender diverse voices have been described as “silenced” (Rastin, 2016, p. 28). This study seeks to listen deeply to those voices and to make them un-silenced with deserved legitimacy.

The Researcher

Born on a small dairy farm in Southwest Ohio, I knew from an early age that I was perceived as being different. Intimidation and derogatory remarks regarding my mannerisms and voice were made daily by peers and adults throughout my public education experience. Thankfully, I found support from teachers and friends in my school’s choir and band. Music served as a source of inspiration and solace during this isolating time.

I sang my first professional opera role (Amahl in Menotti’s *Amahl and the Night Visitors*) at age 12. I was soon immersed in many opera and musical theatre productions, and my entire identity revolved around music and singing. When I auditioned for undergraduate voice programs, I was still singing soprano repertoire even though my voice had changed. There was no checkbox for “countertenor” on college audition forms, nor was I even aware of the term countertenor. During a callback audition at The Juilliard School in New York City, I learned about the renowned countertenor David Daniels when a professor recommended I listen to one of his recordings. This experience

transformed my vocal identity—to learn I was not the only high singing male gave me a feeling of inclusion and kinship.

I matriculated as a vocal performance and music education major at a liberal arts university in Ohio. I received opposition from student colleagues and faculty for studying as a countertenor. For me, my high vocal range was simply a part of me, but for others, it rattled their definition of masculinity. My supportive voice teacher helped me persevere through these difficulties when my vocal identity, and thus my entire self-identity, was often seen as perverse and unnatural.

The challenges I faced in the conservative climate of this small college town incited a sense of activism in me. As an undergraduate student, I felt my gender was incongruent with the cultural norms associated with masculinity, and for years I have reconciled masculine stereotypes against my own identity. While I identify as male, I also identify as a singer, a teacher, an activist, a gay man, and an advocate for trans and non-binary folks. I also actively attempt to redefine the notions of masculinity, not only as a political gesture to reconstruct cultural expectations, but out of a personal conviction to my sense of self.

After singing in the internationally-renowned vocal ensemble Chanticleer, and earning a master's degree in vocal performance from the Royal College of Music, I moved to San Francisco. I serve as the Artistic Director of the Oakland-East Bay Gay Men's Chorus and Director of Choral and Vocal Activities at Chabot College. For six years, I was the Artistic Director of the Lesbian/Gay Chorus of San Francisco. I have had the pleasure of teaching trans and non-binary singers in my adult community choruses

and in my private voice studio. When I began teaching trans and non-binary singers, I quickly uncovered that the scholarship in this discipline is limited.

This study investigates the experiences of trans and non-binary singers and their teachers in the applied voice studio. In undertaking research for trans and non-binary singers, I recognize I do so from a place of privilege in academia. I also recognize I am less qualified to relate the lived experiences of these singers than a trans or non-binary singer-researcher, but I hope my experience in working with trans and non-binary students, alongside my personal journey with gender and vocal identity, provide me a sufficient lens for the current study.

Background

A report published in 2016 by the Gay, Lesbian and Straight Education Network (GLSEN) reveals that schools can be a hostile environment for the LGBTQ+ (lesbian, gay, bisexual, trans, queer) population. Over 10,000 LGBTQ+ students, ages 13 to 21, participated in this study. The results indicate that 43.3% of the respondents whose gender identity is other than cisgender have felt unsafe at school, which can cause students to miss classes more frequently, achieve lower test scores, experience lower self-esteem, and have higher levels of depression. The report also found that “75.2% of LGBTQ students in schools with an inclusive curriculum said their peers were accepting of LGBTQ people, compared to 39.6% of those without an inclusive curriculum” (Kosciw et al., 2016, p. 8). Ninety-seven percent of respondents reported feeling supported by at least one staff member in their school, and this support fostered an affirming educational environment for them. Thus, the report suggests that staff support

and an inclusive curriculum are positive attributions to boosting achievement rates in this student population.

Research indicates teachers feel unprepared to work with trans and non-binary students (Luecke, 2011; Nichols, 2013; Payne & Smith, 2014). Yet, despite the negative educational environment many LGBTQ+ students still experience, students in high school and college are “coming out” as trans or non-binary earlier in life (Beemyn & Rankin, 2011; Palkki, 2016b). It is important teachers understand the ever-expanding notion of gender and have the tools and knowledge to support these students.

Two umbrella terms will be used throughout this study. First, the term *trans* embraces the broader community of transgender, transsexual, and transitioning individuals. Second, *non-binary* includes genderqueer, gender non-conforming, gender-fluid, and all folks for whom the gender binary of male and female is inapplicable. While the lexicon is a matter of personal identity to many who identify as gender diverse, the researcher of the current study feels *trans* and *non-binary* is most inclusive, and uncomplicated for syntax and readability. The related literature and participants of this study may employ the above terms interchangeably. Some non-binary individuals might identify as trans, while others might not. Similarly, a trans person might identify as non-binary, while others do not. The language in discussing the collective gender diverse population is developing. In the case studies presented later in this study, the specific identity of each participant is discussed, and thus the most appropriate term will be used to represent their identity. When trans and non-binary is used concurrently, the author is referring to the collective experience. Terms and definitions will be presented at the end of this chapter and more thoroughly in Chapter II, in a review of the related literature. It

might be important to note that pronouns used in this essay will reflect the gender of the individual as they see themselves. When a person identifies as neither male or female (or as both), the pronouns they/them/their will be used the singular form, as requested by the participants (Andrews, 2017).

Gender theorists argue gender is a socially-constructed concept imposing influence on roles, expectations, and behaviors of natal male and female bodies (Halberstam, 1994; West & Zimmerman, 1987). Biological sex relates to the biology of a person's body, where gender is an inner identity, often being expressed through mannerisms, clothing, speech patterns, and vocal timbre (Hancock, Krissinger, & Owen, 2011). Gender is the inner compass of a person's identity, whereas biological sex connotes a person's body parts, chromosomes, and hormones. Sexuality concerns an individual's romantic interests. Oftentimes these three separate, yet related concepts are confused.

Biological sex categorization is widely seen as a binary (male/female) system, based on body parts and assigned to a baby while intrauterine or at birth. This sex categorization assignment leads to a determination of the newborn's gender (Hausman, 2001). As a cultural construct, the gender assignment impacts how the child will be reared based on gender roles and expectations, such as blue is for boys, and pink is for girls (Nagoshi, Brzuzy, & Terrell, 2012). A cisgender individual is a person for whom the gender they were assigned at birth is congruent with their biological sex. A trans or non-binary person may feel they were assigned the wrong gender, or they may identify as both or neither genders (Roan, 2001a).

Broadly speaking, a trans woman is a woman who was assigned male at birth. A trans man is a man who was assigned female at birth. For many trans individuals, transitioning from the gender they were assigned to the gender that aligns with their identity is paramount (Airton, 2009). A trans person is not necessarily someone who is transitioning or has transitioned. Some people may align their gender identity with visible gender identity cues, while others might not. A more in-depth discussion of gender and transgender theory will take place in the first part of the current study's literature review.

Voice identity is an element of gender and self-expression. Individuals use their voices to express themselves and engage in the world. Andrews (1986) advocates, "Voice is a very important part of the self-concept, and our identity is projected through our voices" (p. 3). For trans and non-binary folks, vocal identity, including timbre, range, resonance, articulation and inflection might play a role in authentic gender expression. A trans or non-binary individual might seek effective tools for range or timbre modulation for their voice to be congruent with their gender, based on cultural gender-normativity. Thus, some trans women may seek a higher vocal range, while some trans men might seek a lower range.

In speech-language therapy, voice feminization or masculinization involves assisting an individual in finding a voice congruent with their gender. Voice feminization helps trans women find a habitual higher vocal range associated with natal female bodies. Voice masculinization often begins with the onset of androgen therapy (i.e., testosterone), which helps lower the vocal range of a trans male by the thickening of the vocal folds. The administration of testosterone in a body often causes the voice to drop to a range of a

natal post-puberty male body. Not all trans folks undergo hormone replacement therapy or necessarily seek voice modification.

While there is an abundance of research in trans vocal functionality in speech-language pathology, which will be further examined in the literature review, research in music education has been slower to support trans and non-binary students. Scholarship regarding trans and non-binary singers in the choral setting has addressed the need for gender-neutral language and inclusive programming and pedagogy to affirm the experiences of trans and non-binary singers in choral music education (Agha, 2017; Miller, 2016; Palkki, 2016b; Palkki, 2017; Rastin, 2016). Some trans and non-binary singers might pursue vocal training for community choral singing or avocational fulfillment; other trans and non-binary musicians will seek refined vocal technique in higher education for professional pursuits. Manternach (2017b) explored the perspectives and experiences of three trans singers, and Bos (2017) brought attention to a growing list of trans and non-binary professional musicians.

The Transgender Singing Voice Conference, a first of its kind, held in 2017, demonstrated the need for further narrative and empirical research. The conference provided interest sessions with anecdotes on vocal technique, pedagogy, inclusive programming, and teaching practices. Though the conference was rich with information, further research is needed, and this body of knowledge needs to become widespread to ensure all teachers have the tools to effectively teach their trans and non-binary singers. Kozan (2012) believes, “The [voice] clinician must have sufficient knowledge not only to ‘do no harm’ but also to know how to ‘do good,’ to skillfully judge and shape vocal behaviors” (p. 415). Kozan argues that voice teachers and choral conductors need refined

pedagogical skills and specific technical knowledge to skillfully teach trans and non-binary singers. The author also calls on voice teachers to be a source of emotional support and to provide a safe place for a singer's emotional well-being.

Problem Statement

The functionality of the speaking and singing voice plays a major role in gender identity (Hancock, Krissinger, & Owen, 2011). Speech-language pathology has explored voice therapy with the trans population. Speech-language pathology literature indicates adult trans men taking testosterone experience changes in the muscular structures of the voice, which causes a drop in the vocal range congruent to a post-puberty natal male body (Adler, Constansis, & Van Borsel, 2012). Although estrogen in adult trans women offers no major muscular changes in the voice or vocal tract, voice therapy can help strengthen a transgender women's upper range to sound more conventionally feminine through changes in habitual voice use (Carew, Dacakis & Oates, 2007; Gelfer & Ramsey Van Dong, 2013). There are a growing number of trans and non-binary singers (Palkki, 2016b), however it is possible that most singing teachers do not have experience or training to effectively teach this population. Therefore, understanding the experiences of trans and non-binary singers in voice lessons, and the strategies and practices of their teachers, is needed to help address the vocal needs of trans and non-binary singers.

Purpose of the Study

The purpose of this study is to explore the experiences of two trans and two non-binary singers taking private singing lessons. The strategies and practices of their

teachers will be examined to provide an understanding of their vocal pedagogy. In addition, this study investigates the impact of music on shaping the identity of trans and non-binary singers.

Research Questions

This study will seek to answer the following questions:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

Conceptual Framework

Figure 1 presents a conceptual framework for this study. The vocal development is seen to be influenced by the singer engaging in (1) hormone therapy and/or voice therapy, and (2) singing lessons.

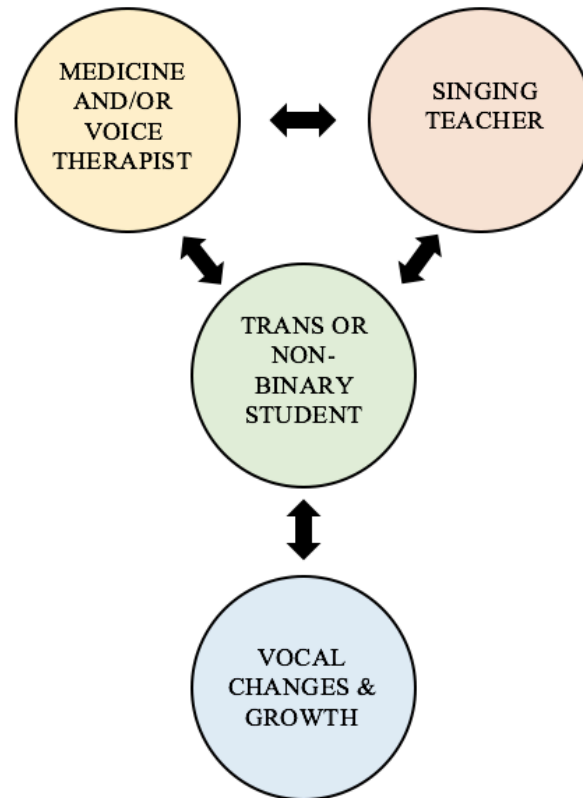


Figure 1. Conceptual framework for trans and non-binary singers. This figure illustrates the factors that affect vocal changes and development of trans and non-binary singers.

Explanation of Conceptual Framework

Based on the current literature and research questions, the above conceptual framework represents the relationships between the major factors underlying the vocal growth of trans and non-binary singers. The student is arranged in the center of this model to bring attention to their lived experiences. The teacher is shown as a major influence in helping the student develop their singing voice. Though this study does not specifically seek to investigate vocal therapy (i.e., speech-language pathology) or the effects of hormone therapy on the voice, these factors play a meaningful role in the

gender or vocal identity of some trans individuals, and therefore, recognizing their potential impact is imperative in understanding the holistic depiction of a singer's journey.

The arrow pointing towards the lowest circle (labeled: Vocal changes and development) illustrate how vocal therapy, hormone therapy, and singing lessons impact the singer, and consequently affect vocal development. The horizontal arrow at the top indicates a potential collaboration between the singing teacher and the voice therapist. All arrows are double-headed to indicate that influence can travel in both directions. The complexities of these paradigms and the interactions between them affect progress towards vocal modulation and optimal vocal technique.

Approach

The research questions provided a framework to investigate trans and non-binary singers and their voice teachers to understand their experiences, perceptions, and practices. The students in this study are adult-age singers, receiving singing lessons from independent private teachers. This study collected data through voice lesson observation, interviews of students, and secondary interviews of the teachers.

Case studies were developed through portraiture analysis to gain insight of human behavior and the context of the learning process (Hackman, 2002; Lawrence-Lightfoot & Davis, 1997). Each student-teacher pair was observed for two one-hour lessons. Each student was interviewed before the observation hours to enable the researcher to understand the student's desires, motivation, and perceptions of their voice. Observations of lessons provided access to the practices and methods of teaching, and enabled the

researcher to see the training in process. The teacher interviews were held after the observed lessons. These interviews allowed for the teachers to address any questions the researcher had from the observations, and to discuss the teacher's pedagogy in further detail. The methodology will be discussed further in Chapter III.

Assumptions

The first assumption of this study regards the importance of the students, acknowledging that trans and non-binary singers deserve quality vocal training. Research suggests more people are coming out as trans or non-binary, and thus narrative research in vocal training is needed to support individuals in this population with their musical pursuits.

The second assumption is that all singers respond differently to varied teaching practices, and accordingly, there is no way to determine "best practices" for trans and non-binary singers regarding technical concepts, vocal exercises, and repertoire. However, an examination of various strategies can assist trans and non-binary singers and their teachers in pursuit of vocal growth.

A third assumption is that although commonalities between teaching practices and student abilities might be found, each teacher participant is unique and will address factors differently, as they see best. It shall be assumed that the teachers and students, no matter the singing style, aim for improved voice functionality, including range, timbre, breath control, and articulation, and that their practice is guiding the student to uncover a vocal identity congruent with their gender identity and singing aesthetics.

A fourth assumption is the de-limitations of this study. The design of this study explores the training of a small population of trans and non-binary singers to provide a thorough analysis of four case studies. Analysis of a large population of trans and non-binary singers is beyond the parameters of this study. While findings and implications might be transferable, the current study is not designed for generalization.

An assumed limitation is the variability of the singing voice and recognizing that the voice responds differently to physical health and environment. The observations of this study are to be understood within these natural conditions.

Rationale for Study

Research is needed to supplement the aperture in the literature on trans and non-binary vocal technique to provide students an affirming and beneficial experience in vocal music education. Research from speech-language pathology has examined voice modification with trans clients, and scholarship in vocal pedagogy and music education have some provided insight on the experiences of trans and non-binary students in the applied studio and choral classroom, which has led to tools and strategies for making the learning environment more inclusive. However, questions regarding the vocal technique and the nature of instructing trans and non-binary singers remains largely unexplored. Therefore, the rationale for this study is to offer narrative data that contributes to the emerging research in trans and non-binary vocal pedagogy.

Significance of Study

The population of trans and non-binary singers is growing, yet singing teachers and choral conductors are teaching trans and non-binary singers with little research to affirm or inform their practices. Singing teachers and class music educators should have tools and strategies to effectively teach the increasing population of trans and non-binary singers from elementary school through college, and adult learners outside the traditional school system. Thus, this study is significant in providing educators across the field with data for teaching trans and non-binary singers. Furthermore, this study will help validate the experience of trans and non-binary singers and promote additional research.

Plan for Remaining Chapters

This dissertation is arranged into six chapters. Chapter II reviews the literature related to trans and non-binary singing by first framing trans and non-binary singers within gender and transgender theoretical models, as well as theories of applied lessons to understand the contexts that influence the educational experience. Next, the literature review provides a brief overview of the voice and the process of phonation. An examination of the research in speech-language pathology is presented to understand elements of voice masculinization and feminization in voice therapy. Lastly, a review of the research in vocal pedagogy, choral education, and music education regarding trans and non-binary musicians is reviewed. The literature review is followed by Chapter III, which provides a pilot study and methodology for this multi-case study.

The second half of the dissertation begins with Chapter IV, where detailed information of each teacher-student case study is presented, drawn from observations of

voice lessons, and separate interviews with the students and the singing teachers. The penultimate chapter will provide a cross-case analysis and discussion to answer the research questions and seek commonalities and differences amongst the participants. A summary of the study, alongside a conclusion of the analysis and recommendations for further research will be provided in Chapter VI. A final reflection from the author will bring the study to a close. A list of works cited and appendices, including IRB informed consent and participant's rights forms, interview and observation protocols, and recruitment e-mails are found at the end of the document.

Definitions

Chest register/voice: the muscular action in the lowest range of phonation; dominant action of the thyroarytenoid; “the vocalis muscle is tensed, which makes it thicker and brings more tissue into motion...the vocal folds are fully in contact and generate complex sound waves with a rich timbre” (Dimon, 2011, p. 61)

Cisgender: a person for whom the gender they were assigned intrauterine or at birth is congruent with their current gender identity (Palkki, 2016b)

Cricothyroids: four intrinsic muscles of the larynx, which originate at the cricoid cartilage and insert to the thyroid cartilage, enabling pitch variation in phonation, and is the dominant muscle in head voice register (Miller, 1996)

Falsetto: the term associated with a “thinner, more flutelike tone with less richness of timbre” of the male head voice register; during this process of phonation “only the inner margins [of the vocal folds] are vibrated by the flow of air; the vibrations then occur at a higher tension and frequency” (Dimon, 2011, p. 60)

Gender: a socially-constructed concept related to a person's inner identity, often outwardly expressed through mannerisms, clothing, hair, and vocal timbre (Hancock, Krissinger, & Owen, 2011; West & Zimmerman, 1987)

Gender expression: the outward display of gender, often through name, pronoun, clothing, hair style, mannerisms, and voice (GLAAD Media Reference Guide, 2016)

Gender identity: a person's inner sense of self, as defined by or in opposition to culturally constructed gender normativity (GLAAD Media Reference Guide, 2016)

Gender oppression: assumed power or unjust treatment of one gender over another, often the subjection of women by men, but also the subjugation on trans or non-binary individuals from cisgender persons; sometimes known as sexism (Rands, 2009)

Head register/voice: the muscular action in the higher range of phonation; dominant action of the cricothyroid; the vocal folds are thinner and vibrate quickly; the term used for female head voice or falsetto phonation

Non-binary/gender non-conforming: a person whose gender identity does not align with the confines of the binary gender system of female and male (Palkki, 2016b)

Passaggio: the pivotal point between two vocal registers (Miller, 1996)

Sex categorization: a classification of human bodies based on genitalia, chromosomes, and hormones, assigned intrauterine or at birth, and often defined within a male/female binary system (GLAAD Media Reference Guide, 2016)

Thyroarytenoid: an intrinsic muscle of the larynx, which originates at the thyroid cartilage and inserts at the arytenoid cartilage; situated above the vocal folds, and is the dominant muscle in chest voice register (Dimon, 2011)

Trans/transgender: a term for a person whose sex assigned intrauterine or at birth is incongruent with their gender identity, or for anyone whose gender identity does not align with the male/female social construction (GLAAD Media Reference Guide, 2016, p. 10)

Transphobia: violence or oppression towards trans and non-binary individuals (GLAAD Media Reference Guide, 2016)

Vocal resonance: the enhancement of sound as it passes through a resonating cavity, mainly the throat and mouth (McKinney, 1994); these flexible chambers enable various vocal qualities, serving as a filter for the produced vibrations (Doscher, 1994)

Chapter II

LITERATURE REVIEW

Introduction

This literature review synthesizes the related research on the vocality of trans and non-binary singers. Providing context for trans and non-binary singing technique and training, this chapter is divided into five sections: (1) a brief overview of theoretical models of gender, transgender, and applied music instruction; (2) a summary of the vocal system; (3) voice masculinization and (4) voice feminization as seen in speech-language pathology research, and finally, (5) scholarship on trans and non-binary singing in applied lessons and the choral setting. The umbrella terms *trans* and *non-binary* will be used throughout this essay, though the cited literature might use related terms, such as transgender, transsexual, and gender nonconforming when referring to this population under consideration.

Theoretical Frameworks: Gender, Transgender, and Applied Music Lessons

Gender Theory

Gender is understood as a socially-constructed concept imposing hegemonic influences on roles, expectations, and behaviors of natal male and female bodies (Halberstam, 1994; West & Zimmerman, 1987). While intrauterine or at birth, a baby is often assigned a sex based on a binary female or male paradigm (Hausman, 2001). This medical assignment is based on physical appearance (genitalia), but cultural expectations based on the gender are imposed on the child. For example, male children are

traditionally gifted with blue clothes and toy trucks, while female children are given pink outfits and dolls. These expectations for what a child should like and how they should socially behave continues through adolescence and into adulthood, and permeate all aspects of culture and education (Bornstein, 1998). In music, songbooks for young women often focus on texts about flowers and lullabies, while songs for young men talk about ships and young ladies (Boytim, 2008a; Boytim, 2008b).

Sex categorization and gender are distinct paradigms. Sex is based on anatomy, chromosomes, and hormones. Gender is the inner identity of an individual (Wilchins, 2002). Gender expression is demonstrated through visible cues of one's body or behavior, including mannerisms, clothing, hairstyle, voice, and speech patterns (Hancock, Krissinger, & Owen, 2011). Gender theory contends that bodies are made of tangible matter, while the gender of the body is only a performance. Butler discusses gender as "only ever a performance in and of itself" (as cited in Airton, 2009, p. 234). Legal, religious, and cultural practices enforce the submission of individuals to identify with the binary male/female gender schema (Connell, 2002). It is not enough to claim a gender, but a community must see and accept a person for that gender. Communities not only guide gender practices, but also dissuade individuals through discrimination and oppression from expressing a gender incongruent with their assigned sex categorization.

When a person feels their sexual category is misaligned with their gender identity, they may experience gender dysphoria (Beemyn & Rankin, 2011). An individual might identify as trans, perhaps indicating they have transitioned or desire to transition from the gender expectations imposed upon them at birth to the gender identity that feels authentic to their sense of self. Other individuals might identify as non-binary, perhaps indicating

they reject the rigid binary construct and live as both male and female, or as neither. Gender identity refers to the sense of self as male, female, both, neither, or as fluid, meaning a person's gender identity is flexible (Burdge, 2007; Roen, 2001a; Wilchins, 2002).

The distinction between gender and sexuality is important, as they are frequently misunderstood (Henry, 2017). Sexuality deals with a person's romantic interests—the attraction they experience for another person. Gender expression is often coded as sexuality, meaning that, for example, when a man behaves in an “effeminate” manner, he is assumed gay or queer by others. Though they are distinct, there is a relationship between gender and sexuality. For instance, if a person who identifies as female and lesbian, transitions to a male identity, their sexuality is now straight if they remain romantically attracted to women (Henry, 2017).

Transgender Theory

If gender theory creates a framework for understanding gender as a socially-constructed paradigm, transgender theory re-positions gender theory to better perceive the fluidity of gender and the individual lived experiences within the trans and non-binary population. Scholarship by Green (2004), Stone (1991), and Stryker (1994) help outline the meaning of being trans or non-binary, and the deconstruction of the man/woman binary. Social work has also helped to establish a transgender theory (Burdge, 2007; Nagoshi & Brzuzy, 2010; Nagoshi, Brzuzy & Terrell, 2012). Burdge brings awareness to the discrimination and oppression that trans and non-binary people experience by living outside of the traditional social norms of gender binary. Roen (2001a) discusses gender fluidity through the experiences of indigenous persons of New Zealand, where

individuals live between genders, live as a third gender, and/or are undergoing a transgender process. Roen (2001b) also asserts that being transgender is more than living as a woman or man—an individual might live as both or neither.

Transgender theory highlights the fluidity of gender and the multiple identities within the trans and non-binary population. Understanding identity through the lived experience is central in transgender theory. One aspect of a person's identity is related to their voice. Andrews (1986) contends the “voice is a very important part of the self-concept, and our identity is projected through our voice” (p. 3). Zimman (2012) asserts that some trans individuals may want to alter their voices to align within the gender binary, seeking a higher voice for feminine identity, or a lower voice for masculine. A trans man might take testosterone to change the tone quality of his voice. Trans women experience no change in voice from hormone replacement therapy, and might seek a higher range through vocal coaching. Other persons, such as someone who identifies as non-binary, may prefer a non-normative voice to signify their trans or non-binary identity. The related research on trans and non-binary voices will be discussed later in this chapter. Next, models of applied music lessons will be outlined, illustrating student-centeredness and the individual experience in the applied music studio.

Applied Lessons Studies

Traditional applied lesson theories depict a master-apprentice relationship, where a novice student seeks training from a master teacher (Duke & Simmons, 2006; Parkes & Wexler, 2012). The scholarship of Duke and Simmons (2006) found 19 common elements of master teachers in applied lessons, divided into three categories: goals and expectations, effecting change, and conveying information. The Duke and Simmons

study of a conservatory approach to applied lesson instruction narrates a teacher-centered pedagogy, where the teacher defines the structure and goals of the lesson. Duke and Simmons found that teachers understand and communicate “excellent fundamental technique” (p. 11) and the ability to convey technical issues to effect change. The study also found master teachers give frequent negative feedback, drive the pacing of lessons, and determine repertoire assignment and lesson goals.

Parkes and Wexler (2012) replicated the Duke and Simmons (2006) study to investigate applied lessons pedagogy in a different population of teachers and students. The researchers found that the teachers in their study “teach along the teacher-centric guidelines that they are familiar with and that have been held as part of the accepted master-apprentice roles in the applied setting” (Parkes & Wexler, 2012, p. 56). Their scholarship also revealed that teachers seem to tailor their strategies to fit the specific needs of their students, providing guidance regarding technique and interpretation, but also offering emotional support. Parkes and Wexler (2012) report, “Teachers are meeting students at their current level of achievement and moving them forward, scaffolding skills from the familiar to the unfamiliar, at a pace that does not cause frustration, low motivation, or lower efficacy in students” (p. 59). Addressing students’ specific needs demonstrates a pedagogical example of centering the learner in the applied studio, which provides space for students to assert more leadership in their educational growth and musical development, and enables teachers to acknowledge each student as a unique learner who may need specific strategies and practices.

Student-centered theories not only emphasize a need for student-centered teaching, but underline the importance of teacher-student rapport and student motivation

as components to successful applied lessons. Mackworth-Young (1990) highlights the effectiveness of student-centered learning within the applied studio, finding student-centered learning places a greater emphasis on student goals, which increases student motivation. Student-centered teaching emphasizes the importance of self-problem solving, where students are equipped with the tools and ability to practice between lessons, and where lessons serve as joint-problem solving sessions (Kennell, 1992).

Overview of the Vocal System

The existence of sound requires four components: (1) a power source, (2) a vibrating object, (3) a resonating cavity, and (4) an object to receive the soundwaves (McKinney, 1994). In the case of the vocal system for speech or singing, the power source is the exhalation of breath, the vibrating object is the vocal folds, and the resonating cavity is the vocal tract, including the throat and mouth. Source-filter theory of speech production views the “source” as the airflow through the glottis of the vocal folds, and the “filter” as the vocal tract through which sound vibrations are modified (Papp, 2011). When a spoken or sung sound is produced, it is called phonation. As the vocal folds adduct, subglottic air passes through the glottis causing the folds to vibrate. The sound is amplified as it passes through the throat and mouth.

Range and tone quality of a person’s voice is determined by anatomy and habitual use of their instrument. The length and mass of the vocal folds impact range, affecting the speed of vibration, which determines how high or low the pitch is perceived by the listener. The acoustic properties of the voice are affected by the amplification of sound as it is emitted from the body. Changing the position of the tongue, lips, and muscles of the

throat enable different aspects of speech and singing, chiefly vowels, consonants, and vocal timbre. Due to human biological changes brought on during puberty, natal male voices tend to sound lower than natal female voices, due to a lengthening and thickening of the vocal folds during adolescents. Though natal female voices also change at puberty, the effect is usually less pronounced due to a lower presence of testosterone in natal female bodies.

Adult trans men who take testosterone experience a change in the thickness of the vocal folds, causing the speaking and singing range to drop (Constansis, 2008; Davies & Goldberg, 2006; Van Borsel, De Cuypere, Rubens, & Destaecke, 2000). For adult trans women, estrogen does not modify the length or thickness of the vocal folds, thus habitual muscular use must be modified, if the trans woman wishes to sing in a high range often associated with the natal female body (Carew, Dacakis & Oates, 2007; Gelfer & Ramsey Van Dong, 2013). The air flow for a trans or non-binary person is no different than in any person with a healthy respiratory process, but the voice is modified, either by medicine or by habitual use. This section of the literature review will explore models of traditional vocal range and registration associated with classical singing. Contemporary commercial music pedagogy will be introduced before literature related to the changing voice is examined.

Voice Types

Conventional voice types for singing include soprano, alto, tenor and bass, though in addition to this standard quartet, various vocal classifications exist to regard specific voice types, such as contralto or baritone. The range of a voice is the lowest to highest pitch (or slowest to fastest frequency) a person's vocal folds will vibrate. During puberty,

natal male voices experience a lowering in vocal range due to increase in vocal fold mass and a lengthening of the vocal folds. The larynx tips forward slightly exposing the thyroid notch (“Adam’s apple”). The vocal fold length for an adult natal male is typically between 17.5 to 25 millimeters (Titze, 1994). Natal female voices also change during puberty with an increase in laryngeal size consistent with the overall developing body. Vocal fold length for an adult female is 12.5 to 17 millimeters (Titze, 1994). This small difference in size equates to different vocal ranges. Natal female bodies tend to vibrate at a faster frequency, producing a pitch perceived as higher. Likewise, longer vocal and thicker folds of natal male bodies typically vibrate at a slower frequency, producing pitches perceived as lower. Lower versus higher ranges are relative to each body based on the source and filter of the sound.

The term “female” is used in quotes throughout the next section, as “male” will be in the following section, to denote that this language, which is widely used in vocal technique and pedagogy literature, regards biological sex, not gender. This study recognizes that this language is controversial, as it often ignores female-bodied tenors, baritones and basses, and male-bodied sopranos and altos. For the purposes of this portion of the literature review, “female” refers to natal female bodies, and “male” refers natal male bodies. It is important this distinction is addressed, as a trans women’s voice is female, no matter the range in which she most easily phonates. Similarly, a trans man’s voice is male, even if his speaking and singing range falls more comfortably into the alto or soprano range.

Standard “Female” Voices

Solo voice classifications in standard “female” voices are soprano, mezzo-soprano, and contralto. (The term *alto* is typically used only for choral divisions, usually sung by contraltos or mezzo-sopranos.) McKinney (1994) indicates that each voice type has a “practical” and “ideal” range (p. 111). A contralto ideally sings from G3 (below middle C) to G5, encompassing a two-octave range. A mezzo-soprano’s ideal range is a whole step above the contralto, thus covering A3 to A5. The ideal range for a soprano is C4 (middle C) to C6, and higher sopranos might extend to the F above or higher. Figure 2 shows the “ideal” ranges of these voice types.



Figure 2. “Ideal” ranges for standard “female” voices. (McKinney, 1994)

Voice registration refers to the shifting of the intrinsic vocal muscles, that naturally occurs when a singer ascends or descends over their full range (Dimon, 2011). For a non-singer, the act of shifting the gears in a vehicle might provide an adequate, yet crude metaphor for registration of the singing voice. The point of the shift, known as the *passaggio*, is the area of the range during which the intrinsic muscles of the larynx modify for continued phonation, which might result in a change of timbre. In *bel canto* vocal technique, the traditional training for classical music, singers aim to learn to make this muscular shift imperceptible to the listener. The discussion of vocal registers is

problematic as it is hotly debated, both in terms of the number of vocal registers, but also in the language used to denote them. A common language used to denote vocal registers is the *chest* and *head* voices, but other appellations include lower/higher, modal/falsetto, heavier/lighter, and thyroarytenoid dominant/cricothyroid dominant.

Richard Miller (1996) posits:

Speech habits of females tend to fall into three types: (1) head voice is almost exclusively used; and chest voice may be nearly non-existent; (2) both chest and head voices are used for speech inflection, with a preponderance of head; and (3) chest voice is chiefly used. (p. 133)

For singing, a combination and balance of the head and chest registers is employed in bel canto singing. Contraltos may use more chest voice than their mezzo-soprano or soprano counterparts, but all standard “female” voice types typically use a combination of both registers. Miller describes “female” voices as having two passaggi points: lower and upper. Each voice is different, but in general, contraltos experience the lower passaggio around G4 and the upper passaggio at D5. The lower passaggio for mezzo-sopranos is E4 or F4, with the upper passaggio one octave above. Sopranos tend to experience the lower passaggio at E-flat 4 and the upper passaggio at F-sharp 5. Lastly, a part of the voice known as the flageolet register, or whistle tone, is a higher extension above the upper passaggio. This high range is produced by “a high rate of longitudinal tension of the vocal ligaments, considerable damping of the posterior portion of the vocal folds, limited vibrating mass of the vocal folds, and high subglottic pressure and airflow rate” (Miller, 1996, p. 148). Not all conventional “female” voices produce a whistle tone, and phonation in this range is generally used sparingly by singers.

Standard “Male” Voices

Solo voice classifications in standard “male” voices are tenor, baritone, and bass. The “ideal” ranges of each voice type are as follows: tenor is C3 to C5, baritone is A-flat 2 to A-flat 4, and bass is F2 to F4 (McKinney, 1994, p. 111). Figure 3 shows these ranges on the musical staff.



Figure 3. “Ideal” ranges for standard “male” voices. (McKinney, 1994)

Providing a brief overview of registration for standard “male” voices is challenging, as there is debate regarding the amount of head voice and chest voice employed with the different voice types. Vennard (1967) indicates, “Most authorities agree that basses sing largely in ‘chest,’ with some use of ‘head’ for very high notes...tenors sing in ‘chest’ up to F4 or F-sharp 4, above which theorists dispute” (as cited in Miller, 1996, p. 117). Miller (1996) proposes a combination of the head and chest registers is used for all “male” voice types. He contends “male” voices have two passaggi (primo and secondo), like “female” voices. “Male” voices also have a falsetto register that is distinct from the head register, according to Miller.

In chest voice singing, “the vocalis muscle is tensed, which makes it thicker and brings more tissue into motion” (Dimon, 2011, p. 61). In opposition, in falsetto, often described as flute-like, “only the inner margins [of the vocal folds] are vibrated by the

flow of air; the vibrations then occur at a higher tension and frequency” (Dimon, 2011, p. 60). Miller (1996) makes a distinction of the “male” head voice and falsetto. Thus, in Miller’s perspective, the “male” head voice is neither the chest voice nor falsetto, but rather “increased cricothyroid action, vocal-fold elongation, diminution of vibrating vocal-fold mass, and constantly changing contours of vocal-fold edges” (p. 118). He goes on to explain “that vocal-fold occlusion is not the same in head and falsetto: vocal-fold approximation is less complete in the falsetto production” (Miller, 1996, p. 122). If traditional “male” voices use a combination of head and chest registers, the falsetto can be used as a pedagogical tool for finding greater relaxation in the head voice, in Miller’s viewpoint.

A modern countertenor (opposed to the Baroque countertenor) is a non-traditional “male” singer, who vocalizes almost exclusively in falsetto register, without causing strain or damage to the vocal folds. While Miller’s scholarship does not go into detail regarding falsetto singing, he does report, “special techniques of extending the falsetto range and in blending it...with the traditional low male register are required” (Miller, 1996, p. 124). Countertenor technique and training is explored by Giles (1994, 2005), and falsetto singing might provide an opening for a trans woman or a non-binary person assigned male at birth to sing in the soprano or alto range if desired.

A countertenor should not be confused with the now non-existent castrato. During the mid-16th century through the 18th century, mainly in Italy, boy sopranos who showed great vocal potential were sometimes castrated. Due to a reduction in testosterone from mutilation of the genitalia, the voice and body of a castrato did not develop in the same manner as bodies did with standard levels of testosterone. While a castrato grew in

height, sometimes abnormally tall and with broad chests, the vocal folds maintained a soprano, mezzo, or contralto range (Barbier, 1998). Although a castrato was frequently regarded as a star of the opera stage, castration was often against the wishes of the child, and eventually deemed illegal in the late 18th century. Though there is no connection in physiology between a castrato and a trans man (or a countertenor), the practice of modifying voices by changing testosterone levels is present in Western music history.

Contemporary Commercial Music Pedagogy

Classical singing styles, are often referred to as *bel canto*, are applied to most operatic and oratorio repertoire, which dominates most collegiate music studios in the United States and Europe (LoVetri & Weekly, 2003). In more recent decades, non-classical music has entered the applied domain, including jazz, folk, gospel, pop, rock-n-roll, country western, and musical theatre. The voice pedagogy for non-classical styles is called *contemporary commercial music* (CCM). Commonalities exist between *bel canto* and CCM pedagogy, such as vocal health, intonation, and melodic and rhythmic accuracy (McCoy, 2016, p. 46). McCoy candidly discusses the difficulty a classically-trained voice teacher might face when teaching non-classical repertoire, and suggests *bel canto* specialists should collaborate with teachers and coaches knowledgeable in CCM music.

The negotiation of vocal registration is a chief distinction between *bel canto* singing and CCM. The American Academy of Teachers of Singing in support of CCM pedagogy asserts, “classical training seeks to blend registers into a seamless whole... This is not the case in many areas of CCM, which often stylistically demand strongly separated registers” (American Academy of Teachers of Singing, 2008, p. 10). The Academy describes CCM singing as being a chest voice dominant sound with a bright

timbre, minimal vibrato, and intentional breathiness, roughness or nasality in the tone. Additionally, CCM technique accounts for using a microphone, where bel canto singing is traditionally performed without added amplification. A survey by LoVetri and Weekly (2003) indicates applied studio teachers have a strong interest in gaining more knowledge in CCM techniques, including data regarding pedagogical approaches and voice science. There is a growing interest for CCM vocal pedagogy, and CCM singing has made an entryway for diverse musical styles in the applied music studio.

The Changing Voice

The human voice goes through changes at the onset of puberty. For some adolescents, changes happen gradually, while others experience abrupt vocal changes. Freer (2009) advises, “boys may experience sudden changes between stages of vocal development, while girls may find their voices breathy from time to time” (Freer, 2009, p. 58). The range and registration of a changing voice is undergoing modifications throughout puberty. When a trans man starts androgen therapy, he might experience a vocal change similar to the changes in voice during adolescent puberty. Voice modulation incited by testosterone has been investigated in research from speech-language pathology.

The next section of the literature review will examine the research on trans voices from speech-language pathology. Because of the changes brought on by testosterone, a trans man might seek assistance with his voice from a speech-language pathologist. The work he does to stabilize a lower vocal range is called voice masculinization. Likewise, a trans woman might see a vocal therapist to help relearn the habitual functions of her voice to sound more “feminine.” This is known as voice feminization. This gendered

language will only be employed in this literature review for syntax and consistency, recognizing that “feminine” and “masculine” represent gender-normative concepts based on the social constructs of gender. The author recognizes that a trans woman who sings in a bass range has a female voice, despite the gender-normative construct. Additionally, some speech-language pathology literature uses the following language: “MTF” (male-to-female) for transgender women, and “FTM” (female to male) for transgender men. This language is problematic as it emphasizes the assigned sex above the gender identity of the individual.

Voice Masculinization for Trans Men

As the voice is an important part of gender identity, a trans man may wish to align his voice with the quality and timbre of voices associated with post-puberty natal male bodies. This alignment might include the desire for a lower pitched speaking and singing voice. A trans man might take testosterone to change his body, which includes a change in voice, due to a thickening of vocal folds causing a drop in fundamental frequency. Van Borsel, De Cuyper, Rubens, and Destaeke (2000) found “the desired voice change (i.e. lowering of the voice) takes place automatically under the influence of androgen administration” (p. 428). Testosterone has shown to be so effective in creating this vocal change that oftentimes voice therapy is not seen as a necessary element in the vocal transition (Davies & Goldberg, 2006; Van Borsel et al., 2000).

In their two-part study, Van Borsel and colleagues (2000) examined voice problems in trans men using a questionnaire administered to 16 trans men. They also presented longitudinal study of two trans men. All 16 trans men who participated in the

questionnaire had been taking testosterone for at least one year. Fourteen of the participants positively responded to experiencing a lowering of the pitch of their voices since the start of androgen therapy. Two participants each indicated they had always had a low-pitched speaking voice, and therefore did not experience a voice change. The participants were asked about their willingness to have further voice therapy, and 11 of the respondents rejected any additional need for speech therapy citing satisfaction as the main reason. The study also revealed that fourteen of the participants indicated that voice modification was as important to their male identity as sex reassignment surgery. Two of the respondents commented that they could not sing as high or as well as before taking testosterone. Issues regarding the singing voice of trans men are also mentioned in a health publication by Gorton, Buth, and Spade (2005), where the authors warn that voice changes due to hormone therapy might be “significantly detrimental to vocal performance” (Gorton et al., 2005, p. 59).

In the longitudinal part of the study, Van Borsel and colleagues (2000) examined two trans men undergoing androgen therapy. One individual was seen on eight occasions over 17 months, while the other client was examined seven times over 13 months. Each participant saw a substantial lowering and narrowing of their range. Van Borsel et al. (2000) posit, “This reduction appears to be the result of a loss in the high tones which is not fully compensated for by a gain in the lower frequencies” (p. 434). Despite a reduction in range, the fundamental frequency was found to drop in both clients, which positioned their speaking voices into a range “passable” as post-puberty natal men.

In a frequently cited article on trans singing, Constansis (2008) discusses his voice extensively. Following his own personal journey through androgen therapy as a

professional singer, Constansis provides anecdotal data of his voice modification. He discusses the experience of having “entrapped vocalicity,” in which the vocal folds had thickened, but the larynx that houses the vocal folds did not enlarge to accommodate the increased muscle mass. He suggests the voice of a trans man may sound weak, hoarse, and lack the harmonics of a biological male voice. Constansis suggests that if androgen therapy begins at a lower dosage and increases slowly over time, for professional voice users the gradual masculinization of the voice is “not only more predictable but also very encouraging” (p. 5), and that physiological changes in the vocal tract are concomitant with changes of the vocal folds. Constansis’s essay includes substantial reporting on the training of transgender singers, which will be discussed in the last section of this literature review.

Three more recent more examinations of the trans male voices have come from linguistics and communications disorders (Papp, 2011; Sanchez, 2013; Zimman, 2012). Sanchez (2013) investigated trans male voices and attempted to identify the unique qualities common in their voices by looking at speaking fundamental frequency, pitch range, and formant frequencies. Acoustical and perceptual data were gathered. Sanchez’s research compared voice samples of three groups of men: biological males, long-term androgen therapy users, and recent androgen therapy users. Acoustical results found long-term users had a marginally significant lower fundamental frequency than the recent testosterone users. Results of the vocal formants indicate biological males had significantly lower formant 2 (F_2) frequencies than recent users, but no significant difference to long-term users. Formant 3 (F_3) frequencies in the biological men were found to be significantly lower than long term and recent users. No other significant

acoustical differences were found between the biological males and the recent or long-term users.

Perceptual analysis collected by Sanchez (2013) showed that recent testosterone users had a significantly lower masculinity rating than both long-term and biological males, when rated by twenty undergraduate college students on a five-point scale (1=not masculine at all; 5=very masculine). Yet, of the voice samples used in this study, 23% of the seven long-term testosterone users, 16% of the five recent users, and 1.3% of the natal men were identified as being transgender; thus, while the recent users received a lower masculinity than the other two groups, nearly a quarter of the recent users were still perceived as transgender. Sanchez argues, “fundamental frequency appears to be central to perceived maleness, but further studies should be conducted to identify the elusive vocal attributes that contribute to gender identity” (Sanchez, 2013, p. 19). These vocal attributes, which may include vowel length and articulation, are given consideration in the dissertations of Papp (2011) and Zimman (2012). The results of Sanchez’s research might suggest that although the speaking fundamental frequency and formants 2 (F_2) and 3 (F_3) were lower in biological males, additional vocal attributes play a role in the perception of a masculine voice.

The research conducted by Papp (2011) is a three-part study on the speech production of trans men. Decoupling gender from biological sex, Papp’s first longitudinal study shows testosterone brings about changes of both the vocal source and filter (i.e., the vocal tract). The results of this study suggest trans male speaking voices are not situated as low in their range as they were before androgen therapy, which means their physiological range expands and lowers more than their habitual range. This study does

not support the findings of Van Borsel et al. (2000) indicating that testosterone induces a narrowing of range. On the contrary, Papp (2011) reports, “by the end of the first year into the androgen therapy, all subjects fully regained or even surpassed their original pitch ceiling” (p. 67). Papp’s first study suggests a greater need for speech-language pathology in the voice care of trans men, and shows there may be a greater amount of conscious or unconscious choice made by an individual regarding his habitual speaking range. Papp also counters the assumption that all trans men desire to be “unambiguously masculine...[which] perpetuates a binary gender system as the only available gender options” (p. 68).

While Papp (2011) first looks at the function and changes of the vocal folds, the second part of the study examines the vocal tract, or filter, as the author refers. Specifically, Papp investigates changes in the vocal tract upon the introduction of androgen therapy. Results indicate that although testosterone in a transitioning adult male does not enable growth in overall height, the vocal tract lengthens, which supports Constansis (2008) theory that physiological changes occur in both the vocal source and filter. In addition to changes in the ramus and lower mandible, Papp (2011) posits, “Some transmen [*sic*] experience the growth of the bony protrusion of an Adam’s apple, which may be accompanied with other laryngeal cartilage shifts and growths” (p. 98). This study advances the notion that smaller bones and cartilage might be more responsive to androgen therapy than previously assumed.

The final part of Papp’s dissertation investigates the acoustic correlations of transgender men and sexuality in sentence-level read speech. This section of the study looks specifically at vowel formants and articulation, mainly with consonant sounds, and

indicates that many trans men wish to live outside of the binary system of sex and gender. Papp's research provides additional data of the changes in the source and filter during androgen therapy, and further illuminates the need to consider the individual vocal experience of each trans man.

The last study examined in this section of the literature review is the dissertation of Zimman (2012), which is a long-term ethnographic and sociophonetic study of 15 trans men. Zimman examines the voice change during the initial 24 months of voice modulation. In addition to observing a lowering of the fundamental frequency, Zimman provides "evidence that these speakers are engaged in various types of articulatory shifts as part of their gender role transition, which affect both formants and [s]" (p. iii). More than investigating this phenomenon from a physiological perspective, Zimman examines the phonetic domains through a sociocultural context, which suggests voice modification helps the trans man construct his identity of maleness.

The research in voice masculinization evokes gender theoretical frameworks who provide the notion that gender is a performed social construct. Although the quality of one's voice is product of biology, it is also formed by habitual use, where to some degree a person can purposefully pitch their voice to align with their gender. This research further illuminates the scholarship of transgender theory in which being trans is understood to be more fluid. The early literature on voice masculinization primarily focuses on the lowering of the fundamental frequency for trans men to "pass" as natal male bodies, but recent literature provides a wider perspective in which voice masculinization is more individual and complex, and an area of research where further scholarship is needed.

Voice Feminization for Trans Women

Research in speech-language pathology on voice feminization for trans women has received more attention than voice masculinization. Since the introduction of estrogen in the body seems to have no major effect on the physiology of the adult voice, surgical procedures and speech-language therapies have been developed as effective forms of voice feminization. As in much of the research for trans men, the emphasis on voices in transition is on the fundamental frequency. For the trans female population seeking voice feminization, a rise in the fundamental frequency as well as changes to secondary vocal characteristics, such as timbre and articulation, are sought. This section of the literature review first looks at research related to surgical procedures in voice feminization. Next, scholarship regarding habitual voice use is reviewed, followed by the voice perceptions of trans female clients.

Surgical Procedures

Surgical methods for the raising of the fundamental frequency of trans women have included three fundamental principles: increasing vocal fold tension, decreasing vocal fold length, or decreasing vocal fold mass. While speech pathology has been able to feminize the voice to a degree, vocal therapy alone is considered insufficient, as strengthening the falsetto and raising the fundamental frequency can cause dysphonia or other voice issues (Neumann & Welzel, 2004). It has also been observed that the “male” voice can emerge during laughing, coughing, or during any spontaneous vocal sound, such as a startle (Anderson, 2014; Gross, 1999; Remacle, Matar, Morsomme, Veduyck,

& Lawson, 2011). There have been different surgical procedures designed to raise the fundamental frequency.

In a procedure called the Wendler Glottoplasty, the vocal folds are shortened by de-epithelizing the anterior part of the vocal folds and suturing the corresponding tissue to obtain a V-shaped anterior commissure. Gross (1999) operated on ten patients using this method. In general, the participants demonstrated a 9.2-semitone increase of the mean spontaneous speaking fundamental frequency. In these same patients, a reduction in loudness over all frequencies was seen in at least the first three postoperative months. Three of the 10 clients desired a louder voice, and this was restored through postoperative voice therapy. One patient experienced dehiscence suture (i.e. splitting of stitches) due to smoking immediately after surgery, coughing, and not observing required vocal rest.

Similar studies were carried out by Remacle, Matar, Morsomme, Veduyck, and Lawson (2011) and Mastronikolis, Remacle, Biagini, Kiagiadaki, and Lawson (2013). Remacle and colleagues (2011) followed Wendler's technique, but also assessed preoperative and postoperative voice use by looking at fundamental frequency, frequency range, maximum phonation time, phonation quotient, estimated subglottic pressure, and voice handicap index. Fifteen clients participated in this study. Comparisons made between pre- and postoperative voice use indicate a significant rise of the median speaking fundamental frequency. Grade of dysphonia, vocal jitter, and subglottic pressure all increased post-operation, but maximum phonation time, phonation quotient, and voice handicap index showed no significant changes. Gross (1999) found patients experienced an overall increase in fundamental frequency, but a decrease in vocal range. Mastronikolis and colleagues (2013) came to similar conclusions, but also suggest

Wendler Glottoplasty surgery might be more successful in younger patients. All three studies assert speech therapy is an important element to further voice feminization.

An alternative operating procedure produces a higher fundamental frequency by the lengthening and tensing of the vocal folds. Developed by Isshiki, Taira, and Tanabe (1983), Neumann and Welzel (2004) performed the procedure in which the cricoid and thyroid cartilages are backstitch-sutured together using wire and mini-plates, often made of titanium. By approximating these cartilages, the vocal muscle experiences increase tension. Neumann and Welzel provide that if the thyroid notch is made more prominent by this procedure, an excision of cartilage can be made on the anterior portion of the thyroid cartilage to reduce the protrusion. Neumann and Welzel operated on 67 patients, of which 93% experienced a raise in fundamental frequency by five to six semitones. Postoperative acoustical analysis showed 28% of participants had a fundamental frequency in the “female” range, while an additional 39% fell into the neutral range (neither female nor male range). Patients expressed confidence in their voices, better mental health, and more acceptance as women. Some clients might prefer this procedure to Wendler Glottoplasty as there is no invasive effect on the vocal folds themselves. One disadvantage is potential scarring on the front of the neck. While results are favorable, follow up examination of 45 participants after approximately one year post-surgery show that in some individuals, the long-term effects were not as positive as initial reports indicated. Ten females underwent a follow-up surgery, of which half of those patients had to have the plates and wires removed entirely.

A recent article on anterior glottic web formation by Anderson (2014) shows this endoscopic procedure is effective in “dramatically raising pitch with no statistical

difference in pitch range and perturbation measures after web surgery” (p. 817). Ten trans women underwent the surgical procedure, which shortens vocal fold length, and results show a mean increase of speaking fundamental frequency of 110 Hz with little or no morbidity post-operation. One noticeable difference in this study is the apparent retention in vocal range, where in previously discussed operations, patients experienced a decrease in range. Like the aforementioned studies, Anderson provides no information regarding the specific effects the web formation surgery has on the singing voice. While voice feminization surgeries seem to show positive results regarding the increase of the fundamental frequency, most research indicates vocal therapy is still an important part of the voice feminization process.

Currently, the author is unaware of any research on the effects of phonosurgery on the singing voice, thus offers caution to singers considering vocal feminization surgery. Research in this area of voice feminization is needed.

Vocal Therapy

There is a growing amount of research related to voice therapy, as separate from intervention provided post-phonosurgery. Some literature provides data that supports the notion that speech pathology can be as effective for voice feminization as surgical procedures. A contribution to this scholarship (Dacakis, 2000) examined changes in mean fundamental frequency in trans women following therapeutic interventions and evaluated long-term maintenance of fundamental frequency gains made in therapy. Dacakis (2000) showed results of an increase in fundamental frequency between 20 and 50 Hz in voice feminization therapy alone. Acoustical research (Britto & Doyle, 1990; Gilmore, Guidera, Hutchins, & van Steenbrugge, 1992) suggests adult natal females have a mean

speaking fundamental frequency of 196-224 Hz, while adult natal men have a mean fundamental frequency of 107-146 Hz, and thus one goal of therapy is to enable the trans female to approximate her mean fundamental frequency closer to the range of adult natal women.

The ten participants in the study by Dacakis (2000) had received between 10 and 90 therapy sessions and were evaluated on an average of 4.3 years after discharge from therapy. Seven of the participants had undergone sexual reassignment surgery, while the additional three were awaiting surgery. None had undergone any kind of surgical procedure for voice feminization and no one was under the care of a doctor for any voice-related issue, but all clients reported occasional huskiness or hoarseness of the voice after prolonged use. The results of this long-term maintenance study indicate that subjects overall were maintaining a higher mean speaking fundamental frequency than before therapy sessions, but not as high as the analysis done immediately after therapy. None of the 10 participants reported high satisfaction with their pitch level. Participants in four earlier studies Dacakis cites (Bralley, Bull, Harris Gore, & Edgerton, 1978; Kalra, 1977; Kaye, Bortz, & Tuomi, 1993; Mount & Salmon, 1988) were shown to have similar experiences, and Bralley and colleagues (1978) suggest satisfaction shown in voice therapeutic sessions might come from the supportive nature of intervention rather than an indication of successful voice change (as cited in Dacakis, 2000, p. 555). Dacakis provides no details regarding the exercises or lessons given in voice therapy sessions, as the study is focused on long-term maintenance instead of the techniques employed in voice therapy.

In a study by Carew, Dacakis and Oates (2007), the authors investigated the effectiveness of oral resonance therapy on the perception of femininity in female trans participants to evaluate acoustic differences in vowel formant frequencies and the speaking fundamental frequencies (F_0) from pre- and post-treatment, and to determine client self-perceptions pre- and post-therapy and their levels of satisfaction with their voice. Ten trans women, none of who had undergone sexual realignment surgery, nor received any prior voice feminization therapy received five 45-minute sessions of oral resonance therapy at weekly intervals.

Oral resonance therapy includes the practice of bringing the tongue carriage forward in the mouth, and using a lip spread (oppose to lip rounding). Participants in the study by Carew, Dacakis and Oates (2007) were asked to practice specific vocal exercises 15-20 minutes per night. Audio recordings were collected throughout the sessions. Listeners were asked to rate the femininity of the voice in the pre- and post-treatment recordings of each participant. Additionally, the participants themselves were asked to rate the quality of femininity with their voice from pre- and post-treatment recordings. The recordings were acoustically analyzed to provide data on the formant and fundamental frequencies of the recordings. Acoustical analysis of the recordings indicates the speaking fundamental frequency (F_0) was much higher in post-treatment recordings than pre-treatment. Regarding the perceptions of the listeners, seven participants were perceived as sounding more feminine post-therapy. All ten transgender participants perceived themselves as sounding more feminine. The study suggests oral resonance therapy can be used to enhance vowel formant and fundamental frequency in voice feminization.

A further study by Gelfer and Ramsey Van Dong (2013) explored the use of vocal function exercises (VFE) developed by Joseph Stemple for a group of trans women seeking voice feminization. The participants received individual voice therapy for 1-hour sessions, twice a week for six weeks (a total of 12 sessions), and were required to perform Stemple's VFE two times each, two times a day for the entire six-week experiment period. In addition to the vocal therapy sessions, one training session for the VFE and a follow-up session were conducted for each client to ensure proper implementation at home. Acoustical analysis of the recordings indicates that the participants' voices were perceived as significantly less masculine in the posttest. The results of perceptual analysis indicate listeners perceived none of the speakers as being female in the pretest, and posttest results indicate only 7.4% of the voices were perceived as females. All speakers were, however, rated by listeners as being significantly less masculine in posttest. The addition of the VFE did not appear to have a markedly positive effect on raising the speaking fundamental frequency when compared to other studies that did not use VFE. The female participants felt the vocal function exercises were a positive part of therapy, but did not feel it was a replacement for other voice therapies.

Self-Perceptions of Voice

Most voice feminization research focuses on the raising of the fundamental frequency either through surgical modification or through the retraining of habitual voice use through voice therapy. While research has considered the fundamental frequency a signifier of a person's gender, raising the fundamental frequency for voice feminization might not directly correlate with the client's voice contentment. McNeill, Wilson, Clark, and Deakin (2008) investigated the relationship between participant's happiness with

their voice with fundamental frequency, and the self-perception of vocal femininity and perception of femininity by speech-language therapists and lay observers. This study found that trans women can assess femininity of their voices in the form of perceived pitch, but happiness with their voices is not directly related to it. Furthermore, client voice satisfaction may not correlate with perceptions of the professional voice therapist. The study does suggest therapists can reliably evaluate how the lay public receives the voice. McNeill and colleagues emphasize that subjective measures of patient satisfaction are a more valuable tool for therapeutic success than acoustical analysis alone.

A *Transgender Self-Evaluation Questionnaire* [TSEQ] was used in a study by Hancock, Krissing and Owen (2011) to explore voice likability, femininity, and voice quality of life for trans women. The authors of this study suggest it is valuable to distinguish voice femininity from voice likability. Twenty trans women living full-time as female completed the questionnaire and provided a speech sample. Twenty-five undergraduate listeners rated the audio samples for voice femininity and voice likability. Hancock, Krissing, and Owen found that the voice quality of life is moderately correlated with how others perceive their voice, but more strongly correlated with the speaker's self-rated perception of voice, more so for likability than femininity. The McNeill et al. (2008) study, alongside the findings of Hancock and colleagues support subjective measures, including perceptual scales and voice quality of life measures, in voice feminization therapy. A newer questionnaire has been created for trans women by Dacakis, Davies, Oates, Jacinta, and Johnson (2013) to provide a more reliable measure of self-reporting of vocal functioning and the impact of the voice on the everyday lives of

trans women. This new questionnaire reveals a wide range of individual variability in perceptions of vocal functioning and voice-related difficulties.

While none of the above studies on voice feminization bring much attention to the singing voice of trans women, the recent studies focus more on the clients' perceptions and support a student-centered approach for working with trans individuals. These client-centered studies align with the theoretical frameworks of Kennell (1992) and Mackworth-Young (1990), where student-centered learning is emphasized and client (or student) perceptions are valued.

The research from speech-language pathology emphasizes the trans voice in transition. There is a deficiency in speech-related research on the perceptions and needs of non-binary voices. While some non-binary folks might not seek voice modulation at all, others might seek a gender-neutral voice or range higher or lower to match their identity. Davies and Goldberg (2006) indicate the target range for gender-neutral speaking voices is in the range of 155-165 Hz (around D-sharp3 to E3), though additional studies indicate that vocal pitch alone is unsatisfactory in altering the perceptions of one's voice. Furthermore, there is no conclusion that seeking an androgynous voice is the targeted goal for non-binary individuals. Much of the research on the singing voice, like speech-language pathology, examines changing voices. The current study will provide a narrative-based investigation on the voices of trans male singers using testosterone, and non-binary singers not employing hormone treatment.

Research of Trans and Non-Binary Singing

Theoretical Framework

The earlier discussion of theoretical frameworks for gender, transgender, and applied lessons, incites developing a theoretical model for teaching adult trans and non-binary singers. A potential framework may come from research on muscle tension dysphonia. Goffi-Fynn and Carroll (2013) provide a model demonstrating effective collaboration of a speech-language pathologist and a voice teacher to enable a singer to reach maximum vocal efficiency. Their scholarship illustrates how singing might be used as an effective tool for the retraining of adult voices, as the singing voice is not produced with habitual speech patterns. Singing teachers of trans or non-binary students might find themselves working with new singers, who are learning singing as a tool for voice functionality. Figure 4 is a model for the roles and collaboration of the speech-language pathologist and the voice teacher. Where a speech-language pathologist is working to ensure voice functionality, and the voice teacher is aiming for optimal voice use, both professionals overlap on a vocal development continuum.

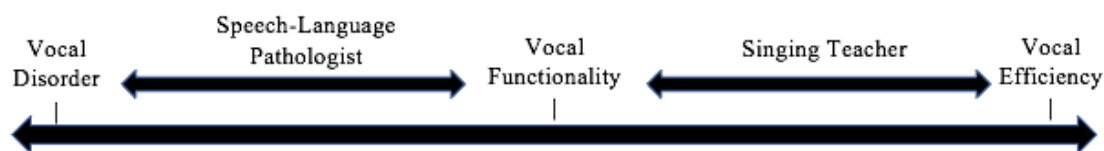


Figure 4. Vocal development continuum from disorder to efficiency (based the scholarship of Goffi-Fynn & Carroll, 2013)

The timbre and range of the voice with regards to identity is a central part of gender expression. The primary role of the singing teacher is to help develop functional singing, not to dictate or stymie the vocal development of a trans or non-binary singer. Kozan (2012) advises that voice professionals must have appropriate knowledge “to skillfully judge and shape vocal behaviors, and to redirect or withdraw any vocal task or exercise that is uncomfortable or unproductive for the client” (p. 415). Thus, it is paramount a teacher has sufficient knowledge of vocal technique to effect positive change, the teacher-centered approach, as found by Duke and Simmons (2006) might not always be prudent when working with a trans or non-binary student.

Research on the transgender voice from speech-language pathology is abundant. Studies on voice feminization and masculinization provide data on therapies to raise or lower the fundamental frequency and to help a trans individual find a speaking voice congruent with their gender expression. These areas of research provide the foundation for how singing voice specialists might train trans and non-binary singers by providing a client-centered training model. The literature also provides a framework of how a singing teacher might work in tandem with a voice therapist to help a trans or non-binary person develop their transitioning voice.

Singing Voice Literature

Singing is an extension of speaking, widely considered a prevalent form of self-expression, in which the phonation of the vocal folds is sustained. Trans and non-binary singing is mentioned intermittently throughout the speech-language research. Recent articles from music and music education address the experiences of trans and non-binary singers in applied voice lessons and the choral setting.

One prominent piece of the scholarship appears in *Voice and Communication Therapy for the Transgender/Transsexual Client* (Adler, Hirsch, & Mordaunt, 2012), in which Kozan's chapter "The Singing Voice" addresses many specific singing topics, including vocal exercises, breath support, range, and register. Kozan (2012) asserts:

TG/TS [transgender] people are literally, as well as figuratively, finding their "outer voice" with which to speak and sing, just as they are finally getting to express their "inner voice," the voice of their true identity as a human being. The most important guideline here is that there are no "rights or wrongs" in what range or ranges in which the singer chooses to sing. Our work as clinicians who specialize in care of the singing voice is to help the singer use the voice in the healthiest manner possible. (p. 439)

Kozan also advocates that singing teachers should be equipped with knowledge of the trans voice, and that while an earnest attitude to try to help a trans singer is paramount, the voice teacher must also know how to guide the student to affect positive change.

In the same book, a chapter by Adler, Constansis, and Van Borsel (2012) addresses specific issues related to singing for the trans man. This chapter proceeds Constansis's (2008) article where he discusses his own vocal transition from mainly singing in the treble clef range to primarily bass clef range singing, and provides data from his teaching of trans students also transitioning vocally through androgen therapy. Constansis (2008) suggests voice masculinization is more complex than previously understood. The author posits that some trans men experience "entrapped" voices, in which their voices experience "permanent hoarseness, lack of control and colour, and limited power" (para. 6). Constansis advises that testosterone be taken in lower doses to enable voice modulation to be gradual, asserting:

The combination of the right gradual testosterone intake together with soft exercising of the voice can help the voice not only to retain its singing quality, but also to acquire a new and aesthetically pleasing quality. (p. 10)

Diaphragmatic breathing is discussed as an important element to voice use, and while the breathing mechanism is not different in trans individuals, proper breath support is emphasized in his practices.

The vocal technique of trans singers is investigated by Hershberger (2005) who examined the effectiveness of Melodic Intonation Therapy in combination with traditional speech-language therapy. Melodic Intonation Therapy (MIT) was developed by Sparks and Holland (1976) as a method to aid adults recovering from severe aphasia. Since aphasia is a communication disorder caused by damage to the brain (oftentimes the left half), MIT uses rhythm, melody, and word stress to engage the patient in rebuilding communication skills. Basic phrases are “intoned” within a range of three to four whole steps using a tempo slower than normal speech. Through a series of exercises, the clinician guides the client back to normal speech prosody. Hershberger worked with six trans women in the study. Three of the participants received traditional voice therapy with training in feminine language structures and nonverbal communication, while the other three received voice therapy plus singing exercises and MIT. Hershberger’s results indicate that all participants had a higher speaking fundamental frequency upon discharge from therapy, though the participants who received singing exercises and MIT had slightly higher speaking fundamental frequencies. Qualitative data also revealed that all participants rated themselves as having more feminine voices at the end of their treatment, and external adjudicators also rated the voices as more feminine in comparing pre- and post-therapy recordings.

All participants in Hershberger’s study (2005) reported exercises in resonance were helpful in voice feminization. These exercises included scalar and small intervallic

patterns on voiced nasal consonants (e.g. [m], [n]) and the vowels [i], [o] and [u]. Nasal resonance is mentioned throughout singing literature as one of the key components to healthy singing (McKinney, 1994; Miller, 1996). Resonance is understood as the enhancement of sound as it passes through a cavity. In the case of singing, these cavities are chiefly the throat and mouth, but the nasal passages enhance resonance as well. In the case of Hershberger's study, it seems participants were given exercises to produce a more forward, bright tone, as humming and phonating on more closed vowels might promote nasal resonance (McKinney, 1994, p. 134). It is understood that vowel formant frequencies are connected to resonance, and women tend to have higher formant frequencies, so Hershberger's exercises support earlier claims of Carew, Dacakis and Oates (2007) that higher formant frequencies are an important element of voice feminization. This study also provides a model for singing to be used as a form of voice work in vocal feminization.

Hershberger's (2005) vocal exercises align with the recommendations of Constansis (2008), who reported struggling with exercises on open vowels as he first began to find his new voice. Constansis recommends vocal "sirens" on a 'ng' hum [ŋ], as well as exercises on voiced fricative consonants, such as [v], [ð] and [z]. The Italian *bel canto* lessons of Niccolò Vaccaj (*Metodo pratico de canto*, 1832) are also recommended by Constansis, though he cautions that the singer must not try to sing with too full of a voice, until the voice is ready for more difficult repertoire. Vocal exercises are discussed by Kozan (2012) as well, who recommends starting exercises with small intervals, using a glissando or slide from one pitch to the next. Kozan also emphasizes the importance of soft singing and suggests it is "the first step in successive approximations toward the goal

of firmer vocal fold adduction” (p. 437). Her series of exercises increase with difficulty and use more open vowels throughout.

Singing range is a paramount consideration of both Constansis (2008) and Kozan (2012). Both recommend situating exercises within the comfortable range of each individual singer. Kozan’s discussion of range suggests trans women should vocalize across their entire range, but no lower than E3 (approximately 165 Hz), as this is considered the threshold of perception of the male voice. Ideal singing ranges for conventional voice types is provided by McKinney (1994); similar scholarship for trans or non-binary singers is not included in the literature reviewed.

Neither Hershberger (2005), Constansis (2008), nor Kozan (2012) recommend any specific repertoire. Constansis mentions the Vaccaj method from 1833, which includes one-page etudes. Kozan mentions the use of folk songs, but provides no specific examples. Kozan also advises avoiding previously rehearsed repertoire when working with an individual who was a singer before transitioning, as the song might be fraught with habits from before the vocal transition. It is also suggested that repertoire be taken slowly, at least at first, to ensure the singer has ample time to breathe and adjust to their new techniques. Furthermore, Constansis and Kozan recommend that singing teachers be mindful of adjusting the key of the song to match the singer’s ability. One of Hershberger’s participants suggested all participants in voice therapy should learn a song as a reference point for pitch when speaking. Although the study provides no song recommendations, this suggestion aligns with the notion that singing could be an exercise in the retraining of adult voices (Goffi-Fynn & Carroll, 2013).

In 2017, the *Journal of Singing* published five articles focusing on trans singing. Loraine Sims (2017a; 2017b) wrote two of these articles. In her first article (Sims, 2017a), she gives an overview of considerations in working with trans and non-binary singers. Providing essential definitions, she introduces the reader to important gender terminology. Basics protocols are described to ensure trans and non-binary students feel supported and welcomed in the voice studio. Sims discusses the needs of the trans male changing voice from testosterone, offering technical concepts to promote efficient singing. Regarding trans women, Sims explains that some women may want to seek a higher range, while others are content with their lower voices. She also brings attention to the challenges that might arise if a student is receiving voice feminization therapy for speaking, but continuing to sing in a tenor or bass range. Though not providing any specific technical issues of adolescents taking hormone blockers or testosterone, Sims draws awareness to working with underage trans and non-binary students. She shares:

Teaching transgender voice students is not so different than teaching any student...choose repertoire that will help them grow as musicians in the genre that is appropriate and encourage[s] them to find the means to become communicative, artistic, and stylist performers. (p. 282)

Sims's article serves as a valuable advocacy and educational piece in teaching trans and non-binary singers.

In her second article, Sims (2017b) chronicles the voice change of one male student from soprano to tenor. The well-documented article provides detailed monthly information of his voice modulation, giving specifics about fluctuations in range during a one-year period. The article is supported with spectrogram images and photos from videostroboscopies. The student was developing both his newly emerging low range, while simultaneously cultivating his falsetto voice. Sims is meticulous in her details

regarding the vocal transition, documenting range and register modification. She is also candid in mentioning mistakes she made regarding her student's pronouns. The reader is reminded that all effort should be made to properly refer to the individual with the correct gender, and yet even with the best intentions, blunders may occur. Sims also reflects on working with a female student with a bass-baritone range, who developed a functional falsetto. In both articles, Sims serves as a supporter of trans singers, providing concrete technical information, while also encouraging teachers to embrace working with trans and non-binary students.

A two-part article, prepared by Brian Manternach, provides perspective from both teachers and trans singers. The first article (Manternach, Chipman, Rainero, & Stave, 2017) gives perspectives from three voices teachers with varied levels of experience in working with trans singers. Manternach collected short depictions from the teachers (Chipman, Rainero, and Stave) to provide a useful comparison to the kinds of challenges and joys the applied studio teachers face in teaching a trans student. The teachers contribute technical knowledge for singing, but also offer examples of how gender roles impact the students. In discussing operatic roles, Chipman (the second author) explains that his female student finds operatic roles problematic as a bass baritone, and thus, she is focusing on art song literature, which they both feel is more flexible in terms of gender. The teacher shares, "I think it is a crucial part of our jobs as teachers to provide a safe space for students...to discover, explore, and strengthen their identity as artists and human beings" (p. 84). Rainero (the third author) discusses a male student who has had a long, fulltime career as a mezzo-soprano, who began hormone replacement therapy at age 50. The teacher explains that the singer's pre-transition vocal range was more than three

octaves with no discernable registration breaks. After the onset of testosterone, the singer's range diminished to less than an octave (E3 to C4), and "he developed register difficulties, lack of stability in tone production, and loss of breath control" (p. 85). In ongoing voice lessons and androgen therapy, the student's range has expanded (C3 to E-flat 4), but whether he will sing professionally again is unknown.

Stave, the third teacher in the collaborative article, discusses a male beginning student who had been on testosterone for three years before commencing voice lessons. Stave describes working with the adult singer's voice like a teenager baritone, employing exercises with smaller intervals, while keeping the larynx relaxed and promoting a warm timbre. One challenge observed by the third teacher was an increase in vocal fatigue. All three teachers provide awareness to the varied kinds of technical needs when working with the trans population, indicating there is no one-size-fit-all method.

In Part Two of Manternach's scholarship (2017), the students of the teachers from Part One articulate their perspectives of their vocal training. This provides a beneficial narrative of the student perspective, and illustrates how the student's voice is a part of their self-expression. One student shares:

I think that music has always been front and center to my transition. I mean, it was thanks to music I had the courage to come out, and it's thanks to the people who love and support me and are connected to me through music that I have the courage to continue to transition...It is also thanks to music that I am able to express who I am. (p. 210)

Another student comments, "My singing voice is very important to me as a way to express my character" (Manternach, 2017, p. 213). The brief reports from the students support the notion that voice and gender are aligned and part of an individual's self-expression. Manternach imparts that teachers need an understanding of trans and non-

binary voices. With 1.4 million people in the United States identifying as trans, not including trans adolescents, the possibility of a voice teacher working with a trans or non-binary student is “increasingly likely” (Manternach, 2017, p. 214).

In a fifth article in the *Journal of Singing*, Bos (2017) indicates one issue a cisgender teacher might encounter in working with a trans or non-binary student is in providing them with a singing role model. Bos provides a list of trans and non-binary singers, along with brief descriptions of each artist. As a teacher with experience in trans pedagogy, she asserts, “The teacher has the obligation to create a safe place where students can sing...with their authentic voices” (p. 424). Bos’s opinion seems shared amongst all the contributors to the emerging scholarship that appeared in 2017. Teachers of trans and non-binary singers need to be aware of the technical challenges of trans and non-binary vocality, but also have the social skills to warmly accept these students for their authentic identities, create safe spaces within their studios for them to heighten their self-expression, and serve as an advocate for them.

In addition to the five *Journal of Singing* articles, Lessley’s (2017) doctoral dissertation serves as a straightforward resource to singing teachers in working with the trans population. The author provides a review of the literature, as well as her experience in working with several trans singers. The document is organized into trans female voices and trans male voices, giving an overview of the voice modification in both populations. Written with the voice teacher as the intended reader, vocal exercises and suggested repertoire are included. Lessley’s research supplements the aforementioned scholarship. Her pedagogy establishes the usefulness of semi-occluded exercises, gliding between pitches, and using closed vowels, such as [u] and [i] to foster consistent resonance.

The research on trans vocal technique has become much more abundant in the last two years. A foundation for this study and additional research has been laid. The scholarship of Constansis, Kozan, Lessley, Manternach, and Sims will be discussed further in Chapter V, when discussing the findings of the current study.

Choral Education Literature

Inclusion of trans singers in the choral setting is an additional area of scholarship relate to the current study. This literature has focused on advocacy and the social experiences of transgender students in the classroom. Palkki (2016a) provides a short list of non-heteronormative and non-misogynistic repertoire for bass clef choirs, as well as advocates the use of language that avoids hegemonic and heteronormative ideologies. Palkki asserts, “Inclusive language that honors those who identify outside the binary notion of gender can help transgender or gender variant students feel more at ease” (p. 33). Palkki (2016b) also explored the experiences of three trans students in high school choral settings through narrative inquiry. His research illustrates the ways in which choral traditions, including repertoire and concert attire, can cause oppression in the musical setting. Palkki also highlights the importance of mentorship, providing evidence that when a trans student feels supported by their teachers, the rapport and music making experience help them live their life authentically. The author posits that changes in policy and practices in secondary schools and choral programs are necessary for the inclusion and safety of trans and non-binary singers.

Subsequent articles have explored the practices and policies necessary to make the choral setting inclusive and welcome (Agha, 2017; Miller, 2016; Palkki, 2017; Rastin, 2016; and Steele, 2016). The scholarship emphasizes gender-neutral language in the

rehearsal, referring to singers by their section (soprano, alto, tenor, bass), opposed to “ladies” or “gentlemen.” Gender-neutral language in a choral ensemble name is also considered crucial in making choral spaces open and affirming for all individuals. Agha (2017) provides a list of 12 recommendations to choral directors for crafting welcoming spaces for trans and non-binary singers, which includes: (1) adopting a statement of affirmation and gender-neutral language, (2) avoiding gendered language in rehearsals and performances, (3) providing space for singers to offer their pronouns, (4) considering gendered language in chorus names, (5) avoiding gendered concert attire, (6) providing gender-neutral restrooms, (7) gaining knowledge of trans singing voices, (8) understanding how chest binding can affect breathing, (9) assigning voice parts and solos based on range and not gender, (10) making audition materials trans friendly, (11) providing all stakeholders with training of trans matters, and (12) allowing yourself and others to make mistakes even when having the best intentions.

A growing number of trans and non-binary choruses and open and affirming choral organizations provide opportunities for transgender singers. The Gay and Lesbian Association Choruses (GALA Choruses), which is the overarching organization for more than 190 LGBTQ+ choirs of more than 10,000 singers in the U.S., Mexico and Canada, advocates for trans and non-binary singers in the choral setting (galachorus.org). While trans and non-binary singers might be a small population of the total number of choral singers, further research on transgender singing is needed to support this growing and important population.

Conclusion

Gender theory indicates gender is a social construction, not dependent on assigned sex at birth. Likewise, gender theory argues that a community must see and accept a person for their gender for gender to exist. Trans theorists emphasize the fluidity of gender and seek to highlight the individual lived experiences of trans and non-binary people. Though traditional models of applied lessons illustrate a teacher-centered environment, newer learner-centered frameworks bring attention to the individual lived experiences of students in applied music lessons.

The scholarship of speech-language pathologists provide data on the transitioning voice of both trans men and women. Research in voice therapy has given substantial focus to modifying the fundamental frequency, though some studies indicate voice masculinization and feminization is more complex and requires changes in secondary vocal characteristics, such as timbre and articulation. A trans man who desires a lowering of vocal range often undertakes androgen therapy, which causes a thickening of the vocal folds, enabling a slower phonation frequency to match a standard natal male timbre. Trans women experience no major voice changes from estrogen. Voice feminization therapy helps a woman speak with a higher range and modify secondary vocal characteristics to emulate the perceived timbre of natal female voices.

Constansis (2008) and Kozan (2012) laid a foundation for trans singing research. Lessley (2017) and Sims (2017a; 2017b) carried this scholarship forward and provided detailed information regarding the training of trans singers. This research will be used in Chapter V to discuss the findings of the current study.

The reviewed research deals exclusively with adult participants, yet research suggests individuals are transitioning at earlier ages. The author has located no research on the singing voice of trans and non-binary singers before or during adolescence. Research is also needed to examine singing after feminization phonosurgery. The related research in feminization surgery indicates inconsistent success. The author uncovered no literature on the effects of phonosurgery on the singing voice.

The teaching of trans students should include not only a study in the technical skills of the transitioning voice, which is by and large the focus of this literature review, but also the cultural and social awareness of the population. Further considerations in creating safe, student-centered environments in the voice studio is also warranted. Finally, much of the reviewed literature addresses the trans population, without looking at the needs of non-binary singers seeking vocal training who may not identify within the male/female binary. Though some of the literature concern the trans and non-binary population as a collective population, specific research is needed on non-binary voices.

Chapter III

METHODOLOGY

Overview

The purpose of this study was to explore the experiences of trans and non-binary singers taking private singing lessons from established voice teachers. The practices of these singing teachers were examined to provide a broader understanding of the vocal training they provide. The research questions for this study include:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

This chapter provides a description of the study's methodology to illustrate the process of collecting data to answer the research questions. The chapter includes a discussion on the (1) rationale for the research approach, (2) participants and setting, (3) recruitment and IRB, (4) pilot studies, (5) overview of information needed, (6) research design overview, (7) instrumentation for data collection, (8) analysis of data, (9) ethical considerations, (10) issues of trustworthiness, (11) limitations and de-limitations of the study, and a (12) chapter summary.

Rationale for Research Approach

The study is a qualitative, multi-case study. The values and benefits of a qualitative approach enabled the researcher to investigate the social situation of the participants, and richly explore the perceptions that construct the singer's experience in the applied vocal studio. The qualitative approach allowed the study to be "grounded in the value of information-rich cases and emergent, in-depth understanding" (Bloomberg & Volpe, 2016, p. 148). Qualitative inquiry seeks to understand human behavior and the context of the learning process to reflect the experience under investigation (Bogden & Biklen, 2007).

Merriam (1998) posits that in interpretive inquiry, education is viewed as a process, and the researcher interprets the educational environment as a lived experience. Making meaning from this process is derived through an inductive analysis. The case study within this mode of inquiry is, "a thing, a single entity, a unit around which there are boundaries" (Merriam, 1998, p. 27). The bounded context of the current study was the trans or non-binary singer and their teacher in the applied voice studio. A portraiture analysis of the singers and teachers enabled a complex insider's view of trans or non-binary vocal identity and training of the singing voice. The use of portraiture analysis has been effectively employed in music education research, and the current study followed the research examples of Clemmons (2007), Roll (2014), and Sears (2010).

Portraiture analysis serves as a lens for the researcher "to record and interpret the perspectives and experience of the people they are studying, documenting their voices and their visions—their authority, knowledge, and wisdom" (Lawrence-Lightfoot & Davis, 1997, p. xv). Portraiture allows the researcher to present findings in a way that

“enables the reader to experience a deeper level of understanding and empathy that would be exceedingly difficult to achieve if one were writing as a dispassionate, detached observer” (Hackman, 2002, p. 53). Furthermore, portraiture analysis seeks to present data by highlighting strength and resilience, and studying the successes within the case study, oppose to investigating only setbacks and challenges. Thus, while the current study aims to present an accurate depiction of the trans and non-binary singers in the applied voice studio, it does from a framework to understand the joys and difficulties.

Participants and Setting

Four adult students and their teachers served as the participants in the current study. Supported by previous research on trans voice and singing, as presented in the previous chapter, this study sought to understand the experiences of trans and non-binary singers. Two trans men and two non-binary individuals participated as students in the study. All student participants were previously involved in singing lessons before the commencement of the study. Prior experience with singing and length of vocal training was varied amongst the participants.

Purposeful sampling was employed for the singing teachers, who were considered eligible for this study if they meet the following criteria: (1) prior experience in with working with trans or non-binary singers, (2) a strong vocal pedagogical background, (3) an affiliation with a professional music organization (such as the National Association of Singing Teachers or the Voice Foundation). One teacher did not meet the final criteria, but was considered eligible because of his national presence in working with trans and non-binary singers. This teacher also possesses the necessary credentials to be a member

of the National Association of Singing Teachers or the Somatic Voicework™ Teacher Association, but chooses not to be a member for reasons of his own. The teachers have a range of experiences, as both teachers and performers, and thus the strategies and practices they employ vary.

While one teacher is employed as a college professor, his student was not taking voice lessons for credit or as part of an official course of study, and permission from the affiliate institution was not needed. All students in this study were taking private voice lessons independent of the teacher's institutional employment. Lessons took place in the teacher's private studio in their home or office. All participants in this study were 18 years old or older at the commencement of the study. The study was approved by the Institutional Review Board of Teachers College, Columbia, and all participants understood and signed Informed Consent (Appendices E & G) and Participant's Rights forms (Appendix H) prior to the commencement of data collection.

As discussed in the previous two chapters, the study of trans and non-binary singers in the applied voice studio is important in providing a growing number of trans or non-binary students with an affirming and beneficial experience in vocal music education. Based on the literature in speech-language pathology and music education, the voice of a trans or non-binary person is a valuable element of their gender expression. Trans men who take testosterone experience a drop in vocal range congruent with post-puberty natal males. Limited narrative or empirical data examines the vocal needs or experiences of trans and non-binary singers. The student and teacher participants of the current study provide a lens to the experiences and pedagogy in the applied voice studio.

Institutional Review Board (IRB) and Recruitment

Following a successful hearing of the advanced dissertation proposal, approval by the Institutional Review Board (IRB) of Teachers College, Columbia University, was obtained on June 12, 2017. The study was granted Exempt status and assigned protocol number 17-339. Recruitment for this study was done by e-mail during the summer of 2017. In January 2017, the researcher presented at the Transgender Singing Voice Conference at Earlham College, where many professional contacts were established. After IRB approval was received, the investigator corresponded with colleagues via e-mail. All teacher participants were initially contacted through e-mail. Phone conversations with the teachers established rapport and confirmed their understanding of the purpose of the study. The teacher participants recommended a student from their studio for the study and supplied the researcher with the necessary contact information. All students were contacted via e-mail. Table 1 illustrates the eight measures enacted to uphold IRB integrity in participant recruitment:

Table 1

Eight Steps in Participant Recruitment

1	Potential teacher participants were contacted via e-mail (Appendix F), providing them with the purpose and structure of the current study.
2	Singers who were recommended by their teacher for the study were contacted via e-mail (Appendix D) to provide them with the purpose and structure of the current study.
3	Singers who consented to participate were given an Informed Consent form (Appendix E) and Participant's Rights document (Appendix J).
4	Once the student agreed to participate, teachers were provided with an Informed Consent form (Appendix G) and Participant's Rights document (Appendix H).
5	Informed Consent and Participant's Rights forms were signed and obtained by the researcher before any data collection commenced.
6	To ensure the participants understood the purpose and structure of the study, the researcher went over the Informed Consent and Participant's Rights documents in person before commencement of data collection. The researcher also made note of a typo in the IRB documents with the participants.
7	Following IRB protocol, confidentiality was maintained for all participants in this study.
8	Students and teachers choose or were assigned a pseudonym.

Pilot Studies

An initial pilot study was conducted as part of a class research project during Spring 2017. The researcher contacted a teacher via e-mail he had met at the Transgender Singing Voice Conference. The teacher recommended a male student of hers for the pilot study. He was contacted through e-mail. Informed Consent and Participant's Rights forms were signed before interviews commenced. An interview protocol was created to address the research questions, and a semi-structured interview of the teacher and student were conducted separately using a video conferencing platform. Each interview was audio recorded and lasted approximately 60 minutes. A word-for-word transcript of each

interview was returned to the corresponding participant for review. Using portraiture analysis, mini-portraits were crafted to see if the design of the methodology would answer the research questions. This initial preliminary study was used during the advanced proposal stage of the dissertation. The participants chose pseudonyms to ensure confidentiality.

Following a review of the methodology and interview questions of the first pilot study, many changes were made to strengthen the study. First, it was determined observations of at least two voice lessons would be necessary to see the participants actively engaging in one-on-one instruction. Second, the interval protocol was revised to gather more background information on the participants to help establish more context to their experiences and perceptions. Third, an observation protocol was designed to help the researcher in gathering reliable field notes. Finally, the researcher determined to observe the voice lessons between the student interview and the teacher interview. Scheduling the student interview first enabled the researcher to understand the student's experiences and perspectives to provide context for the lesson observations. The teacher interviews served as the last step in data collection to enable the researcher to ask questions of behavior or interactions observed in the lessons.

Following IRB approval, a second pilot study was conducted in Summer 2017. The revised interview protocol (Appendix B) and new observation protocol (Appendix C) were employed. The researcher followed the same procedure in stabilizing reliability and validity as employed in the first pilot study. Informed Consent and Participant's rights were understood and signed prior to collecting data. Interviews transcripts were returned to the participants to ensure accuracy (member checks). Participants chose pseudonyms

to maintain confidentiality. Field notes of the voice lessons, along with the interview transcripts were coded.

Following the first pilot study, the researcher developed a set of codes to interpret the data. Student codes included *non-musical support* (NMS), *marginalization* (MA), *vocal identity* (VI), *gender identity* (GI), *self-expression* (SF), and *vocal training* (VT). Vocal training is subdivided into *informal vocal training* (IVT), such as online videos and observation of other singers, and *formal vocal training* (FVT) in voice lessons. The student codes focus on the lived experiences both inside and outside the vocal lessons to offer a more comprehensive depiction of the student and how applied lessons are situated within their life.

The teacher codes are multi-layered to underline the background and training of the teacher, and to enable teaching practices, strategies, and perspectives to surface. The teacher codes included *background* (BA), *marginalization* (MA), *informal musical training* (IMT), *formal musical training* (FMT), *teaching as mentoring* (TAM), *teaching vocal technique* (TVT), and *teaching perspectives* (TP). The final code addresses broader views and reflections on the ethics of teaching voice and the recommendations to the profession.

Second Pilot Study

In the second pilot study, a trans male singer in New York City and his trans male teacher participated. Criteria for the teacher participant does not stipulate the teacher identity must be trans or non-binary, however this pilot study provided the opportunity to investigate the socioecology of the voice studio of a trans voice teacher working with a trans singer.

Student participant. Sam is in his mid-twenties and works in information technology for a major national corporation. Identifying as transgender, Sam uses male (he/him/his) and non-gender pronouns (they/them/their). The latter pronouns will be used here, as preferred by Sam. They grew up in a suburb of Washington, D.C. in a conservative evangelical household. Sam recounts many occasions of isolation and conflict in their formative years regarding their gender identity. A sense of marginalization encompasses much of Sam's discussion regarding their upbringing. Their family culture created conflict between their authentic gender identity and their family's values, influenced by religious doctrine and conservative political discourse.

As a young child, Sam was interested in the performing arts. Sam had a positive experience playing a strong principle female character in a play as a child. Sam explains that a child's gender is not as entrenched in expectations. A person assigned female at birth can be a Tomboy as a child. As Sam grew older, female characters in plays and musicals felt inauthentic. They recall:

When I was growing up and needing to play adult roles, they were all gendered roles and the only ones I was eligible for were the woman...It was just really unsettling...I wanted to be performing. I wanted to be storytelling. But I didn't want that.

Although music and theater were an important part of Sam's identity, they felt marginalized by the gender inherent in music and theater. Sam turned to creative writing to be self-expressive.

Despite the early marginalization experienced in theater arts, they continued to love singing, and minored in voice in college. They loved their singing teacher, yet had a difficult time in the program. They report:

I didn't feel like I fit in very well in the department...I was frustrated with the repertoire...I didn't feel like I developed very much as a performer...I felt like I was just more and more stunted, trying to fit into roles that I didn't want to be.

There is a source tension between their gender identity and vocal identity. Concerned about the effects of androgen therapy, they have not taken testosterone. Their singing voice remains in the soprano range. Sam's partner is also a trans guy who uses androgen therapy, and Sam thinks he is a fantastic singer. Sam admits, "I don't like my voice...I hate the way I sound, but I love to talk." Their purpose in taking voice lessons is to prepare themselves for musical auditions. After several years of not performing, they are interested in getting back into the performing arts community.

Sam has spent time watching online videos of other trans men whose voices have been modified by androgen therapy. Though they see successful examples, including their own boyfriend, they do not wish to give up their soprano voice for fear of how their voice might develop. For Sam, while they admit they would be mis-gendered less often if they used testosterone, they have no control over the changes in the voice. They remark, "If you're going to go on hormones, they're going to do what they want to do to your body and you don't get a lot of say...and that bothers me." The unknown of how their voice will modify is a prime factor in not starting androgen therapy.

The language Sam's teacher uses in voice lessons is paramount to their comfortability in working with their teacher. They share that they are neither stereotyped for their vocal range, nor gendered with regards to repertoire. The voice lessons focus mainly on vocal exercises to promote improved vocal functionality, which Sam finds rewarding. Sam indicates in their lessons now, they are "a lot more comfortable just making noise," which enables much less self-judgment. Sam also reports never feeling

particularly encouraged by previous teachers, and they appreciate their current teacher's support and high expectations for continual vocal development.

Teacher participant. In his upper thirties, John, Sam's teacher, has recently transitioned to identifying as a transgender man. When asked about his gender identity, he responds: "trans-masculine, non-conforming fabulous gender-fuck." His colorful description of his gender parallels his effusiveness in discussing vocal training and teaching. Like Sam, John grew up in a conservative Christian home. As a young person, he was required to wear long sleeves and dresses. He was homeschooled by his parents, describing his home environment as learner-centric. He emphasizes his personal role in self-education. His father sang often and his mother was a gifted pianist. Though he did not receive piano lessons in his early years, he taught himself piano through the methods books his mother owned. Despite this early informal musical training, he was discouraged to pursue music professionally.

After a year of study in college for technology, he became a voice major upon seeing an advertisement for opera workshop. John's college experience parallels Sam's experience in college, in which singing provided an opportunity for self-expression, but also caused marginalization. John speaks frequently about "boxes" and "labels" imposed upon identity, in and outside of the musical realm. He describes, "Singing was so wrapped up in my sense of self-worth, something that gave me value, that if I wasn't perfect at it, then I didn't have value." While Sam spoke of feeling marginalized by repertoire and colleagues, part of John's conflict revolves around the high expectations of singers, and the intrinsic link between a person's singing ability and self-image.

John has an endocrine abnormality, which means his body produces more testosterone than the average body assigned female at birth. His voice is affected by unusual thickening of the vocal folds, and so much of his training for teaching trans and non-binary singers has been a self-exploration of what works best for his unique instrument. His own navigation of gender guides his language in speaking about the voice as a musical instrument.

Voice lessons. John's formal musical training and self-education shape his teaching practices. His pedagogical approach is two-fold, in which he serves as a vocal technician in dealing specifically with the voice, but also as a mentor in providing emotional support to his students. He asserts:

I don't think a lot of teachers genuinely appreciate the tenuousness of singing and emoting and identity, and how those things get so wrapped together...I just feel the first step to helping any singer is helping them find out who and what they are, because if we're trying to be something else, which a lot of times that's what singers are trying to do, they're trying to push their voice into some other fach, into some other type.

One strategy for enabling positive discussion regarding vocal growth is to create a cognitive representation of the instrument to personify it, as separate from the individual. This construction of an individual's vocal identity fosters the singer and teacher to be "compassionate about [the voice's] issues, of its strengths, and just accept it for what it is...separating the emotional entanglement, so they can do the functional things that it needs to do." The untangling of the voice from the self-worth of the individual is an important notion of working with all singers for John. For trans and non-binary singers, it promotes support for when vocal confidence is infused with their gender expression.

As a vocal technician, John employs exercises with Sam to free the larynx and jaw, and promote optimal functionality, not a specific sound outcome. Vocal tensions

inhabited by John limit him from using his full vocal range. John has Sam do many exercises from C5 to C6 to facilitate vocal agility in their high soprano range. Emphasis is placed on the need to develop the entire vocal range. John reports:

A great deal of the exercises that we are doing there is about unlocking...and allowing the voice to do the things that the voice needs to do to make the adjustments that the voice needs to compensate for those irregularities in the voice, to deal with the fluctuation of the vocal folds from day to day.

These exercises include melismatic passages, staccato, and wide intervallic leaps from chest voice to head voice. John also employs physical movement to incite freedom and openness in the vocal mechanism.

Though John is cognizant of his transgender identity and of his students' identities, much of his perceptions of teaching voice apply to all his students, cisgender or otherwise. For example, John posits:

It's less about doing something because a singer is transgender and more about doing whatever the singer needs to be able to accept their voice, to accept themselves without judgment, because it is so much easier for someone to extend compassion and patience and caring for this third-party persona [the voice] that we've created, than it is for them to do it for themselves...but, if we can name something and we can recognize its personality, all of a sudden we can love this thing, and we can accept its flaws, and we can accept that maybe it's not perfect.

For John, unlocking optimal voice use is a combination of separating one's gender identity from their voice, allowing vocal development to be free from emotional entanglement.

Short Discussion. A major finding is the emphasis placed on emotional support. The traditional models of applied lessons, reviewed in the previous chapter, place less emphasis on the need for teachers to support students emotionally. John speaks about the perceived entanglement felt between the quality of voice and self-worth. As a teacher,

John attempts to disentangle the instrument from the self. Building a cognitive construct of the voice, Sam and John have both named their voices, and talk about their instrument as if it is a separate from their body. When they talk about singing, they refer to their voices by name, as an intentional step to separate it from their sense of self-worth. As John explains, by naming the voice, they can talk about it and focus on its technical needs without disrupting the emotional stability of the individual. Both participants also discuss the marginalization imposed by gender expectations in repertoire and roles. In John's studio, students are free to choose repertoire that matches their gender identity, if the piece is appropriate for them vocally. Vocal exercises are used for range development. John uses glissandi and scales on semi-occluded consonants and various vowels to promote efficient singing habits. These exercises are consistent with vocal exercises suggested in the related literature.

In Chapters Four and Five of the current study, the portraits will provide much more thorough detail and discussion, but even a brief discussion of the second preliminary study indicates the revised methodology fulfills the purpose of the study.

Overview of Information Needed

This study examined information related to participants' context, demographics, and perceptions. The contextual information needed was the setting of the private voice lessons, length and frequency of lessons, the length of vocal study with current teacher, length of vocal study with previous voice instructors, any current or previous vocal therapy from a speech-language pathologist, and the singer's history of hormonal

therapies to affect vocal change. This information will be gathered through initial correspondence with each singer.

Demographic

Demographic information includes basic data related to the singer's profile, including the participant's name, age, gender identity, voice part, any additional information the singer feels relevant to the study, and their teacher's name and contact information. This information was collected through a Singer's Information Sheet (Appendix A), completed by the researcher, before the initial interview.

Perceptual

Critical to understanding the experience of the trans and non-binary singers and their teachers within applied lessons was the perceptual information of the students and teachers, collected through the pre-observation interviews of students, and a post-observation interviews of the teachers. Perceptual information includes change of mind or attitude regarding vocal identity and vocal goals, and understanding important elements of the applied lesson, including specific vocal exercises, singers' ranges and desired ranges, concepts and rhetoric used to communicate vocal technique, repertoire used to fulfill student's musical or vocal goals, and other observable practices in the applied studio. This information was gathered through the triangulation of lesson observations, student interviews, and the teacher interviews.

Theoretical

A critical and selected review of the literature was ongoing throughout the study, drawing support for the interpretation of the data and recommendations for practice and future research. Emerging scholarship was considered as the study was being completed.

Overview of Research Design

Following a review of related literature including gender and transgender theories, applied lessons theories, research from speech-language pathology, and literature on trans and non-binary singing, the research design was crafted to ensure a valid and reliable qualitative study. As refined by two pilot studies, separate student interviews were conducted before the observation of two lessons. Interviews teachers served as the final step in data collection.

Instrumentation for Data Collection

The research plan for conducting this case study included the Singer's Information Sheet (Appendix A), one pre-lesson interview with each student, observation of two one-hour lessons with each teacher-student pair, and one interview with each teacher after the second lesson. The interview questions are shown in Appendix B. The methodological design of observations and interviews is chosen to uncover comparative and distinct characteristics in the vocality of the students and the pedagogy of their teachers.

Student Interviews

In-depth, semi-structured student interviews occurred before the observation of lessons. The interviews incorporated a varied line of inquiry, including Experience (open-ended) Questions, Mini-Tour Questions (“Walk me through...”), and Native-Language Questions (“Tell me about...”) to clarify the language and perceptions of student and teacher in the lessons (Spradley, 1979). Each interview was approximately 60 to 90 minutes in duration. All interviews were audio-recorded and conducted in a private, quiet venue, such as an individual library study room. Before analysis of the interviews began, a word-for-word interview transcription was sent to each interviewee for feedback to increase validity of the content.

Observations

Two lessons were observed for all four singer-teacher pairs, providing approximately eight hours of observation. Lessons were scheduled based on teacher and student availability. Field notes taken during lessons provided information on strategies and approaches of vocal training, documenting specific vocal exercises, student range, repertoire, and communication between student and teacher. The researcher assumed a non-participant role. A “grand tour” form of observation was adopted in the first lesson to enable the identification of “major features” (Spradley, 1980, p. 77). The second lesson enabled a “mini-tour” style observation during which the researcher drew comparisons between the lessons, but also focused on specific data observed during the first observation.

Teacher interviews

Semi-structured interviews of teachers occurred after the observation of two lessons. The interview enabled the researcher to gain further access to understanding to the strategies and approaches observed in the lessons. These interviews also provided the opportunity to ask clarifying questions and further probe the experiences and perceptions of the trans or non-binary singer, as understood by their teacher. Before analysis of the interviews began, a word-for-word interview transcription was sent to each interviewee for feedback to increase validity of the content.

Analysis and Synthesis of Data

The purpose of this interpretive multi-case study is to explore the experiences of four trans or non-binary singers and their teachers in the applied voice studio, and thus the following research questions served as a framework for the examination:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

The research questions were addressed through a triangulation of student interviews, lesson observations, and interviews of the teachers. Table 2 illustrates how the methodological design provided answers to the research questions.

Table 2

Research Questions and Collection Instrumentation

Research Question	Data Collection Instrumentation
How do musical spaces shape the identity of trans and non-binary singers?	<ul style="list-style-type: none"> • Student Interview
How do trans and non-binary singers describe their vocal training in voice lessons?	<ul style="list-style-type: none"> • Student Interview • Lesson Observation (field notes)
How do voice teachers characterize developing the vocal abilities of trans and non-binary singers?	<ul style="list-style-type: none"> • Teacher Interview • Lesson Observation (field notes)

Using portraiture analysis, interview responses and field notes of observations were analyzed to form participant portraits. In addition to the interview transcripts, the portraits were sent to the participants for feedback to further increase research reliability. A cross-comparison analysis of teachers and students was conducted separately to uncover similarities, distinctions, and emergent themes. The data was systematically coded “by aggregating the text or visual data into small categories of information, seeking evidence for the code from different databases being used in the study, and then assigning a label to the code” (Creswell, 2013, p. 184). Analysis codes were refined from the preliminary studies. Classifying the data into dimensions of information enabled patterns to emerge.

Ethical Considerations

The researcher has considered the ethical issues that can arise in a qualitative research study. Due to the potential sensitive issues uncovered from the interviews and

observations of lessons, the research was conducted in a manner that caused least possible harm to the participants. The researcher endeavored to gain the trust of the participants, and discretion used throughout. Following approval of the Institutional Review Board, the participants voluntarily signed the Informed Consent and Participant's Rights forms before interviews or lesson observations commenced. Confidentiality was a concern to the dissemination of the data, and pseudonyms were used for all participants. The storage of the raw data was password protected on the researcher's personal computer and not publicly available to maintain participant confidentiality.

Issues of Trustworthiness

Issues of trustworthiness with regards to validity, reliability, and transferability in this study was considered. Efforts to accurately depict the concepts, feelings, and actions of the participations through member checks of the interview transcriptions and the portraits were implemented to strengthen the study's validity. Reporting of the data thoroughly and transparently through participant portraits aims to heighten the reliability of the study.

Though the current study offers detailed descriptions of the experiences of two trans or two non-binary singers and their teachers, the participate size is not adequate to represent the wider trans and non-binary population. Yet, through thick and detailed descriptions, a complex picture of the experiences and perceptions of the participants in this study may be transferable if the reader determines that the findings are applicable to their own context (Bloomberg & Volpe, 2016).

Limitations and De-limitations of the Study

The value of a qualitative study allows the researcher to delve deeply into the lived experiences of the participants, and the portraiture analysis provides the reader a rich and multifaceted understanding of four trans or non-binary singers and their voice teachers in the applied studio. This study does not offer an analysis of the experiences of a broader range of gender variant singers. Likewise, despite robust recruitment efforts, a trans woman, along with her teacher, was not identified for the study, and consequently, a trans feminine perspective is not included.

The data was collected during a defined duration of time, offering a snapshot of the vocal training experience, and thus not offering a longitudinal perspective. Both gender and voice identity are fluid, and therefore a realistic depiction of a singer might be fitting at the time of the study, but might not accurately represent the singer's perceptions or vocal abilities throughout their singing lives. Strategies and approaches of training singers are complex and varied. While the data on vocal technique might be transferable, this study does not yield a comprehensive assessment of vocal technique for all trans or non-binary singers. Every applied music lesson is unique, and accordingly, generalizability is problematic.

While the researcher aims to realistically depict the experiences of trans and non-binary singers and their voice teachers, as a trained singer, the researcher acknowledges his own bias of voice teaching. His understanding of their experiences is understood through a framework of his own teaching and training. While the interviews seek to deepen the understanding of the participant's perceptions, the researcher recognizes

issues inherent in interviews, in so much that interview questions, or the delivery of those questions might unintentionally influence the participant's response.

Finally, it is recognized in qualitative research that participants may respond in a manner agreeable to the researcher, but not accurately represent their authentic lived experience. While serving as a conduit of the experiences of trans and non-binary singers and their teachers, the researcher recognizes he is less qualified to relate the lived experiences of being trans or non-binary than a person who is trans or non-binary, and thus, this study is impacted by the researchers limited perspective.

Summary

The methodology of this qualitative study uses portraiture analysis through case study to investigate the experiences of two trans and two non-binary singers taking singing lessons. A triangulation of pre-voice lesson observations interviews of the students, observations of two voice lessons, and a post-observation interview with the teachers enables thick and meaningful descriptions to understand the social situations of the participants in the learning process. The design of the research addresses the research questions and supports the validity and reliability of the study.

Chapter IV

PORTRAITS

Introduction

The purpose of this study is to understand the experiences and perceptions of trans and non-binary singers, and their teachers, in the applied voice studio. This qualitative, multi-case study includes four teacher-student pairs. The intent of this chapter is to provide a complex and detailed portrait of each case. The first two portraits focus on trans male students and their teachers. The second half of the chapter brings attention to the two non-binary students. The four teachers were purposefully selected for their adept knowledge in working with trans or non-binary voices. Two of the teachers are cisgender—one gay man and one straight woman. The other two teachers are both trans men. Pseudonyms are employed to maintain participant confidentiality.

All four proceeding portraits follow the same format. First, a profile of the student is given, offering information about their background, identity, previous musical training, and perceptions of their singing lessons. Second, a description of each teacher provides information related to their musical training, teaching experience, philosophy and pedagogy. The final component of each portrait outlines the socioecology of the voice lessons, presenting data associated with structure, climate, and activities shared between teacher and student in the applied studio.

As discussed in the previous chapter, the researcher conducted separate interviews of the students and teachers, and observed two voice lessons. Following two preliminary studies, codes were developed to analyze data. Interviews and field notes were coded by

color, using separate codes for the students and teachers. The student codes included: (1) family/cultural background, (2) non-musical experiences, (3) adversity, (4) gender identity, (5) vocal identity, (6) personal agency, (7) vocal training, (8) singing experience, and (9) future musical aspirations. Teacher codes included: (1) family/cultural background, (2) identity, (3) adversity, (4) classical musical training, (5) non-classical musical training, (6) teacher training, (7) teaching as mentoring, (8) teaching vocal technique, and (9) teaching perspective. Portraiture analysis is employed in this study to provide an insider's view of the participants, seeking their authentic experiences and perceptions (Lawrence-Lightfoot & Davis, 1997). This form of analysis highlights strengths and resilience, and seeks to uncover positivity alongside issues and challenges.

Case Study 1: Forest and Darius

Student Portrait

A 22-year-old trans male from the United States west coast, Forest lives in a metropolitan city with a population just under 500,000. He describes himself as a “dude,” offering, “I fit pretty well in the binary...if I had been a cis-dude, I would have just been a dude.” His bulky frame, short hair, five o'clock shadow, and deep voice match the “dude” profile. He's a gentle guy, well-spoken, generous with his time, and introspective about his identity and life experiences. He is currently attending a community college in the city where he grew up, working towards a degree in field ecology. When discussing his choice of major, he attributes this decision to a single professor who affirmed his male identity without hesitation. In the margins of a quiz one day in an environmental biology

class, Forest wrote a note to his professor that he was changing his name to Forest and he would start going by he/him/his pronouns. Forest reports:

He printed out a new roster and never slipped up. He was calling me [Forest] before I was used to it. It would take a couple of tries because I'm like, 'Wait, that's me!' That's honestly why I picked that major.

Though field ecology is an important aspect of his time in college, Forest is also very involved in the music and theater programs, both on stage and behind the scenes.

The performing arts has been impactful in Forest's life for several years. He was raised in a devout Mormon household, and sang in the church choir. He was 14 years old when first he began to explore his masculinity through music. He says:

There was a church choir. That was actually the first time I ever sang masculinely [*sic*]. There was an old lady in the tenor section, and I was like, "I want to be an old lady in the tenor section." So, I hung out with her and realized I could do this, and so I started singing tenor. I had no inkling that I was transgender. It was just, "I like being masculine."

The choir was an affirming experience because it was a safe place to be "masculine for a bit," where Forest could explore his male identity without feedback or adversity from family, peers, or teachers. Though he describes the ensemble as "not a forward-thinking choir," there was no push back from the director because there was a need for singers in the tenor section.

The need for more "boys" in various performing arts activities paved an opportunity for Forest to explore his masculinity. In addition to choir, Forest was active in his high school's theater program. He describes theater as his second foray into being masculine. Forest recalls:

I showed up freshmen year to an audition and they cast me as a male character because I had short hair. I realized I really liked it, so I kept doing theater. I remember it was about my second show where the director was giving out notes, and she was like, "You have such a masculine

energy on stage,” and I’m like, “Oh, that feels good.” So, ever since then, I would keep playing male characters. There was never enough of them—boys in school to play them.

The performing arts provided a space for Forest to explore his identity. He shares, “Singing was always this way I could explore it safely without people trying to label me.” As a youngster, he took piano and voice lesson from another “sweet, old lady from church.” This voice teacher allowed him to sing repertoire from a male perspective, but stopped short of letting him sing romantic men’s songs.

Individuals in other areas of his life showed less support. When he was a young child, he wanted to join Daisy Scouts, an all-girl precursor troupe to Girl Scouts. He was “bullied out for apparently being too butch.” During his formative years, he explains:

One of my parents’ biggest fears was that I would end up queer...well, very specifically, their biggest fear was that I would be a lesbian. Transgender was completely off their radar. It shouldn’t have been. If I tried to do particularly masculine things, sometimes people would get really worried about it. People would try to save me from that.

He offers that had he grown up in Utah or Arizona, where there is a higher Mormon population, it might have been more difficult for him. All his cousins went to Brigham Young University, and Forest says they were part of large performance groups that were very gender-based. He shares:

“We don’t have these big [performing arts] programs that everyone’s fighting to get in to...in a way, that’s really good because then we, as students, get to take those programs and make them what we need.

He believes that growing up in an area where the arts are “drastically underfunded” and considered of low importance provided an opening for him to explore his masculine identity, long before he recognized his trans identity.

While he has a good relationship with his parents, he still experiences marginalization within his family's church community. For example, on the occasion he attends a church service, he discloses:

I won't wear a dress for them. I won't answer to my birth name for them. I won't go to the women's meetings for them. I will sit there in a suit, and if they don't want me to go to the men's meeting with them, I will find another place to be.

Darius is resolute in his behaviors around his family and the members of their Mormon church. While he imparts this information stoically, interacting with this community while maintaining his authentic identity is emotionally challenging.

Forest has been an out trans guy for three years. He was 19 years old and taking a playwriting class at the same college where he is studying field ecology when he started to realize his authentic self. He remembers:

I was sitting there in a playwriting class and I was writing a play about this lesbian who is going to a dance and decided that she wanted to wear a tux. I'm writing this play and I'm fleshing out this character, and all of a sudden, I realized this character isn't a girl. I was doing a bunch of research, and so I dove into this character, and then the more I did the research, I was like, "Oh, I am not a girl."

Though he had played male roles on stage and sang tenor in choir for years, he had never identified as male "offstage."

Although Forest had developed a tenor range in choir, he took a group voice to further develop his singing. "I took Beginning Voice...to explore my lower range, but in a healthier way, because singing that low and not on HRT [testosterone] was a little rough on my voice." Although he admits to being misgendered by the teacher on the first day of class, he found a community of singers and a supportive, knowledgeable instructor in voice. Forest speaks enthusiastically about his experience in this course, finding both

the group instruction and the one-on-one coaching sessions with the teacher valuable. His final performance in that class serves as an example of how music and his gender intersect:

I did “Out There” from *Hunchback of Notre Dame* and it’s the last time I could have ever done it because it’s got all these high A[4]s. It’s a good thing I did it because at the time I didn’t know I was going to be on T [testosterone] soon. I remember that recital really well. I got that feeling of being on stage... remembering why I liked being on stage in the first place and getting to sing this song, which in my mind personified how I felt as a young, just-come-out-of-the-closet trans man. It was just a really beautiful moment as an artist.

In the summer after taking Beginning Voice Class, Forest began taking testosterone.

Despite characterizing his pre-transition tenor voice as rich and masculine, he explains:

I couldn’t hit a tenor low C[3], but I could still achieve this masculine richness and I absolutely loved it, but my voice was sort of the last bastion of femininity that I had. Even though it was so masculine, it would give me away all the time. My voice was the main reason why I decided to take HRT [hormone replacement therapy].

Forest received little support from the medical clinic who prescribed him the testosterone.

A diabetic friend of a friend showed him how to give himself the shot, as the clinic provided no training on how to administer the prescription. He also received no voice therapy. Forest believe that even if he had been offered voice therapy, we probably wouldn’t have accepted it. “Even though my voice was this huge source of dysphoria,” he acknowledges, “it wasn’t necessarily the way I talked; it was purely just the pitch. I speak exactly the same as I did before T. The only thing different is the pitch is lower.” Thus, the only vocal coaching Forest received during this transition was from the voice teacher of the group voice class. During the following two semesters, he took Intermediate Voice and then Advanced Voice classes.

The vocal transition was not easy. About a month into Intermediate Voice, his voice began to modulate. He recalls:

It was squeaking. It was like I had to re-learn how to sing because all of a sudden what I used to do to sing high wouldn't work, and I what I use to do to sing low, well, just everything was flipped around.

Forest recalls the change in his vocal range came about one month after the onset of the androgen therapy. As soon as the change started, his speaking and singing voice dropped quickly. He describes the experience as being strange with having no graduation in range change nor any warning of the vocal modulation. "By the end of Advanced Voice, everything had settled. I stopped shifting down, stopped squeaking," he shares. It took more than six months for the voice to settle.

He is currently taking private voice instruction from Darius, the same teacher who taught him in the three voice classes. In total, they have been working together for three years. Forest's voice has lowered into a baritone range, from approximately G2 to E4, which enables him to sing a lot of repertoire originally written for cisgender male voices. Currently he has no falsetto/light register above E4. He jokingly comments, "I'm really angry about it. There are times I miss singing a little higher...My best friend has the most beautiful falsetto and he's an outright bass." While Forest makes light of not having a higher range, he admits it would be nice to have for singing non-classical repertoire. Nevertheless, it is not part of his goals in his lessons. He relates:

What I am really focusing on is learning how to maintain my vocal health because I know that I'm not going to be taking voice lessons forever. This isn't a career path for me. It's just something that I have always really, really loved.

Forest's lessons are not for college credit, and they occur intermittently throughout the semester. He performs in studio recitals, and participants in a mentorship program for

younger voice students. Before his transition, Forest explored his masculinity through voice lessons and church choir, but now he acknowledges it is different. “It’s not my only outlet for masculinity. My whole existence is now masculine, but it’s still a way that I can explore it and it’s a way that I can express it as an art form.”

Apart from his collegiate studies, Forest works several different jobs: as a costume stitcher in the theater department, as a pixie for children’s birthday parties, and as a camp counselor for the Girls Scouts. Despite earlier negative experience with Daisy Scouts, Forest teaches archery and theater for their summer camp. Passionately he shares:

It’s absolutely glorious to watch these kids...A lot of theater camps are...very competitive, but this is theater as a communal art...at the end of the day, it’s not about the show...It’s about giving these kids an experience.

When talking about teaching he relates:

We just sort of let them do what they’re going to do... they’re students...let them have those experiences and don’t try to fix all their problems for them right away. You know, just let them be.

He emphasizes that affirming a student’s identity is imperative. “Once you question them on their own identity, they question everything about you...they question the relationship you two share,” he adds.

As a person who describes himself as a dude, the intersection of Forest’s gender identity and voice exist within the masculine binary. Although he was singing tenor before transitioning, his voice was the main impetus for taking testosterone to further lower his vocal range. Vocal and theater performances serve as a space for his self-expression, and he uses his knowledge and experience to enable other young people to explore their authentic identity.

Teacher Portrait

Darius, Forest's teacher, is a fulltime faculty member at a community college with a student population of slightly over 25,000. Teaching classes in voice and choir, Darius holds a Bachelor of Music in vocal performance, and a Master of Music in Choral Conducting. When asked how he identifies, he initially laughs and responds as "human." He also describes himself as a cisgender gay man, who uses he/him/his pronouns. Darius is a well-respected choral director, voice teacher, composer, and singer. His community chorus has had the distinction of performing at a national conference of the American Choral Directors Association. As a commissioned composer, he has over 20 titles in his catalogue, and he appears frequently as a tenor soloist in oratorios with choruses and orchestras.

Currently the music program where Darius teaches offers voice instruction through group classes of three levels: Beginner, Intermediate, and Advanced. Darius teaches free, non-credit private voice lessons to students who have successfully taken the three-tiered voice classes, and who show an interest in further vocal training. Incorporating student-to-student mentorship in the vocal program, the students whom Darius teaches privately serve as mentors to beginning voice students, helping them learn their repertoire and guiding them through music classes. Some private students are pursuing an associate's degree in arts with music as the concentration, while other students, like Forest, are part of the music program for personal enrichment. This form of mentorship enables both mentor and mentee to learn from one another. In serving a mentor role, a student is given the opportunity to reflect on early stages of vocal development, and recall their experiences in the group voice classes.

Darius speaks earnestly about cultivating rapport between students, and in creating rapport with his students. He shares:

I always call them singers and I try to tell them that they're beautiful people with beautiful voices to honor and respect them, especially with beginning voice students because they're coming with a load of anxiety.

Creating an environment where exploration and creativity can flourish in a mentoring environment is essential to Darius. He emphasizes the importance of a supportive space for students “from all different walks of life” to feel empowered to be lifelong learners. He also discusses the difference between “noticing and discerning.” In other words, he encourages students to listen deeply and to keep their eyes and ears open to notice how they sing, but to also suspend judgment of themselves and each other.

The concept of a singer as an artist-creator is central to his teaching philosophy. He speaks enthusiastically about singers expanding their imagination, and exercising skills in “audiation,” so the singer can re-create the sounds they imagine in their mind. An aspect of his teaching includes, “helping them manage their creative head because...we are all, as singers, creators.” He continues, “We’ve got to imagine ideas in our heads and then create them and ‘audiate’ sounds.” While these tenets of his teaching are important for all students, he believes this ability is “significant to trans students.” For an individual who feels dysphoric in their body and voice, he posits being able to imagine a potential new future is empowering. He provides:

As a vocal instructor, I think that 50%, if not 70%, of what I do is get them to access something for their future. They’ve created a technique based on their past and you have to break down those walls to get them to move in the direction of the future, whatever that future is for them, whatever they want to create.

The notion of students being empowered to set their own goals and vocal objectives is fundamental to his teaching.

With twenty years of teaching experience, Darius underlines the need to be a constant “sponge” as a teacher, to continuously learn about teaching and about his current students. He explains:

What I do is try to listen and learn and hear through language and their voice and their body language what’s going on with them and where are they...and how can I help them get where they want to go. I’m listening really deeply to hear how things are occurring to them and...give them a new occurrence or a new experience.

Darius makes specific note to point out that the objectives of his students are their own, not his. He asserts:

They are the students’ goals, and if there are some things I’ve learned along the way to help them achieve their goals, then great! And, if I don’t know, I know people that know...they help me figure it out.

As an example, when Darius first started working with Forest, he called a colleague experienced in teaching trans singers to gain insight on the appropriate “social interactions.”

Forest and Darius met on the first day of the Beginning Voice Class. Darius was bombarded with various questions from students at the end of the first day of class. He was doing his best to answer as many inquiries as possible, but also trying to engage students in the process of answering questions, knowing that many of the students’ needs could be answered by their peers. An older student was asking about accessing information on the college’s website, and Darius turned to Forest and said, “Maybe this nice, young lady will be able to help you out.” Forest replied, “I’m not a lady.” Darius was mortified at misgendering Forest, and sincerely apologized to him. Forest was

gracious, accepting that he hadn't started taking testosterone yet and so his appearance was less "masculine." He also acknowledged that Darius intended no malice nor harm. Darius explained, "I didn't expect it, you know, at the time. I was just overwhelmed with answering questions. I needed to be more sensitive to that." Both Darius and Forest laugh when discussing this awkward initial introduction to one another. The rapport they now share as teacher and student is irrefutably positive.

The philosophy and pedagogy Darius discusses is evident in his private teaching.

He says:

I'm trying to get out of their way to let them figure it out, take control, and let them feel and create... You explore it and then back away and get out of their way again...to build upon their success.

The sensitivity and thoughtfulness of his teaching is exemplified in the vocal exercises he creates for Forest in his voice lessons. Darius offers, "I'm listening deeply to treat the warm-ups for an individual in a lesson at their stage of develop." He remarks that none of his students are working on "very difficult aria[s]" or preparing an opera role, and thus, voice lessons serve to enrich their lives and improve their avocational singing. In the crafting of vocal exercises, Darius talks about the importance of allowing the students to pace their singing. As observed in Forest's lessons, Darius avoids playing the rhythm of the exercises, and instead plays a rolled chord to allow Forest to set the speed of his breathing and singing. He describes his vocal pedagogy as based on:

Getting the voice in functional order all the time, as functionally possible all the time, based on what I believe to be very healthy vocal exercises and ideas that constantly get tension off the instrument.

For Forest, this currently includes phonating while sliding between two pitches on voiced fricatives, such as [v] or [ð]. These semi-occluded exercises enable the student to notice consistent breath release and changes in subglottic pressure throughout his range.

Darius recalls the difficulty Forest had with singing when he first started androgen therapy. He remembers providing emotional support and offering positive feedback to Forest during this vocal change. He said he constantly reminded him, “Don’t worry. It’s okay. This is today. Just keep singing, as long as it doesn’t hurt.” Together they worked for freedom in his singing, and to keep Forest singing during the transition, even when the voice was not responding to the technique. Darius reported that Forest’s voice reminded him of the adolescent vocal *cambiata*, in that they did not know how his voice would develop during this time. He remembers that during Forest’s transition, he treated Forest’s instrument “like a young boy...going through some vocal change... making sure [to] build the voice in functional order...and just getting [him] to continue singing through the process.” Darius believes the vocal transition was dependent on a combination of the testosterone, personal maturity, and vocal technique. He also recalls working with Forest on his posture, who would slouch to minimize his chest size. This presented an additional challenge when working with Forest in a group voice class environment.

Darius feels Forest has many strengths as a musician. As a singer, Forest performs “very well.” His stage presence, ability to connect with the audience through song, and the confidence he brings to the stage are his strengths as a singer. Darius is also impressed with Forest’s ability to choose repertoire appropriate for his voice. They continue to work on posture to support better breathing and the management of pressure

in the upper range. While Forest can sing as high as an E4, Darius notices some tension in the voice due to over-pressurization as he approaches the upper part of his range, between G3 to C4. Darius also comments on Forest's continued work in cultivating richness in tone and allowing for more openness and release in the upper range.

Darius emphasizes that teaching Forest is like teaching any of his students. Approaching each student as an individual with specific needs as applied to their technique and objectives is paramount. Listening deeply to each student's goals and singing, and encouraging them to take control of their learning is an example of learner-centered pedagogy present in Darius's style of teaching. He talks about the importance of using future-based language with his students to get them to think about their future and empowering them to be their own teacher. "Both in their lives and their voices," he asserts, "They're more in control of what they can do for themselves," than what he can do for them.

Voice Lessons

The location of Darius's studio is in the long hallway that connects the music teaching spaces with the theater classrooms. His office is a hive of activity, used for teaching private voice lessons, meeting individually with students for various reasons, and hosting small groups of students to discuss class material and other academic pursuits. A glossy, black upright piano is to the immediate right of the door, and sits opposite Darius's built-in desk. Above the desk and piano, extending to the ceiling, are bookshelves filled with repertoire anthologies, music textbooks, and an assortment of academic journals, binders, and notebooks. Although the space is small, an inquisitive mind could spend hours looking over the materials that occupy the bookshelves. In

addition to the desk, piano, bench, and bookshelves, there is a single additional chair underneath a small window that sits across from the door.

Forest's lessons begin with he and Darius discussing various topics, such as how Forest's week is going or if Forest has met with the student he is mentoring. They also check in regarding Forest's voice and how his practicing is going. These few minutes are jovial, increasing rapport, developing shared language, and allowing Forest and Darius to ease into the hour they will spend together. This time is also spent on goal setting for the current lesson with Darius probing to understand Forest's goals for the lesson (e.g., "What do you want to work on?" and "What are your goals for today?"). These questions allow Forest the opportunity to talk about his immediate goals and the challenges he discovered in the prepared repertoire. They also spend a couple of minutes speaking about practicing, repertoire, and upcoming performances. This student-teacher talk expends 5-10 minutes at the beginning of lessons.

After this initial discussion, singing begins with vocal exercises developed by Darius. The beginning exercises bring attention to a balanced onset, using voiced fricative consonants, including [v], [z], and [ð]. Darius asks Forest to slide between Do and Sol as shown in Figure 5, and then from Sol to high Do to low Do, shown in Figure 6. Darius plays scale degrees 1 (Do), 2 (Re) and 5 (Sol) underneath the exercises. "Playing 1, 2 and 5 gets a little bit more color in the voice," he explains. "I try to roll it [the chord], too. I try to give them not a rhythm, but some sort of pattern to anticipate where they're going next, which allows them time to breath and decide when to start the exercise." In addition to fostering consistent breath release, the voiced fricatives promote forward resonance and a smooth and connected sound over the intervallic leap. Normally

Darius moves up or down by half steps with each exercise, but he explains that at times he may move by whole steps or to various keys, depending on the intention of the exercise.

Figure 5 shows a musical exercise in 4/4 time. The top staff is a bass clef with a glissando line and notes. Below it are three lines for lyrics: 'th', 'v', and 'z'. The middle and bottom staves are a grand staff with piano accompaniment.

Figure 5. Vocal slide 1 on a fifth for balanced onset and breath release

Figure 6 shows a musical exercise in 4/4 time. The top staff is a bass clef with a glissando line and notes. Below it are three lines for lyrics: 'th', 'v', and 'z'. The middle and bottom staves are a grand staff with piano accompaniment.

Figure 6. Vocal slide 2 on a fourth and octave for balanced onset and breath release

Following these exercises, Darius introduces two vocal exercises that bring attention to vowels and resonance. One of Forest's goals for his vocal development is to develop a richer timbre. These exercises foster legato singing, incorporating vowel differentiation within a more defined rhythm. On the vocable "zinga" [ziŋa], the singer

begins on the first scale degree, Do, with the first syllable, and then skips an ascending fifth to Sol on the second syllable, then descends on a five-tone major scale back to the original pitch (shown in Figure 7). The use of [z] connects the exercise to the preceding two slides and propels breath release at the onset. The “ng” hum [ŋ], though lowering the soft palate, keeps the sound forward, while the [a] fosters jaw release and openness in the vocal tract. The second exercise employed is on the vocable [nɛomi] (pronounced like “Naomi”) on each pitch of a five-tone descending major scale from Sol to Do, as seen in Figure 8. The [n] and [m] in this exercise correlates to the [ŋ] in the previous exercise, promoting forward tone. The rapid text encourages a released jaw and tongue. The descending sequence helps avoid singing with too much weight in the upper range. This exercise also requires Darius to start on a higher pitch, which becomes increasingly more difficult as he approaches the upper area of his range.

Figure 7. Exercise [ziŋa] for breath release and flexibility

The image shows a musical score for a vocal exercise. It consists of three staves: a vocal line in bass clef and a piano accompaniment in grand staff (treble and bass clefs). The key signature is one sharp (F#) and the time signature is 4/4. The vocal line features a series of triplets of eighth notes, with the lyrics 'na-o-mi na-o-mi na-o-mi na-o-mi' written below. The piano accompaniment provides harmonic support with chords and moving lines in both hands.

Figure 8. Exercise [nɛomi] for resonance and released jaw and tongue

While Darius allows Forest to pace the timing of the exercises, both examples above are sung slowly, giving time to focus on legato and the kinesthetic awareness of every vowel. Throughout the vocal exercises, Darius gives immediate constructive feedback to increase vocal efficiency or improve beauty of the voice. He reminds Forest to “keep the openness” or “don’t let the soft palate drop.” He makes space for Forest to feel the change in his singing and to offer a reaction or response. Probing Forest to imagine the resonating cavities and the shape of the vowels, Darius asks, “What does the space look like?” He follows this question with, “What does it feel like?” Darius uses imagery and descriptive words such as “noble,” “richer,” and “darkness” to effect positive change. These exercises aim to do more than merely warm up Forest’s voice; they set in motion how Forest will approach his singing in the repertoire. The design of the exercises promotes greater resonance and heightened vocal efficiency. In the second lesson observed, Darius creates a vocal exercise based on a difficult passage in one of Forest’s pieces to bridge the vocal exercises with the repertoire.

Forest is working on two pieces: “Tally-Ho!” by Franco Leoni (1864-1949) and “When I Was One-and-Twenty” by Arthur Somervell (1863-1937). The former captures

the scene of a fox race where the narrator, a farmer, provides no assistance to the nobility in tracking the fox. The second piece is based on the poem about love written by well-known English poet Alfred Edward Housman (1859-1936). Both pieces are new to Forest, and he and Darius spend time working on difficult rhythms or pitches. Accompanying both pieces on the piano, Darius enquires what Forest feels he needs to work on. Forest offers some broad difficulties, issues related to his voice or the music, and Darius identifies a specific area in the music to address one of the identified problems. Figure 9 shows a phrase in “Tally-Ho!” that presented difficulties due to the range and the [I] vowel required on the sustained high note.



Figure 9. Excerpt 1 from “Tally-Ho!” (Leoni, 1918), sung one octave lower

Another problem spot, shown in Figure 10, occurs on the repeated word “galloping.” The plosive [p] was causing the third syllable of the word to be unintentionally stressed. Darius and Forest work to de-emphasize the syllable by singing lighter and bringing attention to the amount of air needed for the [p] consonant.



Figure 10. Excerpt 2 from “Tally-Ho!” (Leoni, 1918), sung one octave lower

Through the learning process, Darius provides ongoing feedback regarding tone and technique. The zone of proximal development is established in Darius guiding Forest through areas of growth he would have been unable to attain on his own. Darius also scaffolds the learning, where at one point he has Forest speak the text to feel the vowels without the melody. Later, he has Forest sing the melody on [va], [na], or [ga] to focus on correct pitches and consistent resonance without the complication of the lyrics. When they put the lyrics and melody together again, a slower tempo is chosen to give Forest time to process the changes in technique. Eventually they work to bring the tempo back to performance speed.

The lessons are positive in nature. While Darius frequently provides constructive criticism, he also offers supportive feedback, often praising Forest. During a challenging moment, Forest says, “It’s different understanding something conceptually and actually doing it,” and it is obvious Forest is frustrated with himself in not being able to achieve what Darius is asking of him. The teacher affirms his feelings and reminds him that this lesson is not the end goal, but part of the learning process. The theme of forward-thinking to affect positive change in Forest’s singing outside his lessons is evident. Often Darius is working towards Forest hearing and feeling the changes he has made in his lessons to be able to recreate this on his own. The lessons end with establishing goals and setting parameters for what to work on in preparation for the next lesson. Darius asks, “Do you feel successful? Do you hear a difference?” “More important,” Forest replies, “I feel a difference, too.”

The rapport between this student and teacher is strong. They seem to be working together for a common goal with shared language and experiences. Forest is given

opportunity throughout the lesson to give Darius feedback. Though the pacing of the lesson and the learning sequence is determined by Darius, Forest has chosen the repertoire and identified to Darius where he has had trouble during his own practice, which sets the learning in motion. Darius maintains that teaching Forest is no different from teaching any of his cisgender students; however, Darius's approach to teaching is a departure from the master-apprentice model of teaching, where the teacher gives frequent negative feedback and serves as the sole driving force in the lesson. Forest and Darius portray collaboration in the lessons, where Darius's expert knowledge in vocal pedagogy enables him to guide Forest through the arc of learning he has established for himself.

Case Study 2: Pete and Naomi

Student Portrait

When Pete decided to undergo androgen therapy, it meant not only a transformation in voice and body, but a change in career, and as a result, in lifestyle. For 25 years, Pete was a fulltime, professional mezzo-soprano. Living in a major city in California, his career included opera, oratorio, and ensemble singing. Although Pete has spent most of his adult life as a resident of the United States, he was born and raised in England. His childhood experiences gave him a love for singing and music.

Pete is a trans man in his mid-fifties. When asked how he describes his identity, he says, "I'm not sure I have ever really thought about it that distinctly before." He continues, "I've always identified as male. I suppose I would say I'm a trans man...I guess that's how I would describe myself in terms of gender." Though his gender forms part of his overall identity, more significant to his life is his identity as a singer. Pete

discusses singing in both the here and now, but also as a part of his past. As an example, he shares, “It [being a singer] is the biggest part of my identity.” Moments later, when discussing his vocal range, he offers, “I did have a ridiculous range. I had a three and a half octave range with no breaks anywhere.” While he still identifies as a singer, there are pieces of that identity behind him.

Early memories of music for Pete are from his family home. His mother would listen to the conductor Annunzio Mantovani and his orchestra as she was cleaning house. “My grandmother always said I was singing before I could walk, before I could talk,” he remembers. He showed musical aptitude very early on. During a hymn practice at school, he recalls:

When I was very small, about seven I think, the music teacher started playing the hymn. When we were all supposed to start singing, I was the only one singing because I knew it and nobody else did. She [the music teacher] made me stand up on stage and sing it for everyone. It just happened to be a hymn that my granny sang at church, so I learned it there. The music teacher asked me if I wanted to be in the choir, which was very confusing to me because you weren’t actually allowed to be in the choir until you were nine. So, that’s when I started getting really interested.

Pete confesses to not being strong at other academics. Music was the subject for which he had the most intrinsic motivation and natural ability. He started taking voice lesson at 14-years-old, and sang and played percussion in many different ensembles growing up. He remembers a music teacher suggested he take voice lessons to supplement his training at school:

It was almost in desperation that my music teacher suggested [private lessons] to my mother. Basically, he said, “You know, he doesn’t seem to be capable of doing anything else. The only thing he—she then—is interested in is singing. Have you thought of getting him voice lessons?”

Despite a passion for music, he completed a university degree in plant biology. Afterwards, he started a specialized course in vocal performance at a major conservatory in northern England. He was also the recipient of a scholarship from the Rotary International Foundation, which enabled him to study singing at a prestigious music school in the United States. After these formal studies, he moved to the West Coast where he started his professional career.

Early on he recalls auditioning for the role of Cherubino in Mozart's *Le Nozze di Figaro*. Despite being vocally and physically ideal for the role, he was not hired, as the company cited they should hire a mezzo-soprano in the role. Despite having always trained as a soprano, his wide vocal range allowed him to do varied repertoire. Pete decided to change the voice type listed on his resume from soprano to mezzo-soprano, which ultimately created more work for him. "I went home," he says, "and I put mezzo in front of soprano on my resume and didn't change anything else and worked for 25 years solid." Although he always felt comfortable singing both mezzo-soprano and soprano repertoire, he suggests that was confusing for many people:

People want you to tell them what you are. They don't want to just take you on face value for what you can actually do standing there. You've got to be in a [vocal] box. If you do bits of this and bits of that and some of this, they don't know what to do with you.

As an opera singer, Pete sang a lot of "boys and old bags" roles, as he describes them. He flourished in trouser roles, like Cherubino, and older female roles, such as Meg Page in *Falstaff* or various parts in Offenbach operettas. When working as a principal artist, it was possible to choose the roles for which he would auditioned. As a singer in the opera chorus, he says, "I had to do whatever they said. They would never put me in any of the men sections. They would never have even put me dressed as a boy onstage." As a choral

singer, he performed with the highest regional professional organizations, singing anything from second soprano to tenor, depending on the needs of the concert repertoire. Most often he sang in the alto section. Choral singing created less gender issues than his experience in opera.

In terms of attire, singing as a concert soloist was comparable to playing an opera role. While he identified as a man offstage to artistic staff and colleagues, his name appeared as female in concert programs, and so often he would dress in “drag,” as he explains, to appease audience expectations. He would wear black trousers designed for women and a beaded or sequined jacket. He adds, “I did all the makeup and all that crap. I cleaned up pretty well. It always shocked people. That was the funniest thing for me...it was worth it in some ways for the hilarity factor.” Later he expounds:

On a few occasions when I kowtowed to worrying about what other people were thinking, I wore a frock. I always regretted it because it was so much more uncomfortable for me.

He shares that often he would be more worried about what he was wearing than about his singing. “There is a difference,” he states, “between wearing something that’s a bit scratchy, and wearing something that just makes you feel dysphoric.” While he discusses his solo concert attire in jest, dressing in “drag” was an unwelcomed and uncomfortable form of expression. Eventually he changed his attire to white tie and tails or a suit, depending on the formality of the concert. Few people had any issues with his new dress code. One conductor who was supportive of Pete worried that the audience might think more about his attire than his singing, but that did not bother him. Indeed, he jokingly commented, “Which depending how I was singing that night is not necessarily a bad thing!”

As he approached fifty years old, Pete noticed the quality of his voice starting to wane. He discloses:

I knew that my voice was going to start aging, and I could tell it had already started a little bit. I don't think anybody else really could tell, but I could tell. I knew that basically I was aging out of the roles that I was comfortable doing—that I really liked to do. There were some old bags left, but that was it, and more competition for them. So, I guess, in a way, that played a large part, but it was also like, “Well, I'm 50 years old, so it's kind of now or never.” And I wasn't really going to be going anywhere else with my singing.

This decision led him to start taking testosterone. Pete's dosage was low at first, starting with the skin gel application and moving to injections. He initially chose a low dosage, hoping it would make the vocal transition easier. He describes his transition as a “nightmare,” but he continued to sing through it, despite not feeling motivated. Before the onset of androgen therapy, he was fully aware there was no way of knowing how his voice would change, but he confesses:

I ended up with a lot less range than I thought I would have to work with. Obviously, there was no way of knowing what it would be. I know that going into it, but I went from three and a half octaves to one. That's not enough really to do anything. That's been hard.

His range lowered in frequency, which was the expected course, but he lost stamina, size of range, and flexibility. The one octave range he mentions is from approximately D3 to D4. He says he was a better tenor before his transition than he was after. In describing his changed voice, he says, “It's like trying to put a cello under the chin or something, when you use to play the violin.” Pete has been on testosterone for four years, and though his voice has developed, he still “horrendously” misses high quality singing.

In addition to being left with a reduced range, he also experiences a lack of vocal flexibility. Before transition, he could easily imitate other singers and animal sounds,

which was part of his personality. This is impossible for him now. He has limited falsetto, which is a stymie to everyday vocal noises. He had a laryngoscopy performed on his vocal folds a few times to ensure there was no damage. As revealed in previous procedures before his transition, the scope showed a partial paralysis on one of his vocal folds. Otherwise, no other discernible issues were present. Pete believes the vocal transition was more challenging for him at middle age than if he had transitioned earlier in life. He speculates that had he been younger at the onset of androgen therapy, the transition might have been easier and more fruitful due in part to less ossification of the larynx.

Soon after transition, Pete participated in a single case research study conducted by a speech-language pathologist and his current singing teacher, Naomi, who, in addition to singing, works with individuals on their speaking voice health. The findings of this study have been presented at conferences, but are not currently in print. The researchers examined Pete's vocal change using empirical evaluations, such as vocal range and pitch duration, and perceptual measurements related to speech and singing behavior. This research will be further discussed in Naomi's portrait.

Pete continues to take lessons with Naomi. He had known her before his transition, having had a couple of lessons years ago, but they have been working together more regularly since his transition. The purpose of their lessons is to find "ease and consistency" in his range. They are also working on range expansion and breath support, a concept Pete freely admits to having never properly understood as a mezzo-soprano. Since Pete found singing so naturally easy before transition, he never had to work diligently to build or maintain efficient vocal technique. He says, "I had no idea singing

was difficult. Not a clue. To think that some people face that all the time, from the beginning, I take my hat off to them.” When data were collected for the current study, he and Naomi had not seen each other for five months. Pete admits to not being prudent in practicing or doing much vocal exploration while she was out of the country. Now that he no longer works as a professional singer, it is difficult to prioritize singing.

The vocal transition for Pete has caused serious disruption in his life. When asked if he could undo the process, he pauses for an inordinately long time, and finally responds, “Maybe not...maybe not.” He follows up, however, by indicating that not all aspects of the transition have been unfortunate. He shares, “There are other aspects of my life that are much better, like I am not misgendered in my daily life, which use to drive me insane.” Later, he recounts, “Because I was so identified, not just self-identified, but so identified by people, in general, as a singer, now that I’m not a singer anymore, I sort of feel a bit lost at sea.” Where he would see friends and colleagues as a matter of course through professional engagements, he has discovered it is difficult to find time to maintain friendships and associations since he no longer works the schedule of a professional musician. Pete is in an entirely different line of work now, which although is not as exciting as being an opera singer, he enjoys his new career.

Teacher Portrait

A California native, Naomi is a straight, cisgender female. She is an internationally-respected voice teacher, and a leading specialist on trans singing. Naomi’s earliest training as a serious musician was on the flute. She earned a bachelor’s degree in flute performance at an institution that fostered student creativity through collaboration with other departments. After completing her undergraduate studies, she matriculated at a

major European conservatory to study traverso (Baroque flute). Naomi discovered that the more traditional conservatory training, along with the limited repertoire of the traverso, made her feel musically stifled. During her first winter in grad school, Naomi was accepted into a chamber choir of 18 voices. She describes, “I had a very clear, non-vibrato choral voice...because I was in such a good choir, I started taking lessons and something started to open up.” Eventually, she switched from traverso to voice, and completed a master’s in vocal performance and pedagogy, which has afforded her a career in teaching and performing.

As a singer, Naomi has worked with some of the highest regarded conductors in Early Music, both on the concert stage and in recordings. She also has enjoyed performing contemporary music and art songs, and collaborating with dancers and orchestras in eclectic and unusual programs. While she studied opera in graduate school as a *Zwischenfach* “mezzanine soprano” (as she denotes her *fach*), she feels she never had the voice or passion for opera. After 14 years living in Europe, her husband received the opportunity to complete his doctoral studies in California, and so the couple returned to her home state. While she maintained a performing profile in the United States for several years, most of her attention has been spent on teaching voice.

While still residing in Europe, Naomi was requested to work with various individuals on their speaking voice health. Although she was a singing teacher, she found that her approach to vocal technique benefited the individuals who needed speaking voice rehabilitation. She offers:

People asked me to help with their speaking voices, and I found that the approach I was taking with my students—just a healthy approach to air and resonance—was working with spoken voice as well.

After returning stateside, Naomi did specialized training in Vocology to support her knowledge of vocal use. She partners with laryngologists and speech-language pathologists to assist singers and non-musical professional voice-users. “It’s always such a help,” she shares, “when they do sing, because then they’re more attuned to using their voice, and often their singing voice is actually healthier than their speaking voice.” The work she does with singing and speaking voice rebuilding has led her towards collaborative research on trans vocality.

As mentioned above, Naomi has been collaborating with a speech-language pathologist on a research project that tracks Pete’s vocal transition. In every session, Pete would complete an extensive questionnaire about his perceptions. She explains, “As [Pete’s] voice started to descend, his congruence between his voice and his identity increased.” She continues, “It was so striking. [Pete] didn’t even realize this because it happened so gradually.” Pete and Naomi met weekly for a one-hour session while data were being collected. Approximately forty minutes was spent on a range of diagnostic assessments, including (1) the questionnaire, (2) singing on [i] and [a] on G4, which was a comfortable pitch at the beginning of the study, as well as on whichever pitch was most comfortable at that moment, (3) testing maximum duration on G4 and that day’s comfortable pitch, and (4) checking physiologic range and performable range. Pete also recorded Handel’s aria “Ombra mai fu” every meeting to further examine voice modification. The remaining time was spent on vocal development through vocal exercises and repertoire. Interviews and observations for the current study were conducted many months after the data collection of Naomi’s study was completed.

Naomi recalls near the beginning of Pete's transition, "Every single time, [Pete] presented with a new voice; I never knew what to expect." She conveys that it was like he came to each lesson with a new instrument. It was further complicated by Pete being such a natural singer before transition. He never really had to learn vocal technique as it came effortlessly to him. Naomi confers, "[Pete] was such a natural talent that this is a big stumbling block, because he never used to have to work. He had such an easy voice." Near the beginning of the transition, his voice was thin, breathy, small, and unstable. It cracked a lot and there was no continuity. Regarding his early vocal development, she explains:

I just tried to find the area where he was phonating best and extend from there, [but] what would happen is that I would work his lower range at the start of the session, he'd be relaxed and be able to phonate down, but as he went along, he'd get more tense...then that would start to weaken.

Eventually, as he started to gain a few notes, the breathiness also started to dissipate, and the breath pressure and balance began to align. While she describes Pete's voice as becoming "solid" and "lovely," he was still limited by small vocal range.

Soon before the data collection for this study began, Naomi returned from teaching in Europe for five months. She described how she was surprised to find Pete had made vocal progress in her absence:

There's been an enormous change in the meantime, both in terms of range and consistency of resonance. He told me he hadn't practiced at all and barely sung, so I can only assume that the change is due to the THT [testosterone hormone therapy].

Later in the interview, she reiterates her surprise in his vocal development: "What I heard last week and this week was dramatically different from before I went away, and it has to be the androgen, because he hasn't been singing for five months." Currently his vocal

range extends from B2 to F4, which means he can sing much more repertoire than he could five months prior. While the entire range is not necessarily free and easy, the mere presence of this expanding range indicates continued growth.

As a vocal pedagogue, Naomi honors the Socratic method of teaching. “A fundamental part of how I teach is eliciting, asking questions, and guiding,” she offers, “rather than dictating from the top down.” Naomi is cognizant that students benefit from understanding the process of singing. She emphasizes:

We’re all different and none of us can actually crawl into somebody else’s body to figure it out...six days out of seven, they are on their own. They have to be making decisions, so they need to be paying attention [to what works for them].

She continues, “If I am prescribing the *what* [italicized for emphasis], instead of the *how*, they’re going to be going through the motions, and it’s useless.” Naomi strives for her students to find “easeful-ness” in their singing, and mindfulness in their practice to explore the process of optimal singing.

Seeking ease and freedom in singing is discussed in a couple of ways, in (1) exercises and (2) repertoire. Naomi discusses the use of two exercises. One exercise is built on stacking minor thirds. The second is constructed on the pentatonic scale. She avoids the standard arpeggio, made up of scale degrees 1-3-5-8-5-3-1, as she has come to find the ascending fourth interval between Sol and Do can cause singers to lift or “winch,” either in their body or larynx, producing tightness. In using the pentatonic scale, comprised of scale degrees 1, 2, 3, 5 and 6, the largest interval is a minor third, and she can “slither around,” adding extra pentatonic scale degrees at the top or bottom at will. The same appeal exists in the exercise on minor 3rds. She usually avoids transposing the exercise up or down by a half step, but instead extends the exercises higher or lower by

adding a pitch to the top or bottom. The purpose and design of these exercises will be examined more thoroughly in the next section.

With regards to repertoire, Naomi suggests having singers transpose songs or parts of songs to learn them without tension. She warns, “If you embed a sensory feeling of strain, it’s hard to get that out.” Instead, she suggests, “Learn it where it is comfortable. Once you know the shape of that phrase and you’re comfortable with the text, try it in the [original] key.” Transposing a phrase to a higher or lower key, as necessary, enables a singer to learn it kinesthetically without strain. “You may have to adjust the vowel,” she proffers, “You may feel a little difference in terms of breath pressure, but you’re looking for the same ease-fullness.” She teaches Pete in the same way she teaches all her singers; guiding them to find freedom and ease in their voices. Naomi also advocates changing song keys, as needed. There is a tradition, she notes, in performing repertoire in the composer’s intended key, but Naomi asserts it is more important to sing well, than to honor convention.

Being present and acknowledging each student as an individual is foundational in her teaching. Naomi asserts:

I think you shouldn’t treat your trans singers any different from your cisgender singers. They’re all different. Every time they show up, they’re different, and you work with what you’ve got. These are individual people. Honestly, every single one of my students, every time they show up is different. I think it’s important to teach what walks in the door.

She continues to advise that in working with students who are taking androgen therapy, a teacher needs to be more vigilant to acknowledge their changing instrument. She emphasizes the need for a student-centered approach in applied lessons teaching. She asks of her students:

Don't tell me what you've been doing. Show me. Just imagine you're at home right now. You're about to practice. What are you going to do? Start making noise, and I'll guide you.

This approach to allowing the student to lead their lesson gives her the ability to see how they problem-solve. It also provides insight to their understanding of process and vocal technique. She recognizes not all students flourish in student-centered pedagogy, and she adjusts her approach differently for each student based on their emotional and psychological needs. Naomi believes student-centeredness is empowering, especially for trans singers aspiring to align their voice with their gender.

Naomi cautions to avoid making any assumptions about trans and non-binary singers. She mentions, “how little research there is on this...we're all kind of feeling our way in the dark...the current research is just the tip of the iceberg.” Despite having worked with Pete for four years, there are aspects of his transition that remain a mystery. She theorizes:

I think psychologically it was very hard for [Pete] to transition so gradually—like removing a Band-Aid painfully slowly. It might have been better to dive in more quickly. We'll never know.

She further acknowledges, “Whether he will ever have sufficient range to really perform professionally, I don't know, but I'll tell you, I'm much more optimistic now than I was five months ago.” For teachers of trans and non-binary singers, she urges for further exploration. Despite nearly thirty years of experience in teaching, she wants to keep learning and researching the voice.

Voice Lessons

Naomi's studio is on the third floor of her home. The cozy, warm space is painted a light, vibrant rose color. The bookshelves are filled with repertoire books. The grand piano sits in the middle of the room, next to her desk. A large mirror hangs on one wall, adjacent the piano, providing a reflection for the students to see themselves.

Naomi greets Pete with friendly rapport. Her demeanor is open and approachable. The lessons begin with a few minutes of talking about non-musical aspects of Pete's life, regarding his job, daily commute, and energy level. The singing begins with an exercise that is constructed of minor thirds, as shown in Figure 11. The limited range of this initial exercise enables Pete to focus on making a resonant sound without straining over large intervals. Naomi has Pete begin on [u] and then switch between [u] and [y] on every other pitch. The closed vowels promote rounded lips and forward resonance. Figure 12 shows a similar melodic sequence, except that the exercise extends the voice a little lower by adding an additional minor third to the bottom.



Figure 11. Stacked minor 3rds, version 1, for rounded lips and forward resonance



Figure 12. Stacked minor 3rds, version 2, for rounded lips and forward resonance

intervals. In Figure 14, Naomi has Pete sing the exercise on several vowels and vowel combinations. First, Pete sings the first three measures on all vowels shown below. Then, he sings the second half of the figure on the indicated vowel combinations. This exercise fosters range development, smooth tongue movement between two vowels, and resonance enhancement on [i]. Figure 15 is similar in using the pentatonic scale, but the exercise is longer with a wider range, which increases the level of difficulty. Naomi starts these exercises in Pete’s middle range, which fosters a balanced resonance and suppleness of tone.

[u] _____ [oi] [oi] [oi] [oi] [oi] [oi] [oi] [oi] [oi]

[o] _____ [oi] [i] _____

[a] _____ [ay] [ay] [ay] [ay] [ay] [ay] [ay] [ay] [ay]

eh _____ [ay] [y] _____

[i] _____

[y] _____

Figure 14. Pentatonic scale, version 1, for range development and smooth tongue movement

aw _____ aw _____

Figure 15. Pentatonic scale, version 2, for range development and breath control

Throughout the execution of these exercises, Naomi brings awareness to Pete’s breathing. Drawing attention to inhalation, she suggests, “Don’t go away from your vowel when you breathe.” She used an analogy of not putting down your instrument

between musical phrases to illustrate the need for maintaining the vowel during inhalation. She frequently asks him to be mindful of his tongue, hoping it will stay released throughout the exercise. Inviting Pete to “keep asking the tongue to release,” later she proposes him to “Close your eyes. Crawl into your mouth and ask if your tongue is happy.” Naomi avoids telling him exactly how to shape his tongue, but instead focuses on his kinesthetic awareness of it. During a segment of a lesson, she has him lightly touch the tip of his tongue with a finger to see if he can avoid retracting it in his mouth. She explains that he should not hold it forward, but simply notice how his tongue responds to different pitches and areas of his range.

In the first lesson observed, Naomi asks Pete to place one hand on his abdominals and the other on the side of his ribs. He makes a comment in jest about being too heavy to feel the muscles move, to which Naomi responds that that is not true. In exclamation, he responds, “It’s true.” As he laughs on the word “true,” his voice effortlessly jumps from A3 to A4, into a resonant falsetto. It lasts only for a second, but is interesting because (1) during his interview, he reported he has no falsetto, nor ability to phonate in a lighter/higher voice, and (2) in follow up correspondence with Naomi, she reports that in a lesson after the data collection was complete, he sang in falsetto during the vocal exercises. This suggests that even after four years on testosterone, his voice is continuing to modify.

While Naomi leads much of the lesson with regards to exercises and pacing, she leaves room for Pete to make important decisions as he sees best for his singing. During some of the exercises, Naomi solicits Pete to choose the vowel for the exercise or to modify the vowel during an exercise. She encourages him to seek an “easy” technique,

which fosters a “rich” tone. Frequently Pete is asked what he notices kinesthetically during his singing. Naomi also regularly leaves room for Pete to conceptualize the singing process, and provides space for him to offer feedback. Recurring affirmative comments are combined with constructive feedback, while questions and guiding statements elicit positive changes.

Prior to the start of this study’s data collection, Pete had been working on Schubert’s “An den Mond” in C minor and Fauré’s “La chanson du pêcheur” in F minor. Due to an increase in range, they read through some additional pieces, including Schubert’s “Geuß, lieber Mond,” and Schumann’s “Die Lotosblume” and “Aud den östlichen Rosen.” Time is spent in learning the newly-selected Schubert. Naomi prints off the song text, and without having Pete look at the musical score, he sings the poetry on the pentatonic exercise in Figure 15. The purpose of this activity is to gain familiarity with the text, without worrying about specific pitches and rhythms. This immediately promotes legato singing. Pete is an excellent musician, and thus to avoid him scrutinizing the score and worrying about how high or low the pitches appear, Naomi teaches the melody mostly by rote. After he is conversant with the melody, Pete sings the poem on the melody without looking at the sheet music. Though he makes some errors regarding textual underlay, Naomi is drawing attention to how he produces sound rather than his precise rendering of the musical score. During this process, Naomi encourages Pete to modify vowels to phonate with as much freedom as possible. She also suggests finding additional pieces outside the published keys, if they are easier to sing.

An additional facet of vocal technique is the work spent on singing softer, not louder. Naomi does not discuss dynamics much during the exercises, but she brings

attention to singing more softly during the song work. The consideration of dynamics is a characteristic of musical coaching, and an aspect of vocal technique, as the softer dynamic diminishes the need to push in the lower or higher ranges. Naomi reminds Pete that the softer singing requires more energy, not less, “like a hamster running on a wheel.”

Naomi’s style of teaching with Pete is compassionate. Pete describes himself as self-deprecating, and the shortened vocal range Pete has experienced post-transition has caused him to lose confidence in his singing. Naomi provides structure and a safe place for Pete to explore his voice without judgment, using technical concepts and exercises that honor process over product. As she does with all her students, Naomi encourages Pete to avoid going through motions while singing, but fully invest in the learning process so the exercises and concepts can be implemented outside the applied studio.

Case Study 3: Kelly and Patrick

Student Portrait

Kelly identifies as non-binary trans—more specifically as gender-fluid. For ease in the reading of this portrait, Kelly has requested to use they/them/their pronouns, though informally they accept he, she, and they pronouns. Assigned female at birth, Kelly asks that language describing them be as gender-neutral as possible. For example, as an individual involved in multiple performing arts activities, they like to be referred to as an actor instead of an actress. Likewise, they would not use the title “Miss.” Kelly grew up in many different places throughout the United States because their parents moved during their childhood. They also studied abroad, having lived in Liverpool and London, and

thus their cultural influences are broad. Currently, they live in a progressive, major city in the Pacific Northwest, and pursuing a degree in graphic design from an online program. Singing is a major part of their life, and in addition to taking private voice instruction, they are active in a choir and in auditioning for musical theater productions.

As a child, Kelly participated in the church choir. This served as an early exposure to music and musical training. Kelly has always loved music. They recall their parents listening to older musical theater and jazz music while growing up. Attending a performing arts high school, Kelly participated in choir and musical theater workshop. They also took private voice lessons outside of school. Kelly's focus in their voice training has centered on musical theater repertoire. Although declaring that musical theater plots and songs are often rooted in gender stereotypes and heteronormativity, Kelly professes, "But, it's also my passion, so it's kind of been interesting to try and navigate that." As a student of musical theater in high school, Kelly faced marginalization early in their training.

During a high school musical theater workshop, Kelly was assigned soprano repertoire. Though they can sing in a high tessitura, they felt stifled in being given such a narrow range of repertoire. Kelly explains:

I struggled a lot in...the musical theater courses I took...I don't know how I was pegged as a soprano, probably because I sang soprano in choir as a kid and I can sing pretty high; the teachers thought that was all I could sing. I couldn't even do alto, let alone tenor.

Admittedly having not realized their gender-fluidity in high school, they blamed many of their struggles on their talent, or in not connecting with their teacher. Kelly explains:

At the time, I didn't know [it], but looking back, a lot of [the negative experiences] had to do with a combination of gender issues, and that I wasn't allowed to explore the full range of my voice.

Kelly felt stifled by not being permitted to sing beyond the soprano range.

While Kelly was wanting to perform more contemporary musical theater, they were assigned scenes from older shows, which featured heavily gendered roles. They recall:

I was always made to feel like I wasn't good enough, especially when it came to the types of music they wanted me to sing because it was always very hyper-feminine and just stuff I cannot really relate to.

Their negative experience was compounded by being assigned repertoire outside their musical interests and musical theater roles that reify gender stereotypes.

Kelly's experience in this class during their junior year was so unwelcoming, they decided to take a different class the following year, but when they found the secondary class uninteresting, they returned to musical theater workshop. Kelly remembers:

In senior year, I joined late. I specifically didn't want to do it after the experience my junior year. Before the switch, the teacher had given a big lecture on how you should never audition with a song that doesn't 'match your gender.'

Kelly comments that this teacher likely had little knowledge in how musical theater reifies gender oppression. A female friend of Kelly's who had performed several "boy" roles in outside productions was forced to remove those songs from her repertoire to adhere to class policies.

After high school, Kelly started to realize their authentic gender identity. Genderqueer, gender-fluid, and non-binary identities were introduced to Kelly through queer fashion blogs. Kelly discovered these blogs around the time they came out as gay, and Kelly shares, "I used that as an excuse to dress masculine for the first time in my

life.” When coming out as gender-fluid to their mother, Kelly and their mom had just seen a production of the musical *Anastasia* on Broadway. They describe:

This was the first time I went to see a staged musical [and] saw a tenor part where I was like, “I could play this role.” I even ended up coming out [as gender-fluid] to my mom at the stage door. I was just so excited and emotional, and she was wondering what the hell was wrong with me.

Kelly found themselves having an emotional response in strongly identifying with the male protagonist, Dmitry, in the show. While Dmitry is not a gender-fluid character, seeing a role with whom Kelly could closely identify affirmed Kelly’s identity and gave them the confidence to come out to their parents. While their parents continue to struggle with Katie’s gender-fluidity, they have come to accept their child for how they identify.

Despite the negative experience in the musical theater workshop, Kelly continues to explore singing and musical theater repertoire in voice lessons. They offer:

I had had a lot of negative experience in taking lessons, so it wasn’t until I found Patrick and wanted to go into acting and singing that I’ve been able to find my voice and figure stuff out.

After the initial labeling of soprano in high school, having now figured out their gender identity, Kelly hoped voice lessons would be able to help them expand their range. Kelly enthusiastically describes their first voice lesson with Patrick:

I went into the lesson and I kind of talked about [range development] with [Patrick]. He starts doing just basic warm ups with me, and...I am singing notes I didn’t even know I could sing in terms of my lower, or even middle registers. At one point, he casually said, “Yeah, you’re a tenor.” I wanted to cry. It was like the greatest thing anyone could have said to me.

Kelly’s gender fluidity was affirmed not by Patrick’s words alone, but in receiving vocal exercises and concepts to access areas of their range they had been uninvited to explore before. In these lessons, Kelly explores vocal exercises and repertoire that fosters growth in their whole range, including pieces that are intended for sopranos, mezzos/belters, and

tenors. Kelly further offers, “I just love how I’ve been free to explore the range, how gender hasn’t been a barrier.” The voice lessons with Patrick have been therapeutic for Kelly, who expounds:

Taking voice lessons with Patrick has kind of been my transition because it’s help me grow my voice. It’s helped me become more comfortable with my identity, and helped me accept my own preconceived notions on gender that have been beaten into me and actually hurt me because they go against who I really am.

Kelly affirms that they have been taking better care of themselves since starting voice lessons with Patrick. “It more than just going in and singing for an hour,” Kelly professes. The voice lessons serve as a positive and empowering influence in Kelly’s life.

Since Kelly is not undergoing androgen therapy, nor do they plan to in the future, Kelly has not experienced a change in vocal range from testosterone as other trans men do. Kelly’s voice has not been modified through androgen therapy. Thus, changes in voice, including singing tenor repertoire, have been accomplished through changes in habitual use of the vocal mechanism. Kelly has also never seen a speech-language pathologist for seeking a lower or neutral sounding voice, but they have observed some changes in their voice at speech level. Though their speaking voice has not drastically changed since starting voice lessons, they offer:

At the very least, it’s made me more confident with my natural voice. I’m at the point where I’m starting to hear my natural [speaking] voice...I don’t know how to explain that, but it was something I never really noticed before.

Their “natural voice” has not been achieved in solely finding a lower range, but by exploring their full range. They clarify:

“I’m getting to the point where if I go into [a] higher register, it feels a bit more like me. I don’t know if it’s stronger or I’m just more confident. In

high school, I would sing these songs and it sounded like someone else's voice to me.

Being able to explore and strengthen their chest voice has fostered greater comfortability in the head voice. By never being given the opportunity to experiment vocally with other repertoire, Kelly never gained confidence in the higher register.

Currently Kelly is studying three songs, including one for soprano, one for alto, and one for tenor. The tenor piece is "My Petersburg," one of Dmitry's solos from *Anastasia*. The alto-range piece is "Never, Never Land" by Jule Styne from the musical *Peter Pan*. These two pieces are being prepared for an upcoming studio recital. The soprano piece is "Wishing You Were Somehow Here Again" from Andrew Lloyd Webber's musical *The Phantom of the Opera*. Kelly is learning soprano repertoire not necessarily for a performance or audition, but more as a vocal etude to explore their head voice. Repertoire selection centers on Kelly being able to relate to the character or narrative of the song. They share:

Because I don't identify strongly with any gender, all songs I can sing as myself...It's been great to explore that, to see what roles I could play as a tenor...even what roles I could play as an alto or soprano.

Later in this portrait, Kelly's repertoire will be discussed in further detail.

Kelly's experiences in singing are carried beyond the applied lessons studio. Kelly sings in a choir specifically intended for trans and non-binary singers. While there were a few bumps in the road for the choir in the beginning regarding the rigidity of voice parts, the ensemble has retracted the traditional model of calling the different sections as soprano, alto, tenor, and bass. As an alternative, they use Voice One, Voice Two, Voice Three, and Voice Four. Kelly sings mainly in voices one and two, but also joins voice three at times. Importantly, this labeling of the choral parts is not laden with

gendered expectations, and there is flexibility in singing within different sections.

Regarding the ensemble repertoire, Kelly adds:

We're also trying to do songs that aren't problematic in any way. A lot of times we will change the gender of songs to make it gender neutral. There have been a couple songs we've cut because the message doesn't really align with what we stand for, which I love that we actually have that input.

While this musical experience has been overall affirming, Kelly explains they have difficulty in knowing what to do during the vocal warmups. Since Kelly sings a wide vocal range, they often feel the warm ups do not necessarily benefit their full capabilities. As the ensemble vocalizes for warmups together in octaves, Kelly must choose whether to sing with the upper or lower voices, and does not feel fully warmed up for rehearsal.

Kelly speaks at length about their experiences in auditioning for musical theater. Every year, there is a citywide audition, which brings together the casting directors and artistic teams of many local theater companies. The audition form inquires a variety of information, including an individual's gender using the binary male/female system. Kelly worked with the organizing company to reformat the form to be more inclusive. For auditions outside this platform, Kelly sometimes faces issues of being forced to use their legal birth name and wear gendered attire for the audition. "One day I had an audition and for whatever reason they wanted me to use my legal name," Kelly states, "[and] on top of that, I didn't have any clothes that fit my gender identity that were also professional for an audition, so I went in an outfit that didn't match my identity." Kelly is not opposed to dressing professionally, but being forced to wear traditional women's attire is problematic, especially when being cast in a show in which every actor will be costumed specific to a scripted character.

In addition to experiencing issues related to audition forms and apparel, Kelly avows, “I’m still trying to figure out the language to describe my voice.” Currently Kelly lists their voice as “soprano-tenor” on their performing resume, and affirms, “I am actively trying to defy the traditions...[by] going for tenor parts.” In a recent audition, Kelly sang one piece in a head voice range and a second piece in a chest voice/tenor range. They disclose, “Even if they don’t cast me, maybe they’ll consider it the next time another non-binary or transgender actor shows up.” Kelly wants gender to not be a barrier or consideration in casting. Like any person auditioning for a role, Kelly wants to be seen for their voice and acting ability apart from expectations determined by inaccurate assumptions.

After one emotional frustrating audition experience, Kelly turned to Patrick, their voice teacher, for support. As a trans man, Patrick provided insight on his experiences of marginalization to help Kelly feel less isolated. Kelly comments:

That was really nice to be able to talk to someone and to know I’m not alone, even though our experiences are different, and our identities aren’t the same. We have a lot of common experiences.

While not all singing teachers would be able to share such similar experiences with each student, having a trans teacher has helped Kelly feel affirmed and supported in their musical training.

Teacher Portrait

Teaching approximately 12-14 hours each week with 20 students in his studio, Patrick is a voice teacher whose studio is comprised of approximately one-third students who identify as trans or non-binary. As a trans man himself, Patrick specializes in teaching this population, though he teaches a wide-range of students with regards to age,

experience, and identity. In addition to having trained as a singing teacher, he holds a master's degree in gender studies, and thus the intersection of gender and the voice is his area of expert knowledge. Patrick uses he/him/his pronouns, though he self-professes to be not being "super masculine." He describes his gender as being fluid or flexible, and sometimes he identifies as genderqueer. He proffers, "Being trans and having gone through gender transition is a big part of who I am and helps me relate to people who have gone through that." While still misgendered at times, he says it is usually due to the length of his hair or the timbre of his voice. His young son's friends will ask direct questions, such as "Why do you talk like a girl?" or "Why is your voice squeaky?" Patrick began androgen therapy over eight years ago. The range of his speaking voice might be perceived as higher than the average natal male, but vocal tessitura sits comfortably in the tenor range. Possessing a wide singing range is an advantage to him in offering vocal demonstrations for his students.

Raised in northern Virginia, Patrick was assigned female at birth. His musical training began early in life. He began voice lessons at 11, and after high school, he matriculated as a music major at a prestigious conservatory in the U.S. Midwest. In college, he was training as a high operatic soprano. During his college career, he began to realize his authentic masculine identity. Having a difficult time connecting with his voice teacher and feeling frustrated with the kind of repertoire he was being pushed towards at the conservatory, Patrick dropped the music degree and completed an undergraduate degree outside of music. He describes his undergraduate teacher as "intimidating" and not someone he could have confided in regarding his gender dysphoria. He describes his transition as being fraught with opposition from friends and family. He imparts:

I think there's a lot of cultural forces going against transition. There were a lot of voices telling me not to. A lot of people who are close to me just told me I was wrong—that I was confused about who I was. I'm not a hyper-masculine guy, and I'm pretty feminine in my demeanor [in] the way I talk to people. I also looked really feminine, so the combination of my appearance and the way I behaved, I think people just didn't get it. My parents were totally confused and a lot of my friends just thought I was losing touch with reality, I think.

His parents, who were struggling with his gender identity, took him to the gender clinic of a world-renown hospital in Maryland. On Fridays, the psychiatry department saw trans and non-binary individuals. He recalls, "These people were so unbelievably insensitive." It became obvious to Patrick that the hospital's intent was to collect data for research because he was always asked a "laundry list of questions they clearly just asked everybody." He elaborates:

It was very traumatic. My mom...expected them to tell me I was wrong, I think, that I wasn't really transgender. My gender transition was in the face of all this opposition.

Beginning androgen therapy was one of the most difficult decisions of Patrick's life, not just for the extreme marginalization he faced, but also in the knowledge that his singing voice, a meaningful aspect of his identity, would be forever changed.

Soon after Patrick started taking testosterone, he moved to England to pursue an interdisciplinary master's degree in gender and media studies. In addition to cultural adjustments, he also found himself in a new environment where he needed to "come out" as a trans guy. "I was going to gender studies classes where nobody even knew I was trans," he shares, "and one professor said this very transphobic thing in front of me, not knowing I was trans." He also experienced a shift in how people perceived him. He recalls, "All of a sudden, I was being read as a cisgender male, and I didn't know what to

do...It was all so confusing.” In the United States during that time, he was regularly seen as either male or female, but in the United Kingdom, everyone saw him as masculine.

Early on in graduate school, he auditioned for a production of *West Side Story*. It was a student-run production. He remembers being the oldest in the cast, and the only American in this popular American musical. The audition caused him some anxiety as he was suddenly singing with his newly lowered voice. Regarding the vocal transition, he shares, “It was like someone takes your instrument and gives you a whole new instrument, and none of my technique is applying to this new voice.” He mentioned to the student director that he had recently started taking testosterone. He was cast in the show, but he was not aware that the director had told the entire company of his trans identity. He spent the entire rehearsal process worrying someone would be unaccepting of him. When finally this information was disclosed to him, he was relieved that the cast had been so accepting of him. He quickly mentions, “I know there’s probably plenty of people who would’ve been horrified that that information was being circulated without my knowledge,” but for Patrick, it was a relief.

His participation in *West Side Story* was not Patrick’s first experience with musical theater. During middle and high school, he studied musical theater repertoire in his voice lessons. As a teenager, he had some discomfort with the sound of his voice or in the roles he was given, but he could assuage this dysphoria by immersing himself in the character. In college, concealing this discomfort was more difficult.

While still in undergrad, Patrick participated in musical theater shows produced by his undergraduate college for three consecutive summers. In the first summer, he was cast in a role he characterized as an “angry lesbian.” He explains that the role was not

intended to be play that way, but it worked for the role, and so it provided him a queer facade in performance. In the second summer, he was cast in a traditionally male role. Though he sang the role an octave higher with feminine pronouns, being cast in a conventional male role gave him an outlet for masculinity. In the third summer, having now worked with the same director twice before, Patrick was under the impression the company understood his shifting gender identity. He explains:

I said on my audition form I wanted to be considered for the Wizard, which I thought could be a non-gendered role. I was called back for it, but then I was cast in this “lady” role instead, and I was so intensely uncomfortable, but I felt like I couldn’t say anything at that point because we were already past the audition phase. The first day we had a costume fitting was just so upsetting. Not only did I have to wear a dress, but I had to do it on stage in front of all those people. It felt humiliating. It was awful, but I just felt so much pressure to just go along with it.

Patrick’s experience in these musical theater productions demonstrates not only issues related to gender, but also power dynamics between artistic staff and members of the cast. The attempt to be agreeable and fulfill the demands of the production, led Patrick to feeling marginalized and subjugated. The lessons he learned from this experience shape how he creates safe space in his teaching studio.

After completing the master’s degree in England, Patrick had a series of jobs in arts administration. Feeling unfulfilled by his employment and now living in the Pacific Northwest, he started taking voice lessons again. His new teacher was also a voice teacher trainer, who encouraged him to work with her on learning to be a voice teacher. While in the beginning he was surprised by her endorsement, he apprenticed under her, starting out as a student teacher, and eventually opening his own studio.

In addition to studying his teacher’s methods, he read multiple pedagogy books and online materials. He admits to not having a lot of knowledge in teaching at first, but

through the apprenticeship program his skills advanced. Early in his teaching he resolved to not imitate the style of teaching he experienced in college. He contends:

If the system is so formulaic and systematize that the student doesn't thrive, they are blamed, as if it were the students fault... , when really the system is not meeting them in a way that's helpful to them.

Patrick describes his own voice studio as holistic, where a student is honored as wholly individual, not solely as an instrument needing refinement. He offers, "I am teaching a whole person, and I don't think you can really separate the person from the instrument." Lessons generally follow a structure of (1) physical stretching on a yoga mat or standing, (2) drawing attention to breathing, (3) vocal exercises, and (4) repertoire. He shares, "If you were to observe a different lesson with a different student, it may look really different." Thus, while he has an outline he follows with all students, the progression, pacing, and activities in each lesson are tailored specific to each student.

Creating a safe space for all students is paramount to Patrick. He asserts: I have a rule in my studio that everyone treats everyone else with respect; that while you're here, you treat people with respect. I always go over my studio policies with a new student. I get to set the rules for my space, and these are my rules: Everyone is equal. No one gets to be a diva. Everyone is on the same level, whoever they are.

Patrick stresses that these rules are to protect the emotional safety of himself and the students alike.

In working with his trans and non-binary students, he shares he does nothing different with them, unless "they want to work on their speaking voice for passing." While he does not take on a lot of clients for speaking voice work only, he considers singing technique a viable approach for establishing a healthy speaking voice. As a singing teacher, he announces unreservedly that he is not qualified in speech-language

pathology, but he is also willing to help a student, if they can find no better alternative for vocal coaching.

The benefits of working with trans and non-binary students is plentiful for Patrick. While he has discussed many challenges encountered in being trans, or issues faced by Kelly or his other students, he finds strength in empowering trans and non-binary voices. He emphasizes:

It's so meaningful to provide a space where people can be themselves and not be made to feel different. I think that's one of the best things about the work that I do. People come in, maybe early in their transition, and 99% of the people they encounter don't see them as who they really are, and to just make a human connection where they feel seen and heard is so important. It's very personal to me because of everything I've been through and people in my life misgendering and misunderstanding me. I think even at the very basic level of just to have a space where the student can be seen, and really seen is, just tremendous. On top of that, then to use their voice in a way that reflects who they are and how they want to be seen.

He also cautions that in creating rapport with a trans or non-binary student, a teacher must avoid “othering” the student. He confides it is not the student’s responsibility to train the teacher. “There are all these ways that we are treated by others in a gendered way that are so pervasive and so subtle,” he offers. Even if a teacher has only one trans student, it is the educator’s responsibility to learn how to best train the student without asking invasive question or causing them to feel different. He admits learning how to affirm each student, “takes time and it takes energy,” but the benefit is in creating a space that honors the student as an individual.

A common practice in some voice studios is listing voice types in concert programs. Patrick warns, “If we’re identifying voice type, we can’t forget that there’s a gender implication.” Patrick always asks Kelly how they would like their name and voice

type to appear in print. In a recital from last year, Kelly was listed as a soprano for one piece, and as a tenor for a secondary piece. In an upcoming recital, Kelly will be listed as a tenor, even though one piece fits the conventional alto range. While this decision might defy tradition, he does not care so long as a student is comfortable. He discusses:

I think there's so many cultural forces that push towards gender conformity. I feel like there's these erasures that happen of people, and there is huge subset[s] in the range of human diversity that is silenced. It's so hurtful and destructive. We need alternative spaces for letting people be human. I feel it's a human right be yourself. We have to offer people that; we just have to. That's part of being a decent person.

Patrick actively works to create a learning environment that pushes against conformity, allowing otherwise silenced voices to emerge and be emboldened. Though, he also wishes more material was written for gender-fluid and unconventional gender performers, Patrick supports Kelly's interests in auditioning for musical theater companies, despite marginalization presented through audition forms and requirements. He believes there is much room for "different kinds of diversity" in performance spaces, if artistic directors would keep an open-mind.

Voice Lessons

Located in the lower level of his home on a residential street, Patrick's studio is a calm and inviting space with carpeted floors and light, mossy green walls. The entryway provides an area for students to hang their coats and leave their shoes. The large teaching space provides ample room for physical warm ups and singing. A piano and electric keyboard sit in a corner. A couch, a side table, a couple paintings, and a few chairs fill the space.

The lessons begin with Patrick and Kelly checking in about the week's interval since they have last met. Kelly is working nightshifts, and they discuss the impact on Kelly's overall energy level. Patrick begins lessons with physical stretching or centering exercises to align the mind and body. Kelly chooses to start the lesson on the floor on a yoga mat. In a semi-supine position, Patrick prompts Kelly to bring mindfulness to their breathing, asking the air passages to relax, and to allow the breath to freely flow in and out. After a few minutes of measured breathing, Patrick asks Kelly to "sigh" on a pitch from a higher note to a lower note. Patrick comments that breathing and singing while prostrate can disrupt the body's habitual process. At Patrick's invitation, Kelly comes to standing. Patrick proceeds to teach Kelly a shoulder opening exercise, which involves (1) extending the arms above the head, (2) forward bending, and (3) placing the palms and forearms on a flat surface like a table or countertop in front of the body. In this exercise, the back is parallel to the floor, and the body is making a 90-degree angle at the hip joint.

The vocalizing continues with a sigh from top to bottom. They also perform a "siren" (like that of an emergency vehicle) with the voice sliding from low to high to low again. These sighs and sirens figure prominently in the vocal exercises, as Patrick asks Kelly to sing one or the other between every metered vocal exercise, illustrated in Figures 16-23. The sigh and siren have not been transcribed because they are intentionally inconsistent, based on arbitrary pitches chosen by Kelly.

Patrick begins the vocal exercises by exploring Kelly's higher range. In the first vocal exercise, Patrick asks Kelly to sing is a five-tone descending scale on [a], shown as Figure 16. This exercise moves by half-steps, warming up Kelly's middle range, from approximately C4 to E5. Patrick modifies the exercise to be sung on "blub" [blʌb], which

helps release tongue and jaw tension. The descending sequence promotes a lighter sound and a mix of head and chest register singing.



Figure 16. Descending 5-tone scale for middle range development

In the next exercise, Patrick extends the range in two-note slurs through an arpeggio, as seen in Figure 17. This exercise initiates singing in both head and chest voices, starting in the lower register and moving into the upper register, whenever easiest. Patrick provides exercises that work each register separately, but also exercises that align the voice and bridge the passaggio. Never is the register discussed explicitly at this point; instead Patrick's language encourages Kelly to sing with ease and freedom, which prompts Kelly to switch registration. The purpose of this exercise is to extend breath release, while stretching the upper range. The two-note slurs help mitigate tension that might build over a long exercise and wide range.



Figure 17. Two-note pairs over a tenth for stretching upper range

The third and fourth exercises, Figures 18-19, show an example of furthering opening and strengthening the upper register. Figure 18 shows singing a fifth interval on [a],

starting in A major, which ensures Kelly is singing in head voice primarily. The fourth exercise (Figure 19) is described as “squeaks” to access the highest part of Kelly’s range, beginning in E major and ascending by half steps, taking Kelly to F6. Patrick encourages Kelly to sing these arpeggios lightly to assuage bringing weight of the bottom pitch into the upper pitches. The initial [h] and detached notes promotes a balanced onset.



Figure 18. Perfect fifth slides on half notes for stretching upper range



Figure 19. Triad arpeggio for upper extension and balanced onset

One final exercise for the upper range is a nine-tone scale. Beginning in C major, shown in Figure 20, Patrick moves by half steps up to G major, taking Kelly to an A5. The speed of these scales keeps the voice lighter, and while the starting pitch is low enough to sing in full chest voice, Kelly lightens the sound to rapidly ascend to the top of the scale. Patrick’s primary concern is aligning the lowest and highest notes without inundating the middle range with tension. Less attention is given to clarity of pitches or precision in the scale, as the purpose of this exercise is to find fluidity between middle to upper range.



Figure 20. Nine-tone scale for upper range alignment

Although one of Kelly’s aspiration is to strengthen their lower range and audition for tenor roles, Patrick explains:

I found earlier in my process of us working together, [the voice] was getting out of balance. There was a lot of belt singing and something was happening with the head voice that I thought was not a good sign, which was that it was getting tighter. I said to [Kelly], “You don’t have to ever perform in head voice, if you want, but I think your voice is going to be healthier if you get some exercises in the higher.

Patrick assures Kelly that they need not ever perform in the soprano range, but exercising that range would help bring balance to their full voice and would help strengthen the lower range. Before exercising the lower range, they sing through “Wishing You Were Somehow Here Again” from Andrew Lloyd Webber’s musical *The Phantom of the Opera*, which has a range from A3 to G5. Used as a vocal etude, the piece arouses challenges related to tessitura, tongue and jaw tension brought on by lyrics, and pitch issues incited by difficult melodic intervals. After singing through the entire piece, Patrick coaches Kelly through more difficult passages, highlighting places to breath, and offering suggestions for vowel modification. As an exercise only, they do not spend significant time on this piece.

Kelly is preparing the song “Never Never Land” from *Peter Pan* in an upcoming studio recital. This piece sits in Kelly’s middle range, and while Patrick gives some feedback on their performance, the piece is well prepared and performance ready. Patrick

invites Kelly to decrescendo on the last note of the piece. The technique required to diminuendo on a sustained pitch provides an opening for discussing the abdominal muscular support needed in this style of singing. Patrick began the lesson bringing mindfulness to breathing, and this exemplifies him circling back to the start of their lesson in discussing breath and body alignment.

As precursor to working on Kelly’s tenor song, “My Petersburg” from the musical *Anastasia*, Patrick inquires if Kelly would like to do some “belt” exercises first. Often Patrick asks, “Do you want to...?” before offering an exercise or moving onto another activity. While Kelly always positively replies to the inquiry, it provides space for Kelly to pace or reposition the lesson, if necessary. In the case of working on the lower range, Patrick provides similar exercises as above, but initiates them lower to indorse chest voice singing. Figures 21 and 22 are akin to Figures 18 and 16, respectively. In Figure 21, Kelly aims to phonate the higher note in chest voice, but as they approach A4, Patrick is explicit to mix the voice more. During the exercise show in Figure 22, Kelly sings down to E3, with the [j] glide to help onset the pitch and release the jaw.



Figure 21. Ascending and descending fifth on half notes to stretch lower register higher



Figure 22. Descending five-note scale to extend lower range lower

The final exercise, shown in Figure 23, illustrates a descending slide in chest voice. This exercise has similar properties as the sigh used throughout the exercises to reset the voice and allay any tension developed while singing. Sliding on distinctive pitches connects the undefined sigh to a specific sung sound, promoting freedom and openness in Kelly's singing.

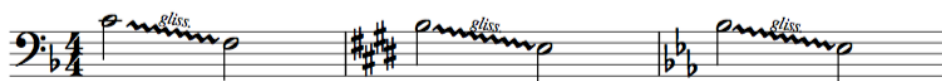


Figure 23. Descending fifth slides to release subglottal pressure

In preparation for the upcoming studio recital, Patrick and Kelly spend considerable time in working on Kelly's pieces chosen for the performance. Attention is given to identifying specific challenges, as related to pitch, rhythm, or musical interpretation. They isolate the beginning of "My Petersburg" as it requires Kelly starting on E3, at the bottom of their range. Resolving this issue comes in being mindful of feeling the resonance higher for the lower passage and hearing the pitch in the mind's inner ear before voicing it. They also examine the two pitches in the piece where Kelly needs to "mix" the voice, which will mitigate intonation issues and foster greater vocal freedom. During the initial vocal exercises where Patrick allows Kelly to flip registration unheedingly, Patrick is more overt in his instruction now. Figure 24 shows an example of where mixing the voice is encouraged to keep power in the upper range, without bringing the chest voice beyond where it can easily phonate.

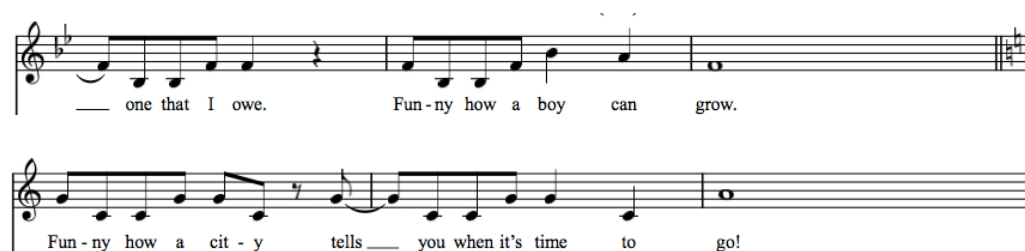


Figure 24. Excerpt of “My Petersburg” from *Anastasia* (Flaherty, 2016)

As an individual who is actively pursuing a more masculine identity in auditions, the songs Kelly has selected represent this identity. The role of Peter Pan, though traditionally sung by women, is a male character whose repertoire fits Kelly’s middle range. “My Petersburg” is a tenor solo, but has been transposed up a third for a better vocal fit. The lyrics speak overtly about being a boy, and about making important changes in one’s life.

Throughout the lesson, Patrick is positive and affirming by offering frequent encouraging remarks. Furthermore, in serving as Kelly’s pianist in the forthcoming recital, at times Patrick and Kelly appear as collaborators, both offering feedback and solidifying a musical partnership. While Patrick primarily steers the purpose and pace of the lesson, Kelly is given ample space throughout the hour to re-shift the focus or activity. The student and teacher share common ground and strong rapport. The lessons are filled with an exchange of ideas and joyful conversation.

Case Study 4: B and Jeremiah

Student Portrait

“Music has always been so key and central to me,” B shares, “but it was a longer unfolding of understanding what that meant.” Like music, B’s sense of identity has been a process of understanding and unfurling the social constructs of gender and race. Averse to labeling themselves, B goes by a single letter. As an artist-scholar, B is an associate professor in ethnomusicology at a notable research university on the West Coast of the United States. In writing, B uses they/them/their pronouns, yet discloses that some people refer to them as “she,” others as “he.” Though B considers the pronoun options insufficient, using the plural third person seems most innocuous to them, and will accordingly be employed in this portrait.

While B avoids categorizing their gender, they acknowledge, “When it gets down to talking about gender, I feel very masculine.” They mark their identity as “genderqueer and non-binary or trans and queer,” but the purpose of these labels is for the benefit of others, instead of self-affirmation. B believes, “There is a lot of power in the non-binary space. I am not a man. I am not a woman, and that’s really how I’ve explained it for so long.” B prefers to be open and talk about what is happening in their life, which allows people to make their own conclusions, asserting that people will make assumptions about them with or without labels.

As a person of color who sometimes identifies as mixed race and other times as black, B experiences indefiniteness in their racial identity. B believes race identity is demarcated by socio-political boundaries, not by biology. They explain:

I was raised in a community where it was all mixed kids, black and white, and white single-parent mothers. Those were the people I was around most growing up. It was very distinct. It wasn't a white upbringing. It wasn't a black upbringing. It's just our own thing and feels very ungrounded culturally. More and more, I don't actually think there is a real racial "mix." The idea of someone being mixed doesn't make sense to me, if you think race is not biological, which is what I believe.

There is a sense of purposeful in-betweenness or of oscillation in B's sense of identity.

The resolve to exist outside a box, either by race or gender, is an outcome of B's upbringing and cultural influences, and from a political certitude to create an alternative space of existence.

As a youngster, B was considered a Tomboy. Being drawn to items socially constructed for boys, B recalls assuming they were a boy until they were a little older. B shares:

Until maybe seven or eight, I think I thought I was a boy. I was moving through the world assuming that's what people were seeing from the outside. I remember one time when I was playing with a friend of mine, we were running around with our shirts off. I think it was his mom who said, "You know, you aren't going to be able to do that much longer. You're not going to be able to have your shirt off." I was like, "What are you talking about it?" But, it also made me feel bad, like she was shaming me.

This early experience "closeted" B's true sense of self, and likely stymied B at a young age from moving around the world in a way that felt most appropriate to them. When puberty onset, B was unprepared for the biological changes to their body. Being attracted to girls, B coded their masculine leanings as related to sexuality, since they were attracted to girls. The identity of non-binary or genderqueer was not yet realized because they had little concept of living outside the gender binary. Though during this time B had awareness of their racial identity and sexual orientation, their authentic gender identity would not emerge until college.

Music has played a central role in B's life since childhood. Their mother was a pianist and choral director, and B can remember participating in a children's choir as early as two years old. Around the age of five, B started lessons on the violin, and later piano lessons. Amongst their many musical activities, choral singing remained the most constant. B sang in church and community choirs growing up, and describes themselves becoming a "hardcore choral singer" in high school and through college. They sang second soprano and alto in high school. Later in college, when singing Renaissance and late-medieval music, they would sing the middle part, which was traditionally sung by high voiced men. With an easy facilitation in the lower range, sometimes B would sing tenor parts, or if the ensemble was designed for all-female bodies, B would sing the bass line. While acknowledging the choral space was gendered, B never felt marginalized or inappropriately boxed in when singing soprano or alto. Indeed, B suggests singing higher provided them a "boychoir" experience, which framed it within a masculine paradigm.

The high school choral experience did present issues around race. B concedes that their memory or perceptions of their experience in the intersection of choral music and race might be "completely wrong," but B remembers more singers of color in the alto section, while concurrently feeling "soprano was a whiter space." B sensed they did not fit either racial image—neither that of the white soprano, nor having a timbre that matched the other altos of color.

Also in the choral setting, B reflects on how female-bodied singers always outnumbered male-bodied singers, and so there was more room and acceptability for "girls," to move into male spaces within the performing arts. Recently, B and their partner have been performing *bomba*, the Afro-Puerto Rican folkloric music and dance,

and within the performance tradition male and female dance moves are different and delineated. B explains it is becoming possible for women to perform the “male” dance moves, though it continues to be inappropriate for a man to perform the “female” choreography. B shares:

There was a huge uproar when a cis-guy decided he was going to dance in a skirt. To me, there is homophobia embedded in that and assumptions made about that person’s sexuality.

Making a connection from *bomba* to choral singing, B feels when a woman enters a traditional “male” performing space it is widely accepted, but for a man to enter a “female” space, it is viewed as gender transgressive.

In college, B started taking voice lesson. They disclose, “I never felt like I was a very good singer. I always felt very strong as a choral singer...but the idea of singing solo [...] never really felt comfortable.” Their first experience with private voice instruction was destructive. B recalls attempting not to cry during multiple lessons. They blamed themselves at the time, thinking they did not have sufficient talent or were culpable for inadequate student-teacher rapport. In looking back, B realizes they were being asked to sing repertoire that did not suit them, both in terms of gender and musical interest. Though B has a deep appreciation for classical music, and a fondness for Early Music, as a solo artist, their interest lies in pop and folk music. There was no room for them to make song selections that suited their aesthetic. In addition, much of the assigned repertoire felt overly feminine, even if the vocal range was appropriate.

During graduate school, B served as music director for a queer version of Bernstein’s *West Side Story*. This production was a collaboration between a drag king troupe, a Latina theater company, and students in the grad program. Having difficulty in

finding someone appropriate to play the role of Tony, the male protagonist, B took on the role. In preparation, B took a voice lesson from a recommended teacher. While singing the song “Maria,” the teacher referred to B’s higher notes as falsetto, but then quickly “corrected” her language. B elaborates:

Falsetto was only something I had ever heard talked about with men’s voices, but...it’s not just where your voice is singing range-wise, it’s how you’re using it and how it’s put into a piece. It’s contextual. If I sang those [high] notes in a choral piece as a girl, you wouldn’t call it [falsetto], but singing those same exact notes at the end of “Maria,” there is a gendered construct around what is falsetto. It felt kind of good in the moment, even though she corrected herself, or what she thought was correcting herself.

Not only did the role of Tony feel appropriate, the teacher’s language affirmed B’s singing and framed it within a masculine construct. The portrayal of this role and the creative work in producing this alternative version was an affirming experience for B.

For the past year and a half, B has been working with their current teacher, Jeremiah. B describes Jeremiah as a “god-send,” who has created new possibilities for their singing. B remembers their first lesson and thinking, “Oh my god, I didn’t think I could sing that note, or I didn’t think I could sing in this way or this loud.” The impetus for taking singing lessons stems from an artistic endeavor. B sings in a queer retro band, whose mission is to create a space for masculine-of-center singers and to present personal narratives through music. As a founder and leader of this ensemble, B felt they needed to work on their vocal technique. They had known of Jeremiah, as a trans guy who teaches voice, and started lessons for two reasons: (1) to build better vocal habits and stamina, and (2) to explore new vocal possibilities. While they had previously taken voice lessons with a supportive teacher, the lessons focused more on emotional well-being, and B was seeking development of vocal technique.

One technical issue addressed in B's singing deals with an ongoing pain on the right side of their throat. Off and on since college, B has experienced discomfort while singing. B explains:

I remember doing a musical in college and singing lower, being put on the tenor part a lot, and feeling this pain in the side of my throat. Then I was singing in an all-women's a cappella group during grad school, and I was singing the bass part in that group, and I started feeling this [pain] again. But, it would always go away. A couple of years ago, this pain came up and it wouldn't go away. It is not there every day, but there have been periods where it is there every day for months. I think it stemmed from me not using my voice in a good way.

An additional contributing factor to this pain might derive from emotional stress, B suggests. In addition to potentially pushing the voice too low and causing unwanted tension in the neck, it is an area of their body where they hold tension in general. While the cause mainly originates from singing, it can be exacerbated by speaking. Awareness of the tension figures prominently in lessons with Jeremiah.

Though the purpose of B's singing lessons has been to develop vocal technique, there have been additional benefits to the lessons. B has experienced an improvement in their speaking voice. B explains:

It is not something I was seeking out, but doing the vocal work around singing... it's not that the range is changing, but sitting in a more comfortable place, especially in the lower realm, and more relaxed.

In learning to release through singing, a "broadening" of the speaking voice has occurred. As a college professor, B speaks frequently to larger groups of people, so the voice lessons have brought an unexpected positive outcome. B also reports singing more with their students, and not feeling nervous in front of them.

B's singing is also serving as a vehicle for their research. Their ensemble establishes space for B and the other singers to thrive as artists, and create alternative

artistic programs for diverse narratives of gender and race. B wonders how their narrative might have been different if a teacher like Jeremiah had been present during their childhood. B considers, “How different it might have been if I had been working with Jeremiah as a ten-year-old, and singing in more unmarked spaces. Would I have found my voice earlier?” Continuing in this reflective state, B suggests they are still finding their authentic voice.

As trans individuals become more visible in popular media, B worries teachers will see gender as a “fixed space,” one in which a person becomes a “man” or a “woman.” B affirms that gender is an ongoing process, and thus students and teachers need to be aware of the fluidity in identity. For music educators, B offers:

I think so much is in not making assumptions, and asking a person where they are coming from or what they are wanting. I don't think anyone is going to be perfect, but I have been in so many settings where the metaphors being used or the space of character we are being asked to embody is entrenched with gender.

As a teacher, B is conscientious to create space and openness in their classes to challenge assumptions and ideologies. B insists a teacher's language needs to be open and progressive to honor all perspectives.

Finally, B reflects on how their experiences in musical settings has shaped their confidence as a singer. While B can forge a pathway for themselves now, as a student, it would have been beneficial to see teachers or professional musicians who looked and sounded like them. B admits that being a professional musician is a challenging profession, but having a role model to emulate provides musicians with a path to follow, something that trans or non-binary musicians rarely have.

Teacher Portrait

Jeremiah is a full-time, independent voice teacher in a politically left-leaning, college town in the western United States. By many, Jeremiah is considered one of the leading experts in transgender singing voice. He identifies first as a man, but also as transgender, queer, and gay. He was involved in music from a young age, having participated for nearly a decade in children's choir in central Virginia. Studying piano and saxophone early in life, his primary musical focus in high school became voice. He took private voice lessons in classical music, but also studied jazz singing in high school and in a summer program at Berklee College of Music. He attended a widely-known progressive liberal arts college in the Midwest, and though not a music major, he studied voice in college and participated in high-level consort singing. He was active in the Early Music ensemble as a first soprano, and all his vocal training in college was in classical music. After college, he moved to the West Coast, and sang in professional choral ensembles, while teaching voice and community group music classes. Influenced by the music his parents listened to when he was growing up, the music he performs now is based in folk tradition. He is a singer-songwriter and guitarist, and his style of vocal pedagogy is grounded in the principles of contemporary commercial music.

Twelve years ago, during his junior year in college, Jeremiah started androgen therapy. His voice sounded hoarse at first, but he shares, "I tried my best to just keep doing whatever sounds happened." He recalls it was difficult to find appropriate keys for art songs and arias, as he needed to change keys frequently for his shifting voice. While some singers may lose their higher range soon after starting testosterone, Jeremiah did not. While his range lowered within the first six months, he also retained his high range.

Eventually his upper range diminished, and after two years, his voice settled as a first tenor. He had a supportive vocal ensemble director, who had little knowledge about trans singers, but re-voiced him every semester to ensure he was in the best fitting voice part. Jeremiah remembers, “Specifically the moment when he said I sounded interchangeable with the other tenors of my age [...] was super affirming.” Jeremiah also explains that the repertoire he was singing did not require him to sing with a heavy sound, which helped during the transition, as he describes his voice as lighter, in general.

After Jeremiah relocated to the West Coast, his focus as a solo artist turned from classical to folk music of his own composition. He began earnestly studying the vocal technique of contemporary commercial music, and gained level three certification in Somatic Voicework –The LoVetri Method™. He continues to study voice with one of the leading teachers in this approach, which further enriches his practice and pedagogy.

Having received all his early training in voice in a classical style, he understands both approaches to singing. In his classical training, he was taught *bel canto* singing, which he posits as emphasizing (1) breath support, (2) resonance, and an (3) open/released throat. While he admits this is an oversimplification of the technique, he pairs this summation with Somatic Voicework – The LoVetri Method™, which underscores the importance of vocal registration, trained through exercises that emphasize the things a singer can consciously control: (1) vowel brightness/darkness, (2) pitch, and (3) volume. While a vocal pedagogue might debate semantics or the correctness in this digest version of those techniques, it provides a framework for how Jeremiah thinks about singing and the technical elements he highlights in his teaching.

There is also an explicit prominence in CCM teaching on voice functionality. From Jeremiah's perspective, though classical voice training includes elements of voice functionality, his own classical teacher did not offer this, instead centering on the aesthetics of sound, with an overemphasis on breath support and placement. In CCM teaching, he shares, "You listen to the singer not for what you like or dislike about their sound, but to hear what's happening functionally in their body and in their throat." One of the main elements Jeremiah listens for is the functionality of both vocal registers: head voice, which is a cricothyroid (CT) dominant muscular action, and chest voice, a thyroarytenoid (TA) muscle dominant action. When speaking about registers, he uses the terms head voice and CT-dominant interchangeably, as for the parallel with chest voice and TA-dominant.

One of the first facets of singing Jeremiah brings attention to is the fortification of the head and chest registers. Often, he shares a singer will have one register that is stronger or more comfortable. For many singers of pop or folk repertoire, the chest register is often stronger, and he will work to strengthen cricothyroid muscular action. Likewise, if a singer for example comes from a soprano choral experience and has a strong head voice, they might need assistance in heightening functionality in the chest voice. By isolating and separating the registers, Jeremiah then works with the singer to mix the middle range. In CCM, he explains, "we often source vocal issues to registration imbalances and the constriction that can come from having too much pure chest register above middle C." The goal is the seamless alignment of both registers. Once a singer has effective use of both registers, Jeremiah works on aligning and balancing them.

Vowel and volume also feature conspicuously in registration work. When accessing head voice, he may ask a student to sing softly on a closed vowel, such as [i] or [u]. He is a proponent of semi-occluded exercises, such as rolled forward [r] or lip trill, or singing on [ŋ] hum for unlocking head voice. When working to strengthen chest voice, he might have a singer produce a louder sound on an open vowel. Similarly, if working to coordinate a mixed sound in middle range, he might use [æ] or [ɛ] at mezzo-piano or mezzo-forte. Unless the exercise is long or slow, he has the student sing all exercises twice through without a pause for two reasons: (1) it provides an opportunity to evaluate if they have consistency in the exercise, and (2) it mimics the length of song phrases. Though the vocal ranges of exercises will be dependent on each student, he has found that some exercises have shown to be dependable to obtain specific voice functionality.

As a teacher of many trans and non-binary students, Jeremiah has amassed considerable experience in teaching this population. As a trans man himself, he has a personal experience, alongside pedagogical literacy, to observe commonalities in the changing voice brought on by androgen therapy. Discussing the singing voice on testosterone, Jeremiah remarks:

I think it's really different for everybody, but also there's some common patterns that happen: range really shrinking, a lot of difficulty through the passaggio, a lot of difficulty with sustaining pitches with any volume above middle C. Vibrato can get really wonky, and people face a lot of issues with constriction because people are used to belting up higher than they can now.

Rarely has he had a trans man unable to sing certain pitches for more than a month, though areas of the range might continue to be “shaky” or inconsistent for several months or even years. Most important, Jeremiah believes it is important to keep singing, so long as the singer is not forcing or pushing. He stresses it is important to keep the voice “alive

and well.” He offers supportive language and reassurance that their voice will improve with continued exercise.

Jeremiah feels freer with regards to repertoire and range in teaching trans and non-binary students. Many students are keen to exercise their full range, but some are reluctant to sing repertoire in a range that does not align with their gender. Other students show tenacity in producing a specific aesthetic or quality of sound. He has had trans women who have “wanted help finding access to a higher range, and also trans feminine folks who proudly identified as baritones.” For a trans woman who wants to belt like a female rock star, the technique requires slowly building the singer’s strength, flexibility and stamina to make a TA-dominant sound through the *passaggio* without heaviness. For a student who wants to sound like Tina Turner or Demi Lovato, he might also suggest changing the key to a lower range. Jeremiah listens carefully to the aspirations of his singers, and balances it against realistic expectations to find equilibrium between a singer’s wishes and abilities.

Helping students find their best sound and enabling a voice that aligns with their gender is rewarding. Yet, Jeremiah shares, “It’s honestly not that different from what I do with cisgender singers.” He compares singers to athletes, and fosters development in each student, but makes them cognizant that they are “not necessarily going to be an Olympic long jumper,” no matter their perseverance. He continues:

I think that’s helpful framing for all students, trans or cis. Like an athlete, how do we get to where our muscles can do what we want them to do, and also recognize the limits? I think a lot of what we are talking about is normalizing that for trans students [by]...telling them that I talk about the same stuff with all my students.

Part of Jeremiah's teaching is providing vocal exercises and technical concepts to beget optimal singing, but the complementary piece is serving as an emotional support and advisor on what is possible in terms of each student's vocal growth.

Jeremiah also shares his insight on the needs of all teachers in supporting their trans or non-binary students. He recommends reading *Trans Liberation: Beyond Pink or Blue* by Leslie Feinberg (1999) and Janet Mock's (2014) *Redefining Realness*.

Acknowledging there is a wide selection of literature on the lives of trans individuals, he feels Mock and Feinberg "situate their life within a broader political context for the reader." Jeremiah suggests cisgender teachers need to do their homework by attending ally trainings, supporting trans performers, and seeking out the perspectives of trans and non-binary teachers and speech-language pathologists. He advocates:

I think the biggest thing about how to be a good teacher of transgender and gender nonconforming students is (1) opening up your worldview much more broadly, (2) letting go of the binary ideas you have that are based in heteropatriarchy that we were all raised with, [and] (3) doing your own personal work around this stuff and interrogating what being cisgender means to you.

Jeremiah is mindful that we all have limitations based on our limited experiences, and thus, as teachers, we should stay open to new possibilities and discoveries.

As a leader in the field on teaching trans and non-binary singers, he is outspoken about not being a researcher. Frustrated by not having more qualitative and quantitative data regarding the effects of testosterone on the voice, he comments that having been on testosterone for over ten years, his own voice has "gone through a lot of issues" recently, and he feels he has more unanswered questions now than he did five years ago. The need for additional and longitudinal research will be discussed in the final chapter of this study, but the paucity in the literature is a component of Jeremiah's experience. Even

with an increase in research over the last two years, he feels investigating the relation between the maturing voice and hormone treatment is needed.

Voice Lessons

Located on the second floor of Jeremiah's home, his studio has a separate entrance from the street. Immediately on entering the room, there is a wooden desk to the left and an electric keyboard to the right. A large bookshelf sits on the right wall from floor to ceiling, next to a mirror for the singer to view themselves. There is also a full-length mirror to the right of the singer. A water pitcher and drinking glasses are available on the desk, and a music stand is located next to the keyboard. A large window provides natural light to the welcoming space.

The lesson begins with Jeremiah asking B about their week. Since both teacher and student are active musicians, they discuss auditions and upcoming performances. Jeremiah enquires about B's ongoing neck pain, who reports it has subsided slightly. In one lesson, B is recovering from a head cold, and they discuss the vocal issues associated with head and chest congestion. This initial check-in lasts for a few minutes before Jeremiah begins vocal exercises.

When B and Jeremiah first started working together, more time was spent on strengthening the head and chest registers separately. In recent lessons, the focus has been on aligning and adjoining the registers. In the figures below, exercises that begin in chest voice, or in a chest dominant sound, are shown in bass clef. This also indicates the starting key of each exercise. Similarly, exercises initiated in head voice are shown in treble clef. All exercises move up or down by half steps. Jeremiah speaks explicitly about the intended volume, vowel, and registration of each exercise. As exercises move above

C4, B is often asked to “mix” more head voice into the timbre, though at times Jeremiah will request more (or less) chest voice depending on the intent of the exercise.

Jeremiah explains that vocal exercises occupy more than half the lesson time. In this approach, if the voice is brought into optimal use through exercises, the repertoire will require less technical coaching. He explains:

Doing a full 30 to 45 minutes of exercises gives you a lot more time to hear where the voice is and then design exercises to help them move and grow and shift. Eventually, the idea is when we get to song work, all the stuff we’re working on in the exercises is going to start to apply itself.

In the observed lessons, the vocal exercises last between 45-50 minutes. This ratio of vocal exercises to repertoire coaching seems to fit B’s wishes for the lessons. Having explained their primary purpose for voice lessons is to work on technique, they have also confessed at being “kind of terrible about having a piece to work on.” Thus, the design of the lesson meets the student’s needs.

Due to the nature of these lessons, there are several more exercises to illustrate than in other portraits. Figure 25 shows an ascending and descending five-tone scale on a rolled [r]. The intention is to release the tongue and activate breath starting in the middle lower range. B begins in chest voice, but moves into head voice as needed. Jeremiah prompts B to let their voice move between registers as is easiest for them at the start of the lesson.



Figure 25. Rolled [r] on five-tone scale in middle-low range

Figure 26 shows an exercise gliding on a hum. B is asked to move slowly between the two pitches, allowing for all the pitches in between to resonate. The purpose of this exercise is to initiate forward resonance without over-pressurizing. Like the previous exercise, this sequence begins low, and moves into head voice as it ascends. Jeremiah encourages B to move in and out of chest register as needed to promote free singing.



Figure 26. Humming glide on an ascending perfect fifth for forward resonance

Encouraging a more robust sound, Figure 27 demonstrates an arpeggio sequence on “glei” [glɛI], which fosters abdominal support and movement of the tongue. Jeremiah is explicit in keeping the top note in chest-mix as a way of stretching and opening the higher range of the chest register. The bottom-up sequence promotes a lifting of the larynx to cultivate chest registration in a higher range. Afterwards, [ju] and [nu] are employed on the same pattern to promote a softer dynamic and lighter singing in head voice. While “glei” brought the chest voice higher, [ju] and [nu] restore balance to the mechanism by fostering head registration.

During the sixth exercise, shown in Figure 30, Jeremiah has B hold a straw horizontally beneath their tongue, holding it with their hand so the tongue can relax over the straw. This forces the tongue forward and slightly over the bottom teeth to promote release of the base of the tongue. Jeremiah requests a dark [i] sound, instead of a brighter vowel. The musical design of this exercise resembles exercise 4, but the vowel, volume, and registration is opposite, where B is singing with a full-bodied low sound. Jeremiah has B rotate their head from left to right, as if saying “no,” to keep the muscles of the throat and neck soft. Figure 30 also shows an exercise performed later in the lesson. The purpose of exercise 9 is the same as Exercise 6, except for the changing vowel. During exercise 9, Jeremiah asks B to place their thumb vertically in their mouth to create more space between their top and bottom teeth. The thumb also ascertains if B is singing with unnecessary jaw tension by the presence of teeth imprints on the skin of the thumb.



Figure 30. Five-tone scale for lower range development

Returning to an octave slide, as employed in Exercise 5, Figure 31 shows octave slides on [i], promoting forward tongue placement and resonance. This exercise begins in chest voice, but as they ascend, Jeremiah encourages B to roll into head voice. The purpose is to hear no “break” or flip of passaggio in negotiating the octave displacement and registration shift. Jeremiah addresses larynx position during this exercise, encouraging B

to “let the lower [larynx] position hold strong” when ascending. Issues as related to posture, including a collapsing of the chest and ribs, are also addressed at this point in the lesson.



Figure 31. Exercise 7, Octave glide on [i] from lower range to upper range

Figure 32 illustrates Exercises 8 and 10. On “nyoi” [njoi] and then “ah” [a], the exercise below corresponds to Exercise 3. Performed staccato, the arpeggio facilitates a balanced onset and establishes alignment between the registers. Jeremiah is cautious during this exercise to ensure the habitual neck pain is not aggravated by this exercise.

Exercise 8: nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi nyoi
 Exercise 10: [a] [a] [a] [a] [a] [a] [a] [a] [a] [a] [a] [a] [a] [a] [a] [a]

Figure 32. Staccato arpeggios for balanced onset and registration alignment

A nine-note scale on “ee” [i] represents the largest range in a single exercise, shown in Figure 33. This sequence requires even pressure and the ability to seamlessly travel between chest and head register with ease. After several keys in a quick tempo, B posits the tempo might be too quick to make even adjustments during the scale. Jeremiah

suggests a slower tempo and concurs that a relaxed pace allows for a more gradual coordination of the muscles.



Figure 33. Nine-tone scale on [i] for registration alignment

One final exercise demonstrates an onset in head voice followed by a descending perfect fifth into a chest voice timbre, followed by a scale in chest (or mixed) voice. This challenging exercise necessitates singing the highest note in both head and chest voice. By beginning in head register, it fosters a lighter chest voice sound in the succeeding five-tone scale. Jeremiah remarks that the goal of the exercise is to get enough lightness in the chest voice to ascend the fifth, but not so much that it sounds like head voice. Exercise 12, like many preceding it, encourages a balance in head and chest sound, and a mixture in the middle, so there is control from top to bottom.



Figure 34. Descending perfect fifth glide and scale for register alignment

The pacing and design of the exercises is determined by Jeremiah, though he allows for adequate time for student feedback. Often after having B sing an exercise for a

couple of times, he will enquire: “What is that like for you?” Depending on the response, he will redirect B through the process, adding a kinesthetic or proprioceptive element, or offer a modification to the exercise. For example, slowing down the nine-tone scale was initiated by feedback from B.

Throughout the lessons, Jeremiah offers supportive and positive feedback. He is quick to show excitement when B makes improvement, and is reassuring when an exercise reveals challenges. Jeremiah listens deeply to B when singing, sometimes looking away, as a course of listening with specific intention. Yet, he provides constructive criticism based on aural and visual stimuli. The teacher and student have exceptional rapport, and the lessons are filled with laughter and smiles.

After the exercises are complete, around 10-15 minutes remain for repertoire. B presents a portion of two different pieces. In the first lesson, B works on “What’s Going On” by Marvin Gaye. In the second lesson, they present “All Comes Back to You,” an original song by B. For both pieces, Jeremiah addresses resonance and vowels based on speech-oriented placement, and again, investigates registration to find the appropriate musical style for the chosen repertoire. The pieces are part of B’s ensemble repertoire, and so only a fragment of each is represented.

As B describes themselves as “masculine-of-center,” it appears the range of the vocal exercises and repertoire support this identity. The numerous exercises serve as calisthenics for the voice. The singing work B and Jeremiah do focuses on the facilitation of both registers to provide B with flexibility and freedom to make musical decisions that their vocal technique will support.

Conclusion

The portraits within this study provide a complex and detailed look at the musical lives of trans and non-binary singers and the socioecology of voice lessons. The intent of this chapter was to provide an inside viewpoint of applied lesson teaching with two trans men and two non-binary singers. Due to the small sample size of this study, the data might be transferable, but it is not generalizable.

The purpose of the next chapter is to provide a cross-case analysis of the participants. In drawing comparisons between the students and teachers, several themes emerged. From these common patterns, major findings and implications for teaching are provided. A synthesized summary of these major findings (in table format) can be found at the end of the next chapter.

Chapter V

CROSS-CASE ANALYSIS AND DISCUSSION

Introduction

The intention of this multi-case study is to examine the experiences of trans and non-binary singers and their teachers in the applied voice studio. The previous chapter presented portraits of four case studies. Each case study comprised of a teacher and student pair in the applied voice studio. The portraits provided findings of each participant's experiences and perceptions, as well as the nature of the one-on-one instruction.

Portraiture analysis enables “a deeper level of understanding and empathy that would be exceedingly difficult to achieve if one were writing as a dispassionate, detached observer” (Hackmann, 2002, p. 53). Portraiture analysis calls on the investigator to seek and construct an authentic inside account of the participants' experiences, perceptions, and practices. Despite the objective of capturing an immersive and complex narrative, one critique of portraiture concerns a deficiency of analysis or interpretation of data. Hackmann (2002) recommends a cross-case analysis to mitigate this concern. A further criticism of portraiture analysis is that the lens of the portraitist is imbedded in the analysis, making replication of the study unviable. Hackmann argues:

Even though the investigator's voice and unique imprint on the research report would be different if one were to attempt to replicate the study, the emergent themes identified should remain fairly consistent. (p. 55)

Ethical measures and rigorous research methods have been employed to expose authentic and truthful patterns of the participants' experiences.

The purpose of this chapter is to provide commonalities and distinctions between participants. Cross-case analyses of the singers and teachers were done separately. In the demarcation of roles, Jeremiah and Patrick, who participated as teachers in this study provided insight to the singer experience as trans men themselves. Thusly, when examining student experiences, six perspectives contributed to the data. Likewise, as teachers outside the applied studio context, Forest and B offered insight from the teacher point of view. Table 3 provides an overview of the participants. The colors in the table are used to illustrate the participants' partnerships. They are listed in the order discussed in the previous chapter.

Table 3

Participant Overview

Name	Role	Corresponding Participant	Gender Identity	Hormone Therapy
Forest	Student	Darius	Trans male (assigned female at birth)	On testosterone for approx. 3 years
Darius	Teacher	Forest	Cisgender male	N/A
Pete	Student	Naomi	Trans male (assigned female at birth)	On testosterone for approx. 4 years
Naomi	Teacher	Pete	Cisgender female	N/A
Kelly	Student	Patrick	Non-binary (assigned female at birth)	N/A
Patrick	Teacher	Kelly	Trans male/non-binary (assigned female at birth)	On testosterone for approx. 8 years
B	Student	Jeremiah	Non-binary (assigned female at birth)	N/A
Jeremiah	Teacher	B	Trans male (assigned female at birth)	On testosterone for approx. 10 years

As the purpose of this study is to examine the experiences of trans and non-binary singers in the applied voice studio, three research questions were created:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

Based on these questions, six prominent themes surfaced from the cross-case analyses. In this chapter, the emergent themes will be aligned with the research questions and placed within the context of related literature. The first research question seeks to understand how musical experiences have played a role in influencing the identities of trans and non-binary singers. Two patterns emerged regarding Research Question One: (1) *gender in music spaces* creates affirmation for some participants, while other participants experience marginalization and adversity; and (2) *self-efficacy* is modelled to instigate changes in policies, practices, and performances. The characterization of trans and non-binary singers on their vocal training and development in voice lessons is interrogated in the second research question. This question is addressed through the theme (3) *vocal growth*, which is ongoing for all singers in this study.

In addition to the three themes related to student experience, two additional patterns arose from the teachers. The third research question looks at the vocal training of trans and non-binary singers from the teacher perspective. Two patterns appeared for Research Question Three: (4) *teaching vocal technique* is essential to all teacher participants to promote functional singing habits. While *vocal growth* and *teaching vocal*

technique are parallel findings, these will be discussed separately to ensure both teacher and student perspectives are presented. The climate of the studio and nature of the teaching will be discussed, as applicable to the theme. The teacher participants feel (5) *professional responsibility* is needed in the teaching of trans and non-binary singers. The data indicates teachers are responsible for educating themselves, conducting more research, and interrogating their own relationship with gender.

Research Questions Two and Three yielded a further finding, but from different angles: (6) *emotional support* is given and received in voice lessons. There is important overlap in the emotional support students receive from their teachers, and how teachers characterize providing this support. The presence of emotional support in the applied studio will be discussed at the end of this chapter.

The following is the analyses of these six emergent themes supported by evidence from the interviews and observations. A discussion, situating the theme in the context of the related literature, will follow each respective analysis. The student themes will be addressed first, followed by the teacher themes, and then the shared teacher-student theme. A summary of the twenty findings, illuminated by the themes and associated with each research question, will be presented at the end of this chapter.

Student Themes

Four singers of varying ages and experiences comprise the student participants of this study. Purposeful sampling ensured that all student participants identify as trans or non-binary and taking voice lessons in an independent voice studio (discrete from an academic or certificate-seeking institution) with a teacher having prior knowledge in

working with trans and non-binary singers. The student participants were all “out” as trans or non-binary in their daily lives. Pete and Forest have both transitioned with androgen therapy and live as men within the gender binary. Identifying as having a more flexible or fluid identity, B and Kelly both live openly in the non-binary space. Accordingly, while their gender does not align with either male or female, there is intentionality and constancy in living between or outside the gender binary construct. B asserts that gender is a “process,” and some trans or non-binary individuals “might feel they are in a fixed position or not.” While the students in this study affirm their trans or non-binary identity as authentic to their sense of self, it is important to note that gender is a social construct, and thus, the participants’ identities are a response to cultural norms and expectations, even when living beyond the binary.

In this study, two students are defined as non-binary, while the other two are distinguished as trans. While in this study both trans men have engaged in hormone therapy, and neither of the non-binary participants have, this does not suggest all trans men take testosterone to modify their bodies. The researcher does not intend for the experiences and perspectives of these participants to be generalizable.

Gender in Music Spaces

This study underscores the reification of gender identity in music and music education spaces, impacting the lived experiences of trans and non-binary individuals. Dependent on the educational environment and teaching practices, the gendering of these spaces presents an opportunity for an individual to explore their gender. In other situations, students found the gendering of these spaces to be oppressive. The act of “gendering,” as presented in the data here, is widespread and instinctive. Patrick offered,

“There are all these ways that we are treated by others in a gendered way that are so pervasive and so subtle.” As suggested by the participants, music spaces are gendered constantly without cognizance through language and repertoire. Unless a person is mindfully attempting to abate these cultural constructs, gender roles are often reinforced.

All students in this study report that their current voice teachers are sensitive to gendered language and knowledgeable of gender issues in repertoire. A cross-case analysis does not indicate that eliminating all gendered language reflects an affirming practice, however, removing all gender implications (if possible) might present the most open and inclusive practice. Some participants felt affirmation when given specific repertoire or assigned with a “masculine” label, such as falsetto or tenor. A mindful approach to language and repertoire with an understanding of the potential impact on student identity is recommended.

Positive experiences. In reflecting on earlier life experiences, Forest indicated that music and theater in his teens fortuitously enabled him to explore his masculinity. By being provided the opportunity to sing in the tenor section of his church choir and perform roles traditionally cast by male actors in school plays, Forest was given space to safely enter a masculine identity in public view, even before realizing his authentic maleness in daily life. Forest also found a safe space in group voice instruction, which gave way for him to develop his lower range before and after the onset of androgen therapy.

B shared that the performing arts also provided an opening to inhabit a male character. In preparation for the role of Tony in *West Side Story*, B found a new

perspective of their vocal identity when a voice teacher described their higher range as “falsetto.” This gendered language affirmed B’s identity of being masculine-of-center.

Pete, the professional mezzo-soprano, took delight in performing operatic trouser roles. Although trouser roles are traditionally sung by female-identifying singers, they furnished Pete with an opening to be masculine on stage, as aligned with his offstage identity. As a concert singer, after appearing on stage in female attire for years, Pete received acceptance when he substituted his evening dress for a men’s tuxedo.

Negative experiences. The embedded gender construct in musical or educational settings might be unknown to cisgender individuals, but for the participants in this study, the imprint of gender in these spaces is ubiquitous. Many times, the participants shared how the gendering of these spaces was oppressive or marginalizing. Patrick, Kelly, Pete, and B spoke plainly about the detriment of gender coercion in the performing arts.

Patrick discussed the dysphoria felt when made to perform female roles in musical productions in college. He disclosed the experience was “uncomfortable,” “humiliating,” and “awful.” Kelly also talked about being pushed into soprano roles in high school and receiving no access to try other kinds of repertoire. As an enthusiast of musical theater, Kelly discussed the issue of gender stereotyping in the oeuvre. Often the audition process for musical theater in Kelly’s experience is defined by gender, and at times, Kelly has been forced to dress as their assigned birth gender and use their birth name to uphold audition requirements. Even in describing their own voice, Kelly has difficulty. They shared, “On my resume, I write ‘soprano-tenor’ and then I’ll put my range, but I don’t know. I’m still figuring that out because a lot of the language is super gendered.” Though musical theater repertoire often reinforces gender roles, Kelly wishes

directors would see an auditionee solely for their vocal range, personality, and abilities, and remove gender from the casting consideration. Both Kelly and Patrick would like to see new material be written specifically with trans and non-binary characters for trans and non-binary performers.

Pete also discussed gender issues in staged works through his experience in opera. As a principal artist, he would frequently perform trouser roles and older female roles. The embodiment of a female character on stage was dysphoric, but the cross-dressing was tolerable, as it felt like an adult version of playing dress up. His sense of dysphoria intensified on the concert stage, where he would appear as “himself,” but in female attire to meet audience expectations. He explained, “I always regretted it because it was so...uncomfortable for me.” This discomfort, alongside his maturing voice, led him to start androgen therapy.

Patrick, Kelly, and B talked about negative experiences in prior voice training. In college, Patrick recalled not connecting to his voice teacher. Though he could not recollect the specific constraints of their relationship, he remembers never feeling comfortable to discuss his personal life or the gender dysphoria he was facing during that time. He believes that the way he was treated and being trained was in opposition to his authentic masculine identity. He described the repertoire assigned to him as being overly “feminine.” Ultimately, Patrick dropped out of the conservatory because he felt so out of place.

B experienced a similar situation. During college, they recall leaving many voice lessons emotionally distraught. “I think there were more gender pieces than I understood at the time,” B explained, “I was just thinking this isn’t the right fit.” B spoke about “how

not fitting [in] leads to feeling like, ‘I’m not good.’” Later, they stated, “I have wondered what we [as trans and non-binary individuals] internalize as our worth as performers or our capabilities or our value in musical spaces.” Patrick and B described a lack of self-worth brought on by their voice teachers. Kelly also experienced low self-esteem when they did not connect with their music teacher in high school. “I was always made to feel I wasn’t good enough,” Kelly professed, “especially when it came to the types of music they wanted me to sing because it was always very hyper-feminine.” This led them to self-blame and drop out of musical activities temporarily.

All student participants shared a similar narrative where expectations of their perceived gender were a component of feeling marginalized or dysphoric. Pete, who disclosed that female concert attire made him feel “dysphoric,” or Patrick, who was cast in female roles that felt “humiliating,” were forced to dismiss their own sense of identity to uphold hegemonic customs. Forest, who spoke the most positively about his gender affirmation in the performing arts, explained that the opportunity for him to explore his masculinity was not born from a forward-thinking music educator. He and B commented that the ability to enter male spaces in the performing arts derived from a shortage of male performers. In the need to cast a show or balance a choir, female-bodied individuals were invited to fill the unoccupied space, which, for Forest and B, initiated an innocuous place to explore his authentic male identity.

Discussion. This study indicates that gender conformity manifests in music spaces in multiple ways. Rands (2009) affirms, “Students learn a great deal about gender in the educational system. These experiences can serve to reproduce the gender oppression...or they can challenge it” (p. 424). Asserting a need for teachers to use a

“gender-complex approach” (p. 419), Rands argues educators need to examine “the micro level ways in which gender is constantly being socially-constructed in the classroom as well as macro-level influences on this process” (p. 426). Gender-complex education suggests that sensitivity to gender reification is insufficient. Rands calls on teachers to purposefully dismantle traditions or practices that reinforce gender expectations. Though Rand’s scholarship focuses on class teaching, applied lesson teachers (and all educators in the performing arts) should reconsider the way they uphold gender reification. One prevalent form of gendering in music comes in the labelling of vocal ranges. Another example is illustrated in the assigned repertoire and roles in opera and musical theater.

Voice classification. The use of gender-neutral language has been advocated for in choral rehearsals (Agha, 2017/18; Miller, 2016; Palkki, 2016a; Palkki, 2017). Miller (2016) champions the use of gender-neutral language in choral rehearsals, stating, “I simply refer to my singers by voice (soprano, alto, tenor, bass) rather than by gender (men, woman [*sic*], boys, girls, ladies, gentlemen)” (p. 62). Agha (2017/18) asserts: “Avoid using gendered language in rehearsal and performance” (p. 20). Palkki (2017) also makes a call for avoiding gendered language. He maintains, “Choral music educators can refrain from using blatantly gendered language in rehearsal. Choral teachers should refer to sections, not genders.” Agha, Miller, and Palkki (2017) promote the avoidance of referring to a group of children as “boys and girls,” or calling the sopranos and altos “ladies” and the tenors and basses “men.” The findings of this study suggest using voice type as a form of “gender-neutral language” is not free of gender implications.

Kelly, Patrick, B, and Jeremiah all spoke about the gender implications in the conventional voice types: soprano, alto, tenor, and bass. Kelly discussed the difficulty

they have in labelling their voice and would prefer a moniker that avoids all implications of gender. Patrick, the teacher of Kelly, spoke about the difficulties in assigning voice types to his students since the labels are embedded with gender expectations. He talked about the term “falsetto” and how it is traditionally used for “male” singers only. B also mentioned the inherent masculinity in falsetto singing. This finding is unexpected because falsetto, as a function of the voice enabling high singing, has been regularly viewed as a feminine sound. In the context of trans masculinity, the gender implication of falsetto is re-positioned as upholding the “male” voice.

In Richard Miller’s (1996) *The Structure of Singing*, the author organizes his text to separately discuss “female” and “male” voices. In the categorizing of “male” voices, Miller provides information on the vocal register events from tenor to bass. In the discussion of falsetto, he offers:

In the international language of singing, falsetto describes that imitative female sound that the male singer is capable of making on pitches that lie above the normal male speaking range. (p. 121)

Likewise, in discussing “female” fach, Miller does not extend outside of the realm of soprano to contralto. In contradiction to Miller, Sims (2017a) argues, “A voice cannot be designated as male or female if we hope to change our binary way of thinking” (p. 280). The axis of Sim’s statement is that if a trans women sings baritone, her baritone voice is feminine, even if traditional pedagogy deems it a “male” voice.

McKinney (1994) also examines voice classification and labelling. He states, “The most common division of vocal parts is for high and low voices within each sex (SATB)” (p. 109). McKinney’s assessment might be the most accurate in his distinction of sex categorization since hormones typically cause the vocal mechanism to develop

differently, causing different vocal ranges. Nevertheless, the differentiation of sex and gender is not widespread, and terms such as “soprano” or “bass” become loaded with notions of gender.

In his dissertation, Palkki (2016b) shared a story of Sara (pseudonym) who proudly “owned” her identity as a bass. One teacher participant in the current study has also taught trans women students who have “proudly identified as baritones.” The desire to “proudly” identify or “own” an identity might stem from an expectation that women do not normally, or are not intended to, sing as a baritone or bass, further suggesting the language for labeling vocal ranges carries a level of implied gender.

Palkki (2017) offers an additional perspective that, “It is not only trans singers who face ‘gender trouble’ in the choral context—countertenors or cisgender females who sing tenor can be considered ‘voice variant’” (p. 25). Modern male altos or sopranos have adopted the term *countertenor* to avoid the female association. When a cis or trans woman sings tenor, she is commonly referred to as a “lady” or “female tenor,” as there is no widely-adopted non-gendered term for a woman whose voice resonates in the tenor or bass range. The need to clarify she is female demonstrates “tenor” is implied masculine.

The assertion that calling singers by voice type as wholly gender-neutral does not align with the findings of this study. Singing teachers might want to consider allowing their students to choose a label for their voice that aligns with their identity, no matter their performable or physiological range. “There’s this ritual of listing people’s voice types [in recital programs]”, Patrick explained, “but they’re gendered words, so if we’re identifying voice type, we can’t forget that there’s a gender implication.” Patrick suggests giving students latitude to decide their voice type assignment for printed programs.

Students might also want to circumvent custom altogether and label themselves as a “vocalist.” In the trans and non-binary choir of which Kelly is a member, they have decided to label their choral sections as Voice I, Voice II, Voice III, and Voice IV, thus avoiding the traditional language. A similar approach might be employed in the voice studio.

Repertoire. The literature on trans and non-binary singing makes little mention of gender-neutral solo vocal repertoire. Sims (2017a) offers, “Choosing repertoire can be a challenge so an open dialogue about gender-neutral song choices would be a good idea” (p. 280). Lessley (2017) offers a list of 30 pieces for trans singers, ranging from classical art songs to musical theater belt. Manternach (2017) explored the perceptions of three trans singers, who talked about their vocal identity and training. One singer, who identifies herself as a “contralto bassa, or female bass,” stated, “The real struggle for me was *what* to sing, not *how* to sing” (italics in original print) (p. 210). She posits:

When I play “male” roles that have been re-characterized to be women, it just doesn’t feel like it honors me...it still involves love scenes or misogynistic elements...that I am not comfortable with. I am not lesbian, so playing a love scene with another woman is sometimes uncomfortable...playing a scene where the character is being very sexually aggressive with a woman is also uncomfortable for me. (p. 210)

She asserts that until she is permitted and encouraged to perform roles that align with her identity, she will continue singing arts songs, in which she feels gender is blurred.

In this study, the selection of repertoire was decided upon, mostly, by the students, and sometimes with teacher approval. Forest, Kelly, and R all chose their own repertoire. Pete and Naomi spent time together choosing repertoire. While Naomi chose the pieces, she did so with a superb awareness of his musical interests. Also, in the case of Pete, his vocal range was developing as data collection was ongoing, and pieces

chosen for him were suggestions of study, more so than teacher mandated. This study found three factors that contributed to how repertoire was selected: (1) student interest, (2) student vocal or musical ability, and (3) desired vocal or musical growth. Figure 35 provides an image of the interconnectedness of the factors involved in song selection.

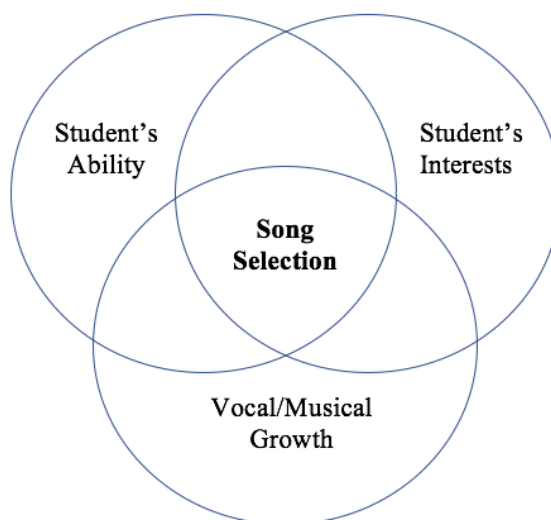


Figure 35. Factors of student song selection.

Enabling students to choose their own repertoire allays the worry of the teacher in assigning pieces that cause discomfort or dysphoria for the student. For students who need more structure or help in selecting repertoire, teachers might offer a list of songs from which the student could choose. An alternative option might be to have the student write a description about the kind of song(s) they would like to sing, which provides the teacher awareness of the student's interests before assigning a piece.

This discussion on gender in musical spaces brings attention to the demarcation of vocal ranges and issues related to repertoire and roles. As Patrick noted in his interview, the gendering (and misgendering) of individuals is “subtle” and “pervasive.” Teachers

need to practice self-reflection and critical evaluation to examine how gender reification impacts their students. The need for high professional responsibility in teaching will be discussed later in this chapter.

Self-Efficacy

All student participants are “out” in their daily lives as trans or non-binary. Most participants in this study are activists and outspoken about their trans or non-binary identity. Their lived experiences have incited them to provoke changes in music and the performing arts. Kelly, B, Patrick, Jeremiah and Forest are all intentionally working to modify policies and practices to combat the marginalization of trans and non-binary individuals. These efforts and attitudes regarding this work is framed as self-efficacy, which is defined as an individual’s belief or conviction to execute tasks aimed to change events in their life centered in specific constructs (Bandura, 1982). While some participant actions might be described as self-confidence, advocacy, agency, or activism, self-efficacy as a perceived competence, seems the most appropriate framework for this analysis. Through the creation of their art or in the outspokenness of their gender identity, the participants facilitate positive changes in their local communities or further afield.

Based on their experiences in musical theater auditions, Kelly partnered with the organizing company of a citywide audition to modify the gender options on the audition profile form. When Kelly first auditioned, the form listed two options: male or female. Now with Kelly’s recommendation, the form enables an auditionee to write in their gender. Commenting further on gender issues in musical theater, Kelly believes, “The biggest thing is how they [theater companies] phrase their audition calls because that is the first thing that will turn people away from a role, so that trans and non-binary people

aren't even going to walk in the room." While Kelly has yet been unable to make any changes in how theater companies advertise auditions, the audition form is an ingress to changing other policies. Kelly is also trying to be an agent of change at their online school. They explained, "The school I go to online won't let me use my preferred name on my ID...I'm fighting with the administration right now." Despite requests to instructors and classmates, Kelly frequently gets called by their legal birth name.

Both Kelly and B are activists as music makers. Kelly sings in a trans and non-binary choir, which actively repudiates traditions in choral music, as discussed above regarding voice part names. Kelly loves that the members are given the opportunity to provide input on song selection. The chorus will change lyrics to make pieces gender neutral, and cut a song if it "doesn't really align with what we stand for," Kelly shared. B is also highly involved in art as a form of activism. As a founding member of a band made up of non-binary, masculine-of-center musicians, their mission is to perform original and cover songs that address gender queerness and the experiences of trans people of color. B explained that one purpose of this ensemble is to communicate through song the experiences of queer, trans, and people of color to audiences who do not have a window into those narratives. The group performs locally, but has a growing presence with more and more national touring.

Jeremiah and Patrick practice self-efficacy in their teaching. Patrick is open as a teacher about his trans identity and provides a safe space for trans and non-binary singers to work on their vocal growth. His studio is made up of about one-third students who identify as trans or non-binary, and he has a public presence in creating an inclusive studio environment. Similarly, Jeremiah actively works to create musical spaces for

gender variant individuals. He organizes group music classes for trans and non-binary musicians. Jeremiah performs throughout the United States as a singer-songwriter, and he is a blogger who has written about inclusive practices for teaching trans and non-binary singers in the applied studio.

In addition to the self-efficacy modeled by Patrick and Jeremiah, as a camp counselor-teacher for the Girl Scouts, Forest talked about including queer characters in the plays he puts on with the summer camp attendees. He said, “The kids have just gotten so excited to be presented in the literature that we do.” The inclusion of queer characters is important to Forest because he never saw himself represented in the shows he performed in as a youngster.

Kelly and B model self-efficacy through their participation in musical groups created specifically for queer storytelling. Jeremiah, Patrick, and Forest use their teaching practices to manifest open and inclusive spaces for queer performers. The agency of these participants ensures that trans and non-binary perspectives are included in music and performing arts spaces.

Discussion. Bandura (1982) claims, “Perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations” (p. 122). Individuals with high self-efficacy put forth greater energy to master challenges or change obstacles of aversion. For the students in this study, these obstacles included gender oppression, marginalization, and transphobia. Bandura further argues:

When beset with difficulties people who entertain serious doubts about their capabilities slacken their efforts or give up altogether, whereas those who have a strong sense of efficacy exert greater effort to master the challenges. (p. 123)

The students in this study showed clear volition to incite changes in their communities and in the cultural perceptions of trans and non-binary individuals. The June 2014 cover article for *Time* magazine called “The Transgender Tipping Point,” posits:

Transgender people... are emerging from the margins to fight for an equal place in society. This new transparency is improving the lives of a long misunderstood minority and beginning to yield new policies, as trans activists and their supporters push for changes in schools, hospitals, workplaces, prisons and the military. (Steinmetz, 2014, p. 38)

This study supports Steinmetz’s assessment, adding trans and non-binary artists model high self-efficacy by instigating changes in policy and practices in music spaces.

This titular “tipping point” might be fueled by an awareness of communal self-efficacy. Bandura (1982) supports, “People who have a sense of collective efficacy will mobilize their efforts and resources to cope with external obstacles to the changes they seek” (p. 144). B and Kelly, who participate in trans and non-binary vocal ensembles, are participants in a larger movement of music as activism. In the last decade, several choruses for trans and non-binary singers have been established in Atlanta, Boston, Chicago, Los Angeles, Kansas City, and New Hampshire (Janovy, 2016, para. 10), to name a few. This movement follows a history of LGB/queer choruses making music as a fight against social injustices (Balén, 2017).

In a prominent study on the lives of trans people, collecting data from almost 3,500 participants, Beemyn and Rankin (2011) indicate that activism is demonstrated through organizations and events that bring trans and non-binary people together, such as LGBTQ+ centers, social groups, marches, classes, and other gatherings. Beemyn and Rankin (2011) impart that trans and non-binary folk “benefited psychologically from interacting with individuals who shared or could relate to their experiences and who

could serve as role models” (p. 64). Their study suggests this activism not only begets changes in policies and practices, it also creates positive experiences for trans and non-binary folks, leading to heightened collective efficacy.

The importance of role models was mentioned by two participants in this study. B struggled in college having no teacher or role model to emulate. For their cisgender counterparts, B remarked, “There were models for them to fall into...there were teachers who looked and sounded like them for them to follow.” While teacher support will be discussed later in the chapter, Kelly talked about the benefit of studying with Patrick. Even though Patrick and Kelly do not identify in the same way, they share similar experiences. This support Kelly enhances Kelly’s self-efficacy in being outspoken about audition policies and other instances of marginalization.

It is important to note that in this study, self-efficacy was not only modeled in changing policies or organizing classes or concerts specifically for trans and non-binary musicians. Self-efficacy was also exemplified by Pete every time he appeared on the concert stage in male attire as a mezzo-soprano. In each performance, he further loosened the constraints of concert convention and gender conformity. Pete continues to model self-efficacy in being outspoken about this vocal transition. Another trans opera singer asserts: “My goal as an artist and activist and transgender woman is to encourage a much bigger trans presence in classical music, and especially in opera” (Manternach, 2017, p. 210). This singer, alongside the participants in this study, suggest that at least for now, trans artistry is activism, which advances the collective efficacy for the trans and non-binary population.

Vocal Growth

It is not surprising that singers characterize their vocal lessons through the changes and development of their voices. In this sections, similarities and distinctions will be explored of the two trans male singers, followed by a cross-comparison of the two non-binary participants. Later in the chapter, the vocal exercises and technical concepts employed by the teachers will be discussed.

Two trans male voices. Pete and Forest both identify as men. Though being trans is part of their identity, they live within the male binary. Pete, a 54-year-old man, started taking testosterone after he turned 50 years old. He describes the factors in starting androgen therapy as two-fold: (1) he was starting to notice the quality of his mezzo-soprano voice decline, and (2) he felt that his transition was a “now-or-never” phenomenon. Pete was aware there was no way of knowing how his voice would change due to testosterone, but the outcome was far worse than he anticipated. As a full-time professional opera singer, he was initially left with only one functional octave, from D3 to D4. Now after four years on testosterone, his range is beginning to develop, and over the course of the data collection for this study, his one octave range increased from B2 to F4, as shown in Figure 36.

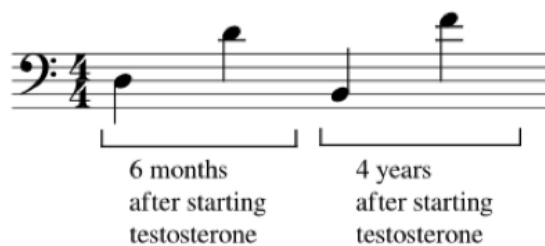


Figure 36. Pete’s vocal range.

Pete's teacher reported that in more recent lessons, a "falsetto" has started to develop, which indicates further potential development. The cause of this increased range is unknown. Pete suspects his age was a negative contributing factor to a slow and discouraging transition. His teacher, Naomi, speculates his transition took a long time since initial testosterone administration occurred at a low dosage through skin gel application. It is possible a higher dosage of testosterone might have been easier for him vocally, as it would have produced a more rapid transition. Both Pete and Naomi theorize that ongoing changes to his voice might be due to hormone therapy. As a naturally gifted mezzo-soprano, his baritone range felt husky and cumbersome, and attempting to apply mezzo-soprano concepts onto a baritone voice made the transition more challenging.

The vocal transition for Forest was, by and large, much easier than it was for Pete. Forest started taking testosterone three years ago when he was 19-years-old. Though he received little support from the medical facility that provided the testosterone, he administered his own injections. Having had developed his lower range in high school, Forest had been singing in the tenor range when he first started taking a group voice class. He explains that he came to group voice instruction because he really enjoys singing, but also to develop a lower and healthier sound. He suggests singing that low in his range was "a little rough" on his voice. After first starting testosterone, his voice seemed to undergo a "second puberty." It was squeaky and inconsistent. After about six months, his voice settled into a baritone range. Figure 37 shows his current range of G2 to E4.



Figure 37. Forest’s vocal range, G2 to E4.

He has no falsetto, which is mildly frustrating to him, but his range is large enough to perform a wide selection of art songs and musical theater pieces.

A significant aspect of the vocal training for Pete and Forest was in re-learning how to sing. Pete indicated the vocal transition was metaphorically like playing the cello in the fashion of a violin. Forest explains, “I had to re-learn how to sing because all of a sudden what I used to do to sing high wouldn’t work and I what I used to do to sing low—just everything was flipped around.” For Forest, it seemed the vocal transition lasted for about six months until his voice settled. Pete experienced changes within those first six months, but after four years his voice is continuing to evolve.

Vocal functionality and efficiency is a common goal for Pete and Forest. Pete shares he is looking for “ease and consistency” in his singing. The purpose of Forest’s lessons is learning to maintain his “vocal health.” Regarding other vocal goals, it seems Forest has achieved much of what he is seeking as a singer. He is not planning on taking voice lessons indefinitely, and so singing is an avocational endeavor. On the other hand, Pete is more deliberate in developing a wider range. As a professional musician, he misses high quality singing. Whether he will sing professionally again, Pete is unsure, but in working with Naomi, his vocal goals include developing more support, maintaining consistent resonance, and cultivating a unified timbre from the bottom to the top of his range.

Two non-binary voices. Both B and Kelly consider their identities as gender fluid or non-conforming to the gender binary. Though B is label averse, they describe themselves as being “masculine-of-center.” B contemplates the possibility of starting androgen therapy in the future, even though the probability is unlikely due to the unknowns of taking testosterone. Currently, B’s range is from approximately C3 to F5, with a tessitura around G3 to G4. Kelly’s range is approximately E3 to E6, and the range of their current repertoire is E3 to A5. Studying an assortment of pieces in the soprano, alto, and tenor range, Kelly is actively auditioning for male roles in musical theater productions. Figures 38 and 39 show the vocal ranges and registration of B and Kelly, presented as music notation.



Figure 38. B’s vocal range and registration.



Figure 39. Kelly’s vocal range and registration.

B started voice lessons with Jeremiah because they were wanting to hone better vocal technique. In their first lesson, B recalled thinking, “Oh my god, I didn’t think I

could sing that note, or I didn't think I could sing in this way or this loud." Kelly's entrée into studying with Patrick was to get back into singing after several negative experiences with other teachers. When asked about a positive singing experience, they mention their first lesson with Patrick. "He started doing just basic warm ups with me," Kelly explained "and at one point...I'm singing notes that I didn't even know I could sing." Both B and Kelly discussed feeling affirmed in the first lesson with their current teachers.

B deals with a chronic pain in the side of their throat. In college, they were singing frequently in their tenor range when the pain initially flared up. The pain returned when they were singing the lowest part in a treble-voice a cappella group during grad school. In the last two years, the pain has worsened, sometimes not dissipating for days. This concern figures prominently in their lessons to ensure the vocal exercises are forming vocal habits that abate the vocal misuse.

Kelly is also aware of the possibility of creating ineffective habits by trying to access lower notes in a manner that is not "healthy." Indeed, a prominent goal in taking voice lessons was to learn to more easily access their lower range in both singing and speaking. Exploring their voice through singing lower has brought changes to their speaking voice. Kelly commented that being permitted to explore their lower range has made them more comfortable in their higher range, allowing their full instrument to more open and accessible. Changes of the speaking voice are also addressed by B, who explained, "It's not that the range is changing, but just sitting in a more comfortable place." B shared there has been a lot of releasing and learning not to push, which has enabled their voice to "broaden," even if it is not deepening.

Discussion. It is important to note that not all trans individuals transition or seek vocal modification. In the specifics of this study, both student participants who identify as trans men employ testosterone replacement therapy. Similarly, as non-binary singers, B and Kelly represent only two perspectives. Other non-binary folks might have wholly different experiences and vocal desires. A teacher should be open to the needs and wishes of the unique student in their studio.

The changes in vocal range by Forest and Pete after the administration of testosterone support the related literature in speech-language pathology (Bralley, Bull, Harris Gore, & Edgerton, 1978; Gorton, Buth, & Spade, 2005; Van Borsel, De Cuypere, Rubens, & Destaecke, 2000). Both Forest and Pete described their voices as feminine before transition. Even Forest, who talked about his “rich, masculine tone,” clarified that his speaking voice was his last “bastion of femininity.” After the onset of androgen therapy, the singing and speaking ranges of both men are perceived as masculine, and they report far less misgendering in their lives.

Regarding research on the singing voice, Van Borsel, De Cuypere, Rubens, and Destaecke (2000) advise:

Patients who do practise singing and certainly professional singers should be warned that pitch range will irreversibly alter consequent upon administration of cross-gender hormones. (p. 439)

Constansis (2008) provides data based in personal experience on trans masculine singing and the effects of androgen therapy. Constansis (2008) argues testosterone causes “entrapped FTM [female-to-male] vocality” (para. 4) due to a thickening of the vocal folds without an increase in larynx size. He characterizes the entrapped voice as having “permanent hoarseness, lack of control and color, and limited power...singing was

altogether out of the equation” (para. 5). One recommendation in Constansis’s essay is to take a lower dosage of testosterone, which might result in an improved singing voice, than if taking a higher dosage from the onset. The author asserts:

The combination of the right gradual testosterone intake together with soft exercising of the voice can help the voice not only to retain its singing quality, but also acquire a new and aesthetically pleasing quality.
(para. 32)

It is unclear from the current study’s data, if the results of Constansis’s research can be supported.

Forest reports taking a high dosage of testosterone as a needle injection. A similar case was discussed in the first pilot study for this research. Michael, who participated in the first pilot study, also took a large dose of testosterone to hasten the biological changes to his body. Though both participants had distinctly different pre-transition voices, neither Forest nor Michael would characterize their voices as “entrapped.” Both were in their late teens when they started their vocal transition. One notable difference in their post-transition voices is range: Forest’s vocal range is congruent with a traditional baritone (Miller, 1996, p. 117), while Michael’s tenor range extends up to C5, with an upper extension above.

The vocal modifications experienced by Pete more closely align to the results of Constansis with some observable differences. Constansis indicates the voice will settle after twelve months. After four years on testosterone, Pete continues to experience vocal changes. Until recently, Pete’s singing resembled the “entrapped vocality,” as Constansis describes, despite taking a low dosage of testosterone to initiate an easier vocal transition. Indeed, his teacher believes the low dosage might have been worse for Pete, as the vocal change was such a slow process. The effects of testosterone will incite changes

differently in every *body*. As a middle-aged man, Pete might also have been facing issues connected to hormonal changes in natal female bodies. Doscher (1994) discusses potential raspiness and swelling of the vocal folds induced by hormones, indicating, “Possible changes in phonation include hoarseness, breathiness, and reduction in range, particularly in the top voice” (p. 227). A trans man beginning testosterone later in life might be aware of other natural biological bodily changes. It is recommended all singers seek guidance from a trusted medical professional and experienced singing teacher before starting androgen therapy to understand the potential effects of testosterone on the vocal mechanism.

There is a paucity in the related literature on the vocal identity of non-binary singers. Studies in speech-language pathology (Andrews & Schmidt, 1997; Hancock, Colten, & Douglas, 2014; Mendoza, Valencia, Muñoz, & Trujillo, 1996; Pernet & Belin, 2012) have sought to uncover the perceived and acoustical differences between natal male and female voices. Andrews and Schmidt (1997) argue that pitch change alone is insufficient in voice modification. Resonance, breathiness, and intonation play a role in the perceived “female” voice. Despite a growing body of research in vocal masculinization and feminization, little research has investigated the perceptions and needs of non-binary voices.

Davies and Goldberg (2006) indicate the target fundamental frequency for gender-neutral speaking voices is around 155-165 Hz (around E3), but there is no evidence that non-binary singers seek a gender-neutral voice, nor that a gender-neutral speaking voice would correlate with a gender-neutral singing voice. Lessley (2017) explains that each non-binary individual is different, suggesting:

With non-binary students who are not taking hormones, the best way to support them is to listen to how they identify and what their wishes are, and help them achieve the desired outcome as it relates to singing. This will be different for every student. Some singers may wish to sound more androgynous, in which case the teacher should help them strengthen their middle or upper range, depending on the student, and find neutral or androgynous repertoire to study. (p. 11)

If a non-binary singer is desiring a “neutral” or “androgynous” voice, it is up to each voice teacher to navigate their student’s wishes, while protecting the functionality of each instrument. In this study, one teacher participant asserted that it is important to provide each student with a realistic perspective on what is vocally possible and what is not.

Neither non-binary participant in this study outwardly spoke about a desire for an androgynous voice, but both were working on strengthening their lower range. An awareness to develop vocal technique enabling healthy singing in the lower range was mentioned by both students and teachers. One serious concern is the pain B felt in their throat after “pushing” their voice lower in school, and the ongoing, yet inconsistent pain they experience. Whether the singing voice is the sole cause of this malady is inconclusive. It does suggest teachers should have heightened awareness around developing the lower range in persons assigned female at birth to avoid vocal misuse. Two teacher participants spoke about the importance of balancing the vocal registers and working towards alignment of the head and chest voices to maintain vocal health.

In his dissertation on trans masculine voices, Zimman (2012) assesses:

Speech therapy is framed as the ideal solution to the ‘problem’ trans people face when choosing to stop using their ‘natural’ voices and move toward some new, consciously learned (i.e., not natural) type of voice. (p. 18)

The issue of “pathologizing” non-binary and trans voices emerged in this study. While the literature indicates a speech-language/voice therapist is essential to the voice

transition process, none of the participants in this study sought vocal coaching outside their singing lessons.

As noted earlier, both non-binary participants observed changes to their speaking voice through their singing lessons. B described their speaking voice as “broadening,” while Kelly talked about feeling more confident with their “natural” voice. In a study on the effects of singing exercises and melodic intonation therapy, Hershberger (2005) found that singing was an effective tool in acquiring voice modification. The data of this study suggests singing has enabled the participants to move away from a culturally-influenced voice (such as pitching it higher to match a feminine persona) toward something that feels more natural and authentic.

In this study, vocal growth was seen in various ways. Interview data from the trans men provide narrative information on their vocal changes through hormone therapy, and the development and objectives in their voice lessons. One participant’s voice range was actively increasing over the course of this study. The non-binary participants provide a model of non-changed voices, but singers seeking a lower range. Both participants felt that due to singing lessons, their singing and speaking voices had improved.

Teacher Themes

The four teachers who participated in this study were specifically selected for their experience in training trans and non-binary singers. The teacher sample included two trans men, Jeremiah and Patrick, who had personal experience in voice modification from androgen therapy. Of the other two teachers, Darius is a cisgender gay man, and

Naomi is a cisgender straight woman. All teachers had at least three years of experience in working with trans and non-binary singers prior to the start of the study.

Teaching Vocal Technique

In considering the vocal pedagogy observed in this study, this section will examine teaching vocal technique through two different lens. First, an analysis of vocal needs and issues will be examined. This will answer *what* teachers are doing to address vocal technique. Second, the nature of instruction, including elements of modeling, scaffolding, and other practices, will be investigated to uncover *how* teachers implement vocal technique. This cross-case comparison will be followed by a discussion of the related literature.

A discussion of the vocal technique opens multiple lines of inquiry, including exercises, range, and registration. While differences were found in the exercises and technical conceptions of singing amongst the teacher participants, they all share a common goal of helping singers find functional habitual voice use. All teachers, as singers themselves, were initially trained in classical or *bel canto* singing. Three teachers, Darius, Naomi, and Patrick continue to subscribe to the classical style of vocal technique. Jeremiah is a certified singing teacher in contemporary commercial music, and thus his teaching of B appeared deliberately different from the three other teachers. While there is overlap in the pedagogy, the two styles of singing emphasize different aesthetics and varying methods to achieve a sought technique and sound. Patrick's teaching of Kelly resembled elements of non-classical methods, and since he and Jeremiah teach the two singers who identify as non-binary, their approaches will be addressed jointly. Similarly, as Naomi and Darius teach the two singers who employ androgen therapy, Pete and

Forest respectively, their approaches will be compared. This will also provide a structure for discussing the voices unchanged by hormones, and those voices modulated by testosterone.

An emphasis on voice functionality is present in the teacher data. All teachers discuss the importance of developing healthy singing habits to promote vocal longevity. In addition to vocal health, teachers show care and concern for a student's mental or emotional health, recognizing the importance of rapport and building student self-confidence alongside healthy voice use.

Patrick and Jeremiah. The importance of “balancing” the vocal mechanism is of high importance in teaching vocal technique for these two teachers. In lesson observation and interviews, Patrick and Jeremiah were both overt in discussing vocal registration and how it pertains to their non-binary students. While B, Jeremiah's student, considers themselves masculine-of-center, and Kelly, Patrick's student, defines themselves as gender fluid, both were working on expanding and strengthening a lower range.

The students share a similarity in registration. Both are comfortable taking their chest voices (or a chesty-mix sound) up to A4. B can sing about a third lower than Kelly. B's upper range extends to F5 (maybe G5, on a good day), and can sing in head voice to B3 or a little lower. Their middle/mixed register is approximately G3 to G4. Kelly's upper range extends much higher, to F6 as a whistle tone, and down to C4 or lower. Kelly mixes between A3-F4. Both experience a breathy, unfocused sound in the lower part of their head voices. Both Patrick and Jeremiah are explicit with the intent of their vocal exercises, as they relate to voice registration.

In discussing singing technique in contemporary commercial music, Jeremiah explains that initial bifurcation of the head and chest registers is deliberate. He shares that usually a singer will have one part of their range stronger than the other, and the goal is to bring equal strength to both parts of the voice. He asserts, “You isolate and separate the registers to get them to be as comfortable and easy and free as possible...then we start to work on mixing in the middle.” He emphasizes three basic elements of sound: pitch, vowel, and volume. For developing head register, Jeremiah would craft an exercise on [i] or [u] on D#4 or above, on soft singing only. To develop a mixed sound in middle range, Jeremiah has a singer use [æ] or [ɛ] on a slide of a Perfect 5th or octave at a medium dynamic. Chest voice singing is fostered through open vowels, like [æ] and [a] at a louder volume. Jeremiah cautions, “People have a tendency to push on the bottom and then they get into big issues.” The purpose of the direction in dynamics is to foster a specific function or coordination of the vocal mechanism, while being mindful and intentional with volume. Using semi-occluded exercises, singing on [ŋ], slides, scales, and arpeggios keeps the voice supple. Jeremiah also employs an exercise that draws the tongue forward. The singer holds a straw horizontally underneath tongue, while singing on [æ], to release the base of the tongue. The prime objective in studying with Jeremiah is to sing with “ease and comfort” throughout one’s entire vocal range. Keeping the full range in use develops a balance between cricothyroid dominant and thyroarytenoid dominant muscular action. Jeremiah shares, “I work a lot on having the register transition be as smooth as possible and the voice be as balanced as possible.” By developing one’s full range, the voice is in functional order and the singer is enabled to make choices regarding voice color for different styles of music.

Emphasizing an “holistic” method to teaching, Patrick seeks vocal health and longevity with his students. A lesson is structured into four parts: physical relaxation, breath warm up, vocalizing on exercises, and repertoire. In working with Kelly, Patrick explores the upper range, followed by exercises for the low range. Patrick explains: “I found earlier in my process of us working together, [the voice] was getting out of balance. There was a lot of belt singing...and head voice was getting tighter.” To restore balance, like Jeremiah, Patrick requests Kelly warm up their entire range, even if the upper notes are never used publicly.

Although Kelly is working on repertoire designed for cisgender male tenors, they will adjust the key signature as necessary to fit Kelly’s range. Patrick also contends that having Kelly sing repertoire over a wide range is “not really that different than this [cisgender] gentleman I work with [who] sang ‘Bring Him Home,’ which is very high in falsetto, and ‘We Can Do It’ from *The Producers*, which is a baritone range.” While the “tenor” repertoire Kelly sings sits in the lower part of their range, it is not much lower than “female” belt repertoire in musical theatre. The titular song from the musical *Cabaret* by John Kander and Fred Ebb has a range of E3 to B-flat 4, similar to the range Kelly is singing “My Petersburg” from *Anastasia*. The potential concern of Kelly singing too low too frequently is alleviated by exercises and etudes, which restore muscular balance in the voice.

A balance between head and chest registers, and the development of a mix register, maintains voice functionality in these two singers. It is useful to note that though both singers were working on their lower voices, it was being done judiciously under the supervision of their teachers. This is especially important for B, who suffers inconsistent

throat pain. Though not exacerbated in the lessons, B's throat soreness might stem from singing too much in the lower range in rehearsals or other musical activities outside the studio.

Vocal modeling is frequent to provide a demonstration of exercises and technical execution. Both Patrick and Jeremiah support the student by playing the piano along with them on the exercises and repertoire. Frequent positive feedback is given during and between vocal exercises. Whenever constructive criticism is given, it is always delivered with a supportive tone. The teacher drives the structure and pace of the lesson, yet a relaxed atmosphere is maintained so that the student can adjust or re-position the learning. Student questions are invited and always thoroughly addressed. Strong rapport thrives in an upbeat, energetic, and positive climate.

Naomi and Darius. Like their colleagues Jeremiah and Patrick, Naomi and Darius bring heightened attention to healthy singing in their teaching. Since both teachers are working with trans men who have been on testosterone for at least three years, both students' voices have dropped in range. Forest, Darius's student, sang in high tenor range, as a chorister and soloist, before his transition. Now after three years on hormone therapy, his range extends from B2 to E4. After four years on testosterone, Pete's range was evolving during this study. His range extends from B2 to F4, though the highest and lowest notes are not yet comfortable. It was also reported by his teacher in follow up correspondence that a falsetto was beginning to emerge. Forest had no falsetto, yet neither teacher nor singer found it essential to maintain vocal health.

Naomi's vocal pedagogy with Pete brings attention to breath support and vowel. Using exercises designed of small intervals, Naomi works on range extension by adding a

pitch or two to an exercise without changing keys. The primary work is to find ease and resonance where the voice is most comfortable (E3 to B3, approximately) and extend up or down. Darius's uses semi-occluded slides of a Perfect 5th or octave, bringing awareness to breath and resonance. When Naomi and Darius seek vocal balance, instead of talking about registration, they discuss a coordinated onset of muscle and breath, and having an even amount of pressure throughout the full range.

Designing and scaffolding vocal or musical activities is evident in the similar approaches of Naomi and Darius. In working on repertoire, Darius uses several techniques to incite better vocal use. When Forest encounters a challenging rhythm, Darius will isolate the rhythm and have Forest speak it or sing it at slower tempo. When a melodic passage is inaccurate, the teacher will slow the tempo or remove the words to enable the student to focus on fewer musical elements. Often Darius has Forest sing parts of his repertoire on a semi-occluded sound (usually [v] or [ð]) to feel consistent breath release before returning to lyrics. Other times, Forest is invited to sing a phrase on [va] or [na] to encourage legato singing. Neither Naomi nor Darius demonstrate how to sing the repertoire, but both use modeling to demonstrate technique during the vocal exercises.

In working on repertoire, Darius and Naomi used different approaches based on student needs. Forest came to his lessons with his repertoire mostly learned, and time was spent on working technical needs and musical interpretation. Naomi and Pete spent time in his lesson finding repertoire appropriate for his burgeoning range. She had Pete look only at the lyrics to circumvent him reading the music and responding to high and low pitches as they present on the staff. There are several strategies she employed to beget optimal singing. Naomi had Pete sing the lyrics on a vocal exercise to gain familiarity

with the text. Separately she taught the melody by rote, having Pete mimic what she played. Never did she sing it for him, but rather she played the melody on the piano and had him estimate the text underlay, gently correcting him when necessary. Eventually, when Pete was conversant with the melody and text, they put the separate parts together with her accompanying at the piano. Darius also accompanied Forest during his lessons, so both teachers had excellent facility at the keyboard.

All four teachers in this study underscored the value of having their trans students continue to sing during their vocal transitions. Darius, perhaps quoting Dory from *Finding Nemo*, enthusiastically exclaimed that all trans and non-binary students need to “Just keep singing!” Naomi echoed similar sentiment that nurturing Pete’s voice through the initial stages of his transition and onward has been an important aspect of his training, because she has been able to monitor changes and re-design exercises to fit his current vocal state.

Discussion. Much of the related literature deals with the specific technical needs of trans men and women. Constansis (2008), Kozan (2012), Sims (2017a, 2017b), and Lessley (2017) provide information regarding range and registration, as well as offering vocal exercises to assist in achieving multiple technical desires, such as range development, freedom of tone, and breath support. Constansis (2008) encourages attention to diaphragmatic breathing because “bad habits, especially during the most challenging times in vocal transition, can easily go unnoticed” (para. 34). The teachers in the current study all mentioned the importance of breath support, and employed physical or vocal exercises designed to encourage low breathing and consistent exhalation during phonation. Teachers requested students to sing on voiced consonants, rolled [r], and lip

buzz, to encourage an even release of breath. These exercises are consistent with the related literature (Constansis, 2008; Kozan, 2012; Lessley, 2017). While the observed vocal exercises, alongside a description, is provided within each portrait of the previous chapter, a compilation of all the vocal exercises is shown in Appendix I, with the corresponding figure number used in Chapter IV.

The current study supported the literature in how teachers understand and address range development and vocal registration. Kozan (2012) indicates, “a trained singer will work on technique that allows a smooth transition across the *passaggio*, balancing the work of the cricothyroid muscles that tilt the larynx and aid in pitch production with...the thyroarytenoid muscles within the vocal folds themselves (p. 420). Kozan’s statement echoes the discussion of one participant who was working with his student to maintain balance across their range. It is prudent to note that not all students will be comfortable exploring their entire range. Kozan offers one student’s perspective: “My voice teacher kept insisting that I vocalize the entire extent of my range, and it really upset me” (p. 420). While the current study suggests singers felt no dysphoria in exercising their full range, not all trans and non-binary students will feel this comfort. Teachers should discuss registration and range in a manner sensitive to their students.

Sims (2017a) drew a connection between registration and specific vocal exercises. For example, in speaking of her lower voiced students, she offers, “If they use...rounded vowels while keeping an open throat, they usually discovered an easier path into that tenor or baritone turned-over production.” Consistent with Sims, Naomi employed [o], [u], and [y] to help Pete access the upper part of his range. Darius and Jeremiah used a series of different vowels or semi-occluded exercises. Jeremiah used specific vowels to

foster range and registration development. Patrick's exercises focused mostly on open vowels [a] and [ʌ] to promote openness in vocal production.

A commonality amongst the current study's participants and the related literature was the use of glissandi, sometimes referred to as vocal slides, glides, and sirens. All teachers employed a sliding across intervals. Naomi preferred exercises designed on smaller intervals, which supports one of the teachers in the Manternach, Chipman, Rainero, and Stave (2017) article, who suggested vocal exercises should entail "three-note and five-note scales and slides of no greater distance than an interval of a fifth" (p. 86). Other teachers in this study showed less concern for the size of intervals within vocal exercises, permitting students to slide between fifths and octaves. Kozan (2012) suggests exercises on thirds, fifths, and octaves permissible, providing, "The ability to freely slide across the pitches indicates good flexibility of the larynx and freedom from 'muscling' the sound" (p 418). The discrepancy between exercise design may have to do with a teacher's own vocal training, or stem from the needs of the student under their instruction. As this study looked at only one student per teacher, no generalizations should be drawn on how each teacher works with all their students. Indeed, based on teacher feedback, it should be acknowledged these instructors likely teach using different approaches based on student needs.

The related literature examines the importance of soft singing. In this study, Jeremiah is the only teacher who explicitly talked about volume of sound with his student. Both Constansis (2008) and Kozan (2012) bring attention to the significance of being able to sing softly, as an element of vocal functionality. In her discussion, Kozan mentions renowned singing teacher Jeannette LoVetri, regarding the importance of

singing softly on a glissando. Jeremiah studied Somatic Voicework—The LoVetri Method™, and similarities between Kozan’s exercises can be seen in his approach, addressing volume and potential hyper-functional vocal production. Naomi also encouraged Pete to sometimes sing softer or louder, depending on the exercise. She did not speak in terms of volume, but refer to dynamics intermittently, such as suggesting a decrescendo into the highest notes of a scale or melodic passage.

Doscher (1994) and McKinney (1994) both suggest using the falsetto register as a means of vocal development in “male” voices to access a higher range. Doscher writes:

Some pedagogs favor the use of falsetto voice to develop the full head voice, contending that such an approach leads to more ring and avoids the danger of an overly dark and weighty sound. (p. 186)

According to Doscher, falsetto singing strengthens the cricothyroid muscles, which helps alleviate overtaxing the vocalis muscle. Since neither Pete nor Forest had falsetto at the time of data collection, neither teacher was using falsetto registration in exercises. Both singers had a head voice prior to transition, but neither could access it after starting androgen therapy. Doscher also posits that some voice teachers do not use falsetto in teaching tenors, baritones, or basses. Therefore, mentioning the inability to sing in falsetto is not commentary on the quality of their singing, but merely as aspect of their functional abilities. The concept of using “falsetto” as a way of lightening the sound and finding “ring” to develop head voice singing aligns with the teaching of Kelly and B, from whom it is prudent to not over-pressurize in the lower range.

There is little mention of non-binary vocal training in the related literature. The research gives considerable attention to trans masculine singing, and some attention to head voice/falsetto singing for trans women (Lessley, 2017 Sims, 2017a). Other research

attempts to deconstruct the definition of the “feminine” voice by empowering trans women to embrace their tenor or bass range (Manternach et al., 2017; Palkki, 2016b). Studies related to teaching non-binary singers assigned female at birth who want to sing in a tenor range is needed. Alternatively, teaching a singer to increase falsetto production might consider the literature for training countertenor voices (Giles, 1994; Giles, 2005).

The nature of instruction seen in the data follows evidence as reported by Parkes and Wexler (2012) and Gaunt (2008). In replicating a study on applied lesson teaching by Duke and Simmons (2006), Parkes and Wexler found some additional elements not observed in the earlier study. Among the differences, Parkes and Wexler witnessed that a “teacher accepts flaws in student performance.” This was consistent with the data collected in the current study. While the researcher heard some issues of pitch and intonation, teachers overlooked the mistakes. In the interviews, teachers stated they ignored musical faults either because they were focusing on a different teaching element, or they were allaying the stress of the student. Furthermore, Parkes and Wexler observed teachers speaking with their students about practice strategies, and this was seen amongst the teachers in the current study.

In addition to the master-apprentice applied teaching model discussed by Duke and Simmons (2006), the literature review in Chapter II also discusses student-centered pedagogy, in which students are given more control to position learning objectives and suggest learning strategies. Kennell (1992) discusses Vygotsky’s *Zone of Proximal Development*, in which teacher’s designed exercises slightly beyond the student’s abilities, and provide them strategies for musical development. The lesson is a joint problem-solving venture, in which teacher and student collaborate to develop the

student's capabilities. This model is seen in all lessons. Darius would slow down a song tempo or remove the text of a song to enable Forest to achieve aspects of the repertoire sequentially. Naomi taught a song to Pete by rote, not because he is incapable of reading music (indeed, he is a highly skilled musician), but to avoid him thinking about the sheet music instead of vocal freedom.

Gaunt (2008) observed teachers "playing the piano to accompany, thereby giving the student a more complex experience of the music." Of the four teachers observed, all possessed keyboard skills to provide piano accompaniment for their students. Kozan (2012) also suggested a teacher might have "the singers turn away from the keyboard when vocalizing so that they do not tense up when they see they are approaching difficult places within or at the ends of the range" (p. 420). This strategy was used by Naomi when teaching Pete repertoire by rote to impede him from knowing how high or low he was singing.

In summary, the teaching of vocal technique was the primary goal of the observed lessons. While all singers were working on song repertoire, most lessons were dominated with vocal exercises, used to address specific technical challenges, related to breath management, range development, and registration. Teachers used modeling and scaffolding in a student-centered model to support vocal development. Often teachers would offer exercises through invitation and empower the singers to modify them as they saw best for themselves. A combination of traditional master-apprentice teaching and student-centeredness was demonstrated in this study. Teachers gently provided constructive criticism, and technical skills were taught in a warm, supportive, and

compassionate climate. A more detailed discussion on studio climate, regarding emotional support, is provided later in this chapter.

Professional Responsibility

The teachers in the current study suggested a need for professional responsibility in the teaching of trans and non-binary singers. An individual's awareness of how gender impacts music spaces coupled with basic physiological knowledge of transitioning voices is important to effectively teach this population. Teachers are culpable for their own learning. They should neither rely on gathering teaching tools on-the-spot, nor on their students to teach them.

Jeremiah was outspoken about the responsibility teachers have for their students. He believes it is the teacher's responsibility to do their "homework" on cultural competency. Teachers need to "attend trainings, do...readings about how to be an ally to trans people, show up in cultural spaces where...trans singers [are] performing...to show support," according to Jeremiah. He also wants teachers to dismantle the gender binary and explore their own relationship with gender. He expounds:

Work with the student who shows up in front of you, doing your best to let go of all those gendered assumptions about that particular student, but also about yourself and every student. I think we often put trans students in this frame of feeling like we have to be really careful and tiptoe around them. But you should be conscious of your language with every student. Don't assume gendered things about them. I think the biggest thing about how to be a good teacher of transgender and gender non-conforming students is opening up your worldview much more broadly; letting go of the binary ideas you have that are based in the heteropatriarchy that we were all raised in...[and] doing your own personal work around this stuff and interrogating what...gender means to you.

Jeremiah's remark brings awareness to the intersection of professional responsibility and personal reflection. His assertion suggests a teacher's professional responsibility is to engage in personal rumination to evaluate one's assumptions and ideologies.

Patrick asserts that a teacher must never "other" a student or barrage them with personal questions to learn about their experiences or perceptions. It is a teacher's responsibility to know how to create open and affirming learning spaces for their students. "Part of being a decent person," he shares, includes creating "alternative spaces for just letting people be human." He practices a high level of professional responsibility by engaging in ongoing professional development. He shares that whenever a student brings a vocal or musical concern to his studio in which he is not confident in answering, he seeks outside resources to educate himself.

Darius also talked about the importance of reaching out to experienced colleagues if working with a trans or non-binary singer for the first time. When he first started working with Forest, he reached out to a nationally-known music educator-researcher whose dissertation focused on trans singing in the choral classroom. As a gay man, Darius had been around trans and non-binary folks at community Pride events, but he knew these interactions would be insufficient to support Forest.

Finally, Naomi also places prominence in being a lifelong learner as a voice teacher. In working with Pete, she collaborated with a speech-language pathologist knowledgeable in trans vocality to ensure Pete was receiving adept knowledge. She also believes continued narrative and empirical research is paramount, commenting that the emergent research is "just the tip of the iceberg."

Discussion. The related literature supports the need for professional responsibility in the applied studio. In an article bringing attention to trans and non-binary musicians, Bos (2017) asserts:

The teacher has the obligation to create a safe place where students can sing without fear of discrimination and be supported and affirmed in being who they are—singing with their authentic voices. (p. 424)

While the scholarship of Sims (2017b) mostly focuses on the technical knowledge in working with trans voices, she also provides, “Another factor to consider is the need to become an advocate for your transgender students and make the studio and music classes/rehearsals safe spaces” (p. 374). The data of this study indicates that the creation of safe spaces or serving as a student advocate is more than a secondary factor in the teaching of trans and non-binary singers. It is a primary element of teaching. Teachers carry a professional responsibility to learn about trans and non-binary musicians to provide them the vocal training they seek in a welcoming and affirming environment.

As mentioned earlier in this study, Kozan (2012) is an advocate for professional accountability. The educator asserts that vocal clinicians “must have sufficient knowledge not only to ‘do no harm’ but also to know how to ‘do good,’ to skillfully judge and shape vocal behaviors” (p. 415). Although the Hippocratic Oath is commonly associated with the medical profession, the voice teachers in this study imply a promise to support students with skillful vocal knowledge, and support them emotionally and mentally. In recognizing that teachers cannot know everything, Kozan offers a model in collaborating with a student to avoid “othering,” and allowing them to guide and position the direction of learning. When speaking with a voice client, she shares:

I also work from the philosophy that you are the teacher and I am the student...I ask you to bring up your observations about your voice and

your experiences concerning anything and everything that could possibly have an effect on your voice...as if we were putting a giant puzzle together. Each piece of information could provide another piece to the puzzle. (p. 415)

In this framework, teacher and student co-construct knowledge, without the need for the teacher to ask personal questions. The teacher is designing a space to learn through critical listening, instead of overloading the student with their learned know-how.

Although applied studio teachers feel isolated (Feldman, 2010; Uszler, 1996), a sentiment shared by one teacher in this study, research indicates independent music teachers are engaging in professional development (Upitis, Abrami, Brook, Boese, & King, 2017). In a study looking at the characteristics of independent studio teachers, the data indicates teachers regularly engage in professional development activities to improve their pedagogical skills. Upitis and colleagues found that:

They appeared to be continually reflecting on their pedagogy while building their pedagogical knowledge, sharing strategies with other teachers to the extent that they were able, developing their own musical skills, and overall, maintaining a keen interest in advancing the profession and motivating their students to be life-long musicians. (p. 181)

This optimistic position might inspire teachers to exchange ideas more freely and frequently to learn from each other. As both Jeremiah and Naomi noted, the developing research on trans and non-binary voice is only the beginning. Teachers and vocal pedagogues have a professional responsibility to engage in and construct new discourse in this discipline.

Shared Theme

Students and teachers alike discussed the emotional support present in the applied studio. In this study, the students were effusive in discussing the compassion and

affirmation experienced in their lessons. Teachers spoke about creating a conducive learning environment and developing rapport.

Emotional Support

A common pattern in the data showed that students felt emotionally supported by their teachers. There was an overlap in how the students report feeling emotionally supported, and the description of mentorship teachers provide to students. While the interviews offered testimonies of emotional support, lesson observations gave visible and discerning attestation of emotional support in the one-on-one instruction.

Students described their teachers as supportive, compassionate, and affirming. Kelly shared that lessons with Patrick have helped them become more comfortable with their identity. “It’s like therapy,” Kelly explains, “I’ve gotten healthier. I’ve been taking better care of myself since taking lessons. It’s more than just singing for an hour.” After auditioning for a musical theater company that caused Kelly to feel dysphoric, they felt emotionally depleted, recounting:

The next day I had a lesson and I was just really emotional. I’d also been experiencing a lot of dysphoria, and [Patrick] could tell I was upset. We spent [time] talking about all the stuff we have to go through. That was really nice to be able to talk to someone and to know I’m not alone. It felt great to talk to him about that.

Patrick talked about the importance of teaching students as individuals and “to always be compassionate and respectful, to treat people as they present themselves as, or see themselves as.” Patrick is upfront with his studio policies to ensure all students, trans or otherwise, feel safe and protected in his studio. He shared:

It’s so meaningful to me to provide a space where people can be themselves and not be made to feel differently. I think that’s one of the

best things about the work I do... To make a human connection where they feel seen and heard is so important.

Patrick strives to treat each student as an individual because his own vocal training in college was formulaic and de-humanizing. He explicates:

I'm teaching a whole person, and I don't think you can really separate the person from the instrument, which is the experience I had at [college]. I was just treated like an instrument.

Though Patrick is the most ebullient about compassion and support in the applied studio, other participants shared similar sentiments.

Pete depicted Naomi as "compassionate." As a professional musician, he trusts Naomi to help him develop his voice, which he compares to a person's "life blood." As a self-deprecating individual, Pete was quick to criticize his voice. With gentleness and grace, Naomi offered an optimistic posture and gave him little room to degrade himself. Darius was also cognizant to show compassion and respect to his students. Whenever Forest, Darius's student, would make a mistake, Darius would meet him wherever the tasks led them without shaming or judgment. In maintaining presence with each student, Darius articulated, "What I do is try to listen and learn and hear it through their language, their voice, and their body language what's going on with them." For each of these teacher-student pairs, there is a level of heightened rapport that extends beyond respect and rapport.

Through interactions, body language, and a sense of togetherness, the teachers and students share a meaningful kinship. The data reveals students were given emotional safety and support through anchored and authentic openness and acceptance. While not all students need emotional support continuously, they seem aware their teacher's studio is a space where they will be seen and heard as their authentic self. This emotional

support appeared as compassion, kindness, and trust, enabling students to explore their artful expressiveness through their singing without fear of discrimination or marginalization.

Discussion. Crafting learning environments that are open, inclusive, affirming and safe has been the keystone to much of the literature related to engaging trans and non-binary singers in music education. Manternach (2017) asserts, “I think it is a crucial part of our job as teachers to provide a safe space for students...to discover, explore, and strengthen their identity as artists and human beings” (p. 841). Also on applied instruction, Sims (2017a) affirms, “Your job as a voice teacher is to teach singing and provide a supportive safe space for your transgender students just as you do for your cisgender students” (p. 281). These articles, as well as literature from choral music education (Agha, 2018; Miller, 2016; Palkki, 2017) suggest inclusive learning spaces are sensitive to gender-neutral language, repertoire, and concert attire. There is a dearth of scholarship that focuses on inclusivity and affirmation in the applied voice studio regarding students who identify as trans or non-binary. A major finding in this study indicates that teachers who craft open and safe studios offer emotional support to students in their applied lessons. This element of emotional support in the applied studio is a departure from the traditional master-apprentice model of one-to-one studio instruction.

Duke and Simmons (2006) examined three master artist-teachers employed at prominent American music schools. The authors uncovered 19 common characteristics found in the applied studio. Among their findings, teachers frequently gave negative feedback with clear intent. Positive feedback was infrequent, yet protracted to give emphasis. Parkes and Wexler (2012) replicated the Duke and Simmons (2006) study,

providing similar findings with a few distinctions. One finding of Parkes and Wexler suggested applied studio instructors “tailored their teaching to fit the needs of their students, responding to...the need for instructional specificity, structure, and technical guidance as well as emotional support” (p. 55). Parkes and Wexler found that studio teachers are more attuned to student emotional needs and teach differently to accommodate students.

Research in applied studio teaching has also investigated rapport as an important element in the applied music studio (Abeles, 1975; Clemmons, 2007; Walls, Nardi, von Minden, & Hoffman, 2002; Wexler, 2008). In her dissertation, Clemmons (2007) suggests:

The one-to-one nature of applied instruction...encourages an interpersonal relationship between the applied teacher and the music student that tends to create an emotional connection between teacher and student. (p. 9)

Clemmons argues the nature of a teacher’s pedagogy and the “emotional climate” (p. 37) established by rapport is linked to student learning outcomes. In this same position, Halverson (2004) asserts that a teacher’s emotional state influences student emotion and behavior. Strong teacher-student rapport and emotional connection as components of teaching in the applied studio are upheld by the current study.

Patrick profusely spoke about his challenging undergraduate experience as a vocal performance major at a prestigious music conservatory in the United States. He shared that he was treated as an instrument, not as a unique human, and that he felt there was a lack of connection and care demonstrated by his voice teacher. As a teacher now, he ensures his students are emotionally supported in his studio. Patrick’s approach to teaching aligns with an earlier finding from Clemmons (2007) who avowed, “Teachers

do not treat their students as ‘just a voice,’ but are concerned with their personal and emotional lives” (p. 221). Although Patrick identifies as trans, and his student Kelly as non-binary, they have a special bond because they have experienced similar marginalization and oppression. There is also evidence of a heightened emotional connection between Forest and Darius. Although as a gay man Darius is unable to fully understand Forest’s lived experiences as trans, there is a kinship between student and teacher that sanctions an emotional support that extends beyond rapport.

While the data in this study indicate that learning moved quickly and students met learning targets, emotional support moved beyond basic encouragement, compliments, or words of confidence. It was more than mere sensitivity to gender-neutral language. It reached further than student accommodation and differential teaching styles. It was deeper than any effort to create rapport or a safe space for students to flourish. This emotional support was ineffable, yet it was seen and felt in the lessons.

Summary

The purpose of this chapter was to provide a cross-case analysis of the data to further investigate commonalities and distinctions between the participants. This cross-case comparison revealed six emergent themes, including (1) gender in music spaces, (2) self-efficacy, (3) vocal growth, (4) teaching vocal technique, (5) professional responsibility, and (6) emotional support. Each of these themes was supported with data in answering the three research questions.

Twenty findings and recommendations were uncovered. Tables 4-6 provide a list of the findings and correlating suggestions. The division of the three tables corresponds

to the three research questions. Despite the interconnectedness of these findings, the purpose of the format is to divide the findings into smaller modules, with the hope of answering the research questions with transparency. One caveat to this arrangement is that reading each finding alone without context might render it reductive or incomplete.

Table 4

Research Question One Findings and Implications

RQ 1	Findings	Implications
How do musical spaces shape the identity of trans and non-binary singers?	1. Gender in music spaces enables students to explore gender identity before coming out. Not all aspects of gendering in education is positive, as some gender-ness causes oppression.	Be sensitive to how gender may permeate their practices, and cause potential adversity to students.
	2. Vocal types/sections (SATB) convey implied gender.	Allow students to choose how their voice types are listed in recital programs.
	3. Repertoire and stage roles (in opera and musical theater) reify gender roles.	Be mindful if assigning repertoire and roles due to highly problematic gender expectations.
	4. Gender roles in repertoire might cause students to feel dysphoric, triggering doubt of self-worth.	Enable students to pick or suggest their own repertoire.
	5. Students model self-efficacy to incite positive changes in their community.	Be proactive to establish practices and policies that affirm all students.

Table 5

Research Question Two Findings and Implications

RQ 2	Findings	Implications
How do trans and non-binary singers describe their vocal training in voice lessons?	6. Teachers are supportive, compassionate, and affirming; teachers provide emotional support, which underscores the nature of instruction.	Practice student-centeredness and empathetic listening. Teachers should value emotional health as much as vocal health.
	7. Lessons focus on breathing, vocal exercises, and repertoire.	Have no fear: voice lessons with trans and non-binary students follow patterns of teaching cisgender singers.
	8. Students experience sustained vocal growth, fostering an opportunity for their “natural” voices to emerge	Be aware that singing lessons may form a part of a student’s vocal transition.

Table 6

Research Question Three Findings and Implications

RQ 3	Findings	Implications
How do voice teachers characterize the training of trans and non-binary singers?	9. Teachers are concerned with voice functionality and emotional health.	Craft vocal exercises that promote efficient production, and be perceptive to how vocal identity and gender are linked.
	10. For a student on testosterone, keep them singing during the initial vocal transition, so long as it causes no pain.	Inform the student their voice might crack or sound hoarse initially. Be mindful of vocal fatigue; use small intervals and soft singing.
	11. The use of glissandi/slides are found to promote healthy singing.	Vocal slides encourage legato singing while fostering easy onset and range development.
	12. Find the pitch zone of the student's voice that is easiest for them and work outward to increase range.	Start vocal exercises in a singer's most comfortable range.
	13. Some non-binary students might be seeking a lower or higher range to align with their identity without hormone replace therapy.	Consider the balance of vocal registers important to avoid "pushing" in one area of the range.
	14. The effects of testosterone on the voice might be longer lasting than previously observed.	Monitor how the voice may continue to change, even after the first two years of transition.
	15. Teachers might need to set reasonable expectations of student vocal development, if goals are unrealistic.	If a student desires a timbre beyond the possible scope of their voice, address the potential harm. Collaboration with a therapist, SLP, or parent might be necessary.
	16. Teaching trans and non-binary students is rewarding.	Enjoy the experience.

	17. Avoid “othering” students or asking for information on trans and non-binary voices.	Teachers are responsible for doing their own “homework” to learn about student needs. There is an emerging body of research in print and at conferences.
	18. Engage in research and scholarly activities.	There is a dearth of research on trans and non-binary voices. Engage in learning and contribute to the field.
	19. Attend performances of trans or non-binary singers to show support.	Find the performers in your local community.
	20. Treat all singers as individuals.	Be responsive to student needs and interests.

Through interviews and observations, this study uncovered findings relevant to voice teachers and choral conductors, furthering the discourse on trans and non-binary voices in music education and vocal pedagogy. The findings of this study are neither conclusive nor exhaustive. The purpose of this study was to learn about the experiences of trans and non-binary singers and their teachers in the applied studio. To this end, the findings correlate to multiple research domains in teaching trans and non-binary singers in the applied studio, including vocal modification, vocal technique, language, gender oppression, emotional support, self-efficacy, and professional responsibility. The findings of this study should be taken in context and read alongside other related literature for a more comprehensive study in working with trans and non-binary singers.

Chapter VI

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

This study sought to examine the experiences of trans and non-binary singers and their teachers in the applied voice studio. One element of the study was the intersection of trans male vocal technique with voice modification brought on by testosterone replacement therapy. A second aspect of the study examined the experiences of non-binary singers, who had not experienced any voice modulation through hormone administration. Broader implications of practices in music education, including gendered language and repertoire was examined alongside procedures in creating affirming and supportive music learning environments for trans and non-binary students.

Throughout this study, the terms *trans* and *non-binary* are often used concurrently, yet discretely for three reasons: (1) though a non-binary person might consider themselves trans, these terms are not synonymous for all people; (2) much of the related literature focuses on trans vocality without exploring the specific experiences of non-binary singers; and (3) this study aimed to heighten the awareness of non-binary singers, as distinct from trans singers having undergone a biological voice change. The investigator intentionally attempted to avoid grouping all non-cisgender individuals under one umbrella term.

While the original intent of the study was to investigate the vocal technique of trans and non-binary singers, the research uncovered the study would be incomplete if the socio- and political ecology that impacts the lives of many trans and non-binary singers

was not examined. To only inspect voice modification and technique would overlook how gender oppression and marginalization is manifested in musical spaces. Likewise, to concentrate on the strategies in crafting a safe and inclusive learning environment without investigating vocal technique would suggest a teacher only needs tools for social interaction devoid of technical knowledge to effectively teach singing. This study sought to encompass both the technical training of singing while examining the social and political structures within musical spaces.

Rands (2009) posits, “The scarcity of research on transgender issues in education is problematic because transgender people participate in the education system at all levels” (p. 421). Since the publication of this statement, scholarship in music education and vocal pedagogy has examined the experiences and needs of trans and non-binary students in applied lessons and the choral environment. In 2017 alone, the *Journal of Singing* published five articles on trans singing (Bos, 2017; Manternach, 2017; Manternach et al., 2017; Sims, 2017a; Sims 2017b). Other research has provided an overview of trans singing and vocal technique (Kozan, 2012; Lessley, 2017). Palkki (2016b) investigated the experiences of trans singers in the choral setting. There has also been an emergence of scholarship offering steps in creating inclusivity for trans and non-binary singers in choral organizations and rehearsals (Agha, 2017; Miller, 2016; Palkki, 2017; Rastin, 2016). Despite a growing compendium of literature, further research is needed.

This chapter provides a summation of the current study, providing an overview of the research design. The major findings are framed by the study’s three research questions. A concluding statement reviews the conceptual framework, presented in

Chapter I, to illustrate a departure from the original concept of the study incited by the major findings and the broader implications uncovered during the process of this investigation. Implications to the teaching field and recommendations for further research are suggested before a short, personal reflection closes the chapter.

Summary of the Research Design

This qualitative, multi-case study involved four teacher-student pairs. Two teachers were trans and two teachers were cisgender (one male, one female). Two of the students were trans men, having undergone androgen therapy to modulate their bodies and voices, and two students were non-binary, thus not aligning within the binary gender construct (male/female). Purposeful sampling was employed to ensure the teachers were knowledgeable and experienced in teaching trans or non-binary voices. Each teacher had at least three years' experience in working with trans or non-binary singers prior to the start of this study. Three research questions were developed to provide a framework for the investigation:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

The methodology consisted of separate student and teacher interviews, and the observation of two voice lessons. Before data collection commenced, IRB approval was obtained, and all participants signed Informed Consent and Participant's Rights forms.

Interviews and lessons were audio recorded and transcribed word-for-word by the researcher. Reliability of the study was sought at two stages: (1) each participant was sent a transcript of their interview to ensure accuracy in their responses, and (2) participant pairs (teacher and student) were sent the analysis of their case study to safeguard an authentic interpretation of their experiences and perspectives.

The data was presented through portraiture analysis to capture an inside account of complexities and subtleties of the lived experience. This form of analysis was employed to explore the singing lives of trans and non-binary from a place of resilience and strength. Though it was necessary to discuss issues of transphobia and gender oppression in musical spaces, the research sought to impart knowledge and goodness over discrimination and marginalization. The investigator further hoped to avoid “othering” the participants, by looking merely at “transgender issues,” imposed by pervasive oppression and transphobism. Instead, the researcher sought to examine how teachers construct inclusive and affirming spaces for students to study singing.

Summary of the Findings

A cross-case analysis unearthed six themes, which framed the major findings of the study: (1) gender in music spaces, (2) self-efficacy, (3) vocal growth, (4) teaching vocal technique, (5) professional responsibility, and (6) emotional support. The themes and findings of this study are complex and interwoven, making it difficult to depict the data without reducing or diffusing it to a soundbite or tidbit so small that it is rendered inaccurate. In the conclusion of Chapter V, three tables illustrate the findings by research question.

Research Question One

In understanding how musical spaces has shaped the identities of trans and non-binary students, this study underscored the reification of gender roles in music and music education spaces, impacting trans and non-binary individuals. For some singers, the upholding of gender roles in musical spaces provided room for them to explore their identity. In other situations, students found the gendering of these spaces to be oppressive and harmful. This study suggests using voice type (soprano, alto, tenor, bass) as “gender-neutral” language is not free of gender implications. Two of the teachers allowed their students to choose a label for their voice that aligns with their identity, independent of their performable or physiological range. Repertoire and stage roles that reify gender can instigate dysphoria, particularly for students who have not fully self-realized their trans identity or for a non-binary student who may not wish to portray a character within the gender binary.

The student participants in this study demonstrated political activism and public openness about their identity. Their lived experiences have incited them to provoke changes in music and the performing arts. Their efforts have helped to modify policies and practices to combat marginalization of trans and non-binary individuals. Their perceived competence is framed as self-efficacy—an individual’s belief or conviction to execute tasks aimed to change events in their life (Bandura, 1982). This study indicates that through the creation of their art or in the outspokenness of their gender identity, the students modeled high self-efficacy.

Research Question Two

In investigating how trans and non-binary singers describe their voice lessons, the students characterized the instruction through the changes and development of their voices. Both trans men experienced significant changes to their vocal tone and range due to the administration of testosterone. Both non-binary participants observed changes to their speaking and singing voices through their singing lessons. The data suggests singing has enabled the non-binary participants to move away from a “learned” voice toward something that feels more natural and authentic. Vocal development concerned increasing vocal range, heightening breath support, enhancing resonance, and improving consistency of tone.

Students described their teachers as supportive, compassionate, and supportive. Rapport was seen in the form of emotional support, where students characterize their teachers as offering emotional support when necessary. This emotional support helped in crafting a safe and affirming space for students to feel at ease in the applied studio. This level of comfort contributed to the vocal growth of each student. The theme of emotional support overlaps Research Questions Two and Three. Teachers spoke about creating a conducive learning environment and developing rapport. Teachers treat their singers as individuals, being present and responsive to their needs and desires. This study posits that learner-centered pedagogy approaches are common in the teaching of trans and non-binary students, and beneficial to honoring their goals and needs as individuals.

Research Question Three

Through an examination of how voice teachers characterize the training of trans and non-binary singers, an emphasis on voice functionality was present in the data. A teacher's awareness of how gender impacts music spaces coupled with physiological knowledge of transitioning voices is important to effectively teach this population. All teachers discussed the importance of developing healthy singing habits to promote vocal longevity. For students beginning testosterone treatments, teachers encourage trans men to keep singing through the vocal transition, so long as no pain is induced. Teachers suggested finding the easiest pitch zone of a student's range and increase range from this tessitura. Vocal slides (glissandi) and semi-occluded exercises were common amongst the teachers, though vocal exercises were varied and distinctive to each teacher-student pair. Singing with proper breath support was a pattern in all studios. The need to balance vocal registration was highlighted in working with the two non-binary singers. Some non-binary students might seek a higher or lower range without the aid of hormones. Teachers may need to set reasonable expectations of student vocal development, if vocal aspirations are unrealistic. Additionally, while the data is limited, this study spotlights the need for further research on longitudinal effects of testosterone on the voice.

While students in their lessons worked on repertoire, most lessons were dominated with vocal exercises used to address specific technical challenges. Teachers used modeling and scaffolding to support vocal development. Teachers showed care and concern for their students, recognizing the importance of emotional and mental health, alongside healthy voice use.

The teachers in the current study indicated a need for professional responsibility in the teaching of trans and non-binary singers. The teachers reported feeling culpable for their own learning, and suggested teachers should educate themselves before working with a trans or non-binary student. This professional development includes scholarly activities and the attendance of concerts of trans and non-binary musicians. The findings indicated that all singers should be treated as individuals, yet teachers should avoid “othering” trans and non-binary students by making them feel different or sequestered. In addition to the technical and pedagogical concerns of trans and non-binary vocality, this study found that working with trans and non-binary student is rewarding.

Conclusion

Presented in Chapter I, the conceptual framework for this study positioned the student in the center of the visual representation and illustrated potential factors affecting vocal development, including hormone therapy, voice therapy (speech-language pathology), and singing lessons. Based on the related literature, the conceptual framework was drawn as a Y-shaped diagram to bring attention to the potential collaboration of factors assisting voice modulation. Kozan (2012) asserts, “Some clients are best served by a team of specialists: a speech language clinician who specializes in singing voice, an otolaryngologist who specializes in voice, and a teacher of singing” (p. 414). Yet, the results of this study suggest voice teachers need to have the knowledge and skills to operate independently, as opposed to working with a collaborative team. A meaningful aspect of their work as educators, not represented in the conceptual framework, is the crafting of a learning environment that affirms trans and non-binary

students. Further, the non-binary singers in this study did not interact with speech-language pathology or hormone therapy, and thus, vocal changes and development were achieved through singing lessons alone.

The conceptual framework also did not account for the complexity of gender identity in this research. Each participant was guided by their own construction (or deconstruction) of gender as a cultural construct. While theoretical models of gender and transgender were discussed in the literature review, the conceptual framework did not depict how culture and community impact gender identity, which is connected to the voice. A model of a non-binary singer seeking vocal development through voice lessons alone was also underrepresented. Figure 40 illustrates an alternative depiction of the teacher-student relationship in the applied studio.

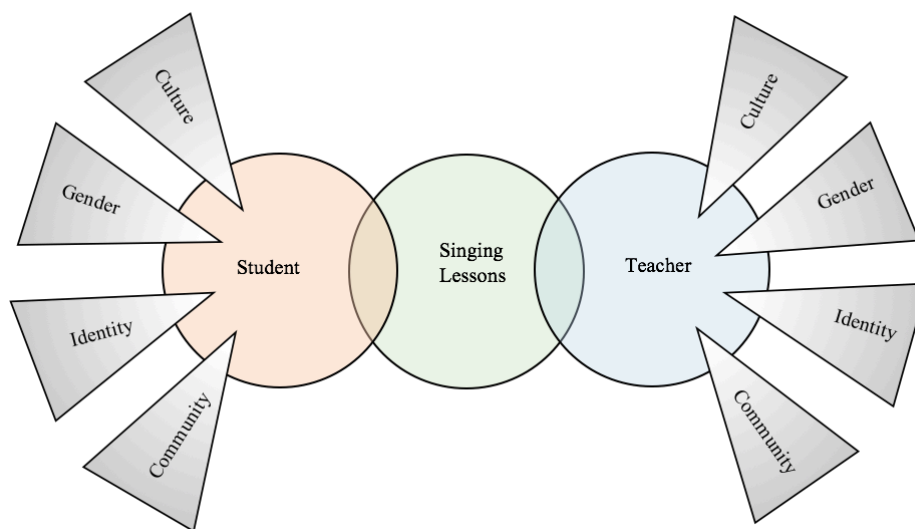


Figure 40. Revised conceptual framework to illustrate how the constructs of cultural, identities, gender, and community impact the lived experiences of students and teachers.

In this illustration, the singing lesson is presented in the middle, as the collaborative space of student and teacher. Both students and teachers are impacted by cultural expectations, community norms, social identities, and gender constructs. The revised conceptual framework encompasses individuals, trans, non-binary, and cisgender, showing that everyone is influenced by social and cultural expectations. Teachers should be mindful how these constructs impact their pedagogy, and how their practices can serve to affirm or marginalize students.

As the purpose of this study was to investigate the experiences of trans and non-binary singers and their teachers in the applied studio, this study might serve as a framework for future studies to examine the experiences and perceptions on a wider spectrum of gender diverse individuals in varying levels of music and music education settings. In providing interview data of three trans students and their teachers, Manternach et al. (2017) wisely offers:

Though we may find similarities in the stories..., we should not expect that teaching singers who openly identify as transgender should somehow follow a formula anymore than the other singers who walk into our studio. (p. 84)

Likewise, the findings of this study might be valuable to other singers and teachers, but another person's experience might appear very different. These findings should not suggest that all trans and non-binary students receive emotional support or adept vocal knowledge from their applied voice teacher. Indeed, as one participant indicated, gender oppression and transphobia is subtle and pervasive, which begets the possibility that a student somewhere is currently struggling to come out to a voice teacher who does not realize their practices and policies are causing gender dysphoria and emotional stress.

Implications to the Field

The themes and findings of the current study offer broad implications to the teaching field, in the applied studio, musical ensembles, the P-12 classroom, and in pre-service music teacher education. Educators and administrators should be mindful how gender permeates practices and policies in education spaces. There are several steps all teachers can implement to demonstrate acceptance of gender diversity, including (1) adding pronouns to one's e-mail signature to make their gender identity public and to empower others to do the same, (2) display a safe space sign on their office door or in a conspicuous place, (3) revise sign up forms to be inclusive of gender-variant options, and (4) serve as an advocate for trans and non-binary students, if current institutional policies are discriminatory. This section offers suggestions for teachers in different teaching spaces.

In the Applied Studio

Teachers should be mindful of gendered musical terminology. Voice parts, repertoire, and stage roles can reify gender expectations, which can marginalize some trans and non-binary singers. This study suggests language related to voice parts (soprano, alto, tenor, bass, falsetto, etc.) has gender implications. Allow students to decide how their name and voice part is listed in recital programs. A student may wish to be listed as a "vocalist" instead of "soprano." Alternatively, a singer might prefer to be listed as a "tenor," even if their range aligns with the traditional alto range.

The voice teacher should be aware of how voice and gender align. Craft vocal exercises that promote vocal efficiency while being aware that some students might be

seeking a range beyond their current abilities. Begin exercises in the easiest range of the student's voice, and consider the health of the whole instrument. Some students might not want to explore their higher or lower range, but this study indicates students should be encouraged to exercise their entire range to maintain balance and flexibility. For a student going through initial voice modification through androgen therapy, be aware the voice might crack or sound hoarse. Be mindful of vocal fatigue, and use smaller intervals and softer singing to build stamina. Teachers should also monitor long term vocal changes, possibly linked to androgen therapy.

Repertoire and roles in musical theatre and opera can affirm or marginalize, depending on the content of the literature and the process through which the literature is selected. As teachers should avoid pieces that propagandize racism, xenophobia, androcentrism, and sexism, teachers should consider how pieces reify gender and gender oppression. When suggesting repertoire, offer pieces from various perspectives and genres. Not all women want to sing lullabies, while not all men want to sing about war. Empower singers to offer song selections. Collaborate on song assignment to ensure a singer is comfortable with the text and the repertoire is appropriate for their vocal development. Currently there is limited repertoire written specifically for trans and non-binary voices. Teachers should advocate for the commissioning of new music.

This study suggests teachers should create safe and affirming educational spaces for students by practicing policies that make students feel included and affirmed. If a teacher runs an independent studio, they may wish to craft a written studio policy, which provides transparent language on the acceptance of gender diverse students. In working in a school or college, a teacher might serve as an advocate for trans and non-binary

students to influence institutional policies to ensure students are protected within the system.

Models of applied lessons theory indicate that in a master-apprentice design, the teacher is an educated sage who is solely responsible for defining practices and roles. One participant in this study talked about the issue of systematized teaching, which fails to see each student as an individual with specific needs and desires. Another participant discussed the importance of “letting students be.” This study encourages teacher reflection to evaluate if studio practices and policies serve students, or if they uphold hegemonic traditions. Teachers should be mindful of potential harm in “teacher-centered” pedagogy, and make entrails in their practices to allow students more ability to direct learning outcomes and strategies.

In Musical Ensembles

Conductors should examine language used in rehearsal to ensure it is welcoming for all. Avoid saying “ladies and gentlemen” or “boys and girls.” In the choral setting, avoid calling the sopranos and altos “ladies” and the tenors and basses “men.” The term “guys” in some parts of the United States is used to referred to a mixed gender group of people. Using androcentric language is oppressive, even if culturally it feels like “guys” just means “everybody.” Instead, say, “everyone,” “folks,” “friends,” “all,” “students,” or “singers.” Anything non-gendered is usually welcoming for all individuals.

For choral educators, as discussed above, acknowledge that for some people the traditional voice parts (soprano, alto, tenor, bass) are not free from gender implications. Referring to each part as Voice/Part I, II, III and IV, or higher/lower voices, might be alternative choral language. A director should consider listing singers alphabetically

instead of by voice part in concert programs to avoid gendering a person in the ensemble. Dismantling traditions of the field is difficult. Even if entrenched language cannot be wholly changed, teachers should be aware of the gender implications and discuss the potential effects on students.

All musical ensembles should adopt an open and affirming policy statement. Members should read, understand, and abide by this declaration that all individuals are welcomed and affirmed in the ensemble. Guest performers and clinicians should be sent this statement, providing them the appropriate framework for working with your ensemble. Being transparent and upfront with this affirming ideology helps assuage issues from developing. Lastly, posting a safe space sign shows LGBTQ+ students they are accepted and welcomed. These signs are free and available online (<https://www.glsen.org/safespace>).

Instrumental ensemble directors should eschew from assigning instruments by gender. Studies have shown that flutes and clarinets are more frequently given to female students, while trumpets and drums to boys (Abeles, 1975; Delzell & Leppla, 1992). Teachers should show examples of male flautists and female trumpeters to counteract instrument stereotyping. Ensemble directors should also avoid gendered dress code for performances. If an ensemble traditionally wears tuxedos and dresses, allow students to choose the attire that makes them feel most comfortable. Alternatively, ensembles might find it easier to forego traditional attire, and allow students to dress in all black (or some uniform color), which helps ensure all students feel comfortable and affirmed. Additionally, for overnight trips, students should be able to room with students of the same gender. Therefore, a trans woman should share a room with other female students,

as recommended by the Departments of Justice and Education during the Obama administration (Lhamon & Gupta, 2016).

In General Music Classrooms

As discussed in the applied studio and music ensembles, teachers should be fastidious to avoid gendered language. Teachers and administrators should be aware of gender diversity in all ages and levels in the educational system. In elementary schools, teachers should be aware of misogynistic and heteronormative references in children's rhymes and books. Both "Oh My Darling, Clementine" and "Peter, Peter Pumpkin Eater" accept the mistreatment of women. In upper level music appreciation classes, teachers should seek greater representation of women in the Western canon, and discuss why classical music is dominated by white, male composers.

In Pre-Service Teacher Education

Teacher training programs are encouraged to include a "gender-complex" (Rands, 2009, p. 419) curriculum in the training of pre-service teachers. Teachers should challenge pre-service teachers to examine how musical spaces reify gender roles, and offer P-12 curriculum that dismantles hegemonic traditions. Students might create repertoire lists for choral and instrumental ensembles that are appropriate for a gender diverse culture. The policies and practices of local schools should be examined when placing students in observation and practicum situations. If working with a pre-service teacher who identifies as trans or non-binary, their student-teaching assignment should be in a school that has anti-discrimination policies in place.

In all higher education spaces, course rosters and other official documents should reflect the student's chosen name and gender, if different from the name and gender assigned at birth. Music professors should engage in research related to trans and non-binary students. While emerging scholarship appears in journals and conferences, trans and non-binary singing has yet to gain prominence in vocal pedagogy textbooks used to educate pre-service voice teachers. Language and gender as a cultural construct will continue to develop, and thus, engaging in professional development and research endeavors will need to be a career-long endeavor.

Recommendations for Research

Though this study presented a broad age range of participants (from early 20s to mid 50s), none of the students under investigation had been on testosterone for more than four years. One of the teachers had been on androgen therapy for over ten years, and is experiencing some challenges with his voice, even though he is not in an age range typically associated with issues of ossification or loss of muscle tone. Another teacher had been on testosterone for almost nine years, and while he was presenting no vocal-related issues, he mentioned the need for further research in this area. Empirical and narrative longitudinal studies on the effect of testosterone on the vocalis muscle are needed to examine the long-term negative effects to prolonged treatment.

There is a deficiency in the research on young trans and non-binary voices. For pre-adolescent students, a trans female teenager might take a hormone blocker to stop the onset of testosterone at puberty. For a juvenile trans male, if testosterone is administered as a teenager, the voice might develop exactly as it would in a natal male body. Some

data on trans feminine adolescent voices has been collected in speech-language pathology (Hancock & Helenius, 2012). Studies that address pre- and post-puberty young trans and non-binary singing voices are needed.

The non-binary participants spoke about their identity as being fluid. One singer traverses the gender spectrum, wanting to sing repertoire in a wide range, from soprano to tenor. A study that investigates the identities of non-binary musicians would be beneficial to better understand their perspectives and experiences. Additionally, the effects of singing in the tenor range without assistance from androgen therapy could examine potential vocal misuse leading to possible long-term vocal health concerns.

One of the assumptions of this study stated that trans and non-binary singers deserve quality vocal training, yet there is little research that indicates the willingness or perceived readiness of voice teachers to train and education trans and non-binary singers. A replication of the study by Silveira and Goff (2016) might measure the attitudes and self-professed preparedness of studio teachers. In addition, examining the differences of contemporary commercial music techniques with traditional bel canto teaching in trans and non-binary voices is needed. While the current study represented both teaching styles, it was out of the scope of the researcher and this study to draw conclusions on the benefits and disadvantage between them.

There is a growing number of choirs specifically for trans and non-binary singers. A study that seeks the practices and identities of trans choirs would deepen the investigation of gender in choral spaces. Much of the literature on addressing inclusivity in the choral setting has researched trans and non-binary singers in cisgender-dominant

choirs. Looking at the policies and practices of trans-identifying ensembles might illuminate further steps to enact inclusive practices in all musical spaces.

Lastly, a study that examines the audition and admission practices for vocal competitions, include state-level solo and ensemble contests, would be prudent to uncover discriminatory policies or rules impacting the participation of trans and non-binary singers.

Closing Remarks

Recently I was presenting at a conference when I was asked informally by a choir teacher what they should do about a trans male student (assigned female at birth) in their program who wanted to sing in the tenor section. According to the teacher, the student has a higher alto voice, and so he would not be able to sing the lowest tenor pitches. (The student's parents have not allowed the teenager to start androgen therapy.) I gently encouraged the teacher to let the student sing in the section they feel most comfortable, suggesting that the student could switch to the alto part when not able to sing the lowest pitches of the tenor line. The teacher had serious concern for the student's vocal health. While I am aware of the potential issues in attempting to condition one's voice in a way that it is not best suited, I am more concerned with forcing a person to sing in a way that does not align with their identity. After the teacher pushed back on my response, indicating that vocal health must be a teacher's chief concern, I asked the teacher to consider whether their greatest worry should be for the student's vocal health or for the student's emotional and mental well-being. I know where I stand in that concern: emotional health is paramount. Singing at the bottom of one's range a few hours a week

in a choral ensemble might cause vocal fatigue (and potential damage if overly done), but so does talking in a crowded room, shouting at a sports team, or not drinking enough water. If we won't allow our students to sing in a range that makes them feel comfortable and authentic, then we should not permit them to attend all-school activities or many restaurants on a Friday or Saturday night.

Concerns like the one above come up all the time in person and social media. Many of us (voice teachers, choral directors, music educators) spend so much time learning music theory, history, and the traditional canon, that we sometimes miss the larger picture of how to treat our students like emotional beings. We should stop teaching music first, and start teaching our students through music. Let's stop honoring traditions that we, as the collective and historic tribe of voice teachers and choral conductors, designed that harm students and are unnecessary in the 21st Century. Kozan (2012) proclaims, "Each of us feels called to do the amazing work of helping to heal the planet by touching the lives of the singers who come to us" (p. 457). It is paramount we interact with singers in a way that not only promotes vocal health, but more so, addresses their emotional and mental livelihood.

I recall in my undergrad studies that I was the first countertenor at my school to major in music. I encountered misunderstandings about my gender frequently. I will never forget the occasion when I was a soloist in a local music series, and without my permission, the concert organizer added to my bio in the program that I have retained all my male body parts even though I sound like a "girl." While my experience in college might have been devastating for some, it was a positive step up from high school, where I endured physical threats and homophobic slurs daily. Had it not been for music and my

music teacher, I am not sure how I would have survived. The emotional impact of such intolerance is life-long, but my spirit was never shattered because I knew I had refuge in music. In this small, rural Ohio town, this teacher accepted me and my voice without question, without pause. And thanks to her and my supportive parents, my life has meaning and is richly filled with music.

I share my story not because it pertains to the musical lives of trans and non-binary individuals, but because it has inspired me to do this research and to make my music teaching life about empowering and affirming all who want to sing. This does not mean we cannot have high standards or make exceptionally fine music, but we can do so in a more holistic way and continually work to understand our students and their lived experiences. If I have been successful with this study, I will have achieved two goals: (1) to be a transparent conduit of the participants' stories and perceptions, (2) to empower others to reimagine traditional vocal pedagogy and music education so that all persons find joy and beauty who seek it. Nancy Bos (2017) shares, "Having the opportunity to work with a transgender singer can be one of the most fulfilling highlights of a voice teacher's career" (p. 423). I wholeheartedly agree.

REFERENCES

- Abeles, H. F. (1975). Student perceptions of characteristics of effective applied music instructors. *Journal of Research in Music Education*, 23(3), 147-154.
- Adler, R. K., Constansis, A., & Van Borsel, J. (2012). Female-to-Male Transgender/Transsexual Considerations. In R. K. Adler, S. Hirsch, & M. Mordaunt (Eds.), *Voice and communication therapy for the transgender/transsexual client: A comprehensive clinical guide* (2nd ed.). San Diego, CA: Plural Publishing.
- Adler, R. K., Hirsch, S., & Mordaunt, M. (Eds.). (2012). *Voice and communication therapy for the transgender/transsexual client: A comprehensive clinical guide* (2nd ed.). San Diego, CA: Plural Publishing.
- Agha, A. (2017). Making your chorus welcoming for transgender singers. *The Voice*, 41(2), 18-23.
- Airton, L. (2009). Untangling 'gender diversity': Genderism and its discontents (i.e., everyone). In S. R. Steinberg (Ed.), *Diversity and multiculturalism: A reader* (223-245). New York, NY: Peter Lang Publishing.
- Anderson, J. A. (2014). Pitch elevation in transgendered patients: Anterior glottic web formation assisted by temporary injection augmentation. *Journal of Voice*, 28(6), 816-821.
- Andrews, M. (1986). *Voice therapy for children: The elementary school years*. New York, NY: Longman.
- Andrews, M., & Schmidt, C. (1997). Gender presentation: Perceptual and acoustical analyses of voice. *Journal of Voice*, 11(3), 307-313.
- Andrews, T. M. (2017). The singular, gender-neutral 'they' added to the Associated Press Stylebook. *The Washington Post*. Retrieved from http://wapo.st/2nuXMMf?tid=ss_mail&utm_term=.f9d27ba8097f
- Balén, J. (2017). *A queerly joyful noise*. Newark, NJ: Rutgers University Press.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122-147.
- Barbier, Patrick. (1998). *The world of the castrati: The history of an extraordinary operatic phenomenon*. London, UK: Souvenir Press.
- Beemyn, G., & Rankin, S. R. (2011). *The lives of transgender people*. New York, NY: Columbia University Press.

- Bloomberg, L. D., & Volpe, M. (2016). *Completing your qualitative dissertation: A road map from beginning to end*. Thousand Oaks, CA: Sage Publishing.
- Bogden, R.C., & Biklen, S. K. (2007). *Qualitative research for education*. New York, NY: Pearson.
- Bornstein, K. (1998). *My gender workbook: How to become a real man, a real woman, the real you, or something else entirely*. New York, NY: Routledge.
- Bos, N. (2017). Forging a new path: Transgender singers in popular music. *Journal of Singing*, 73(4), 421-424.
- Boytim, J. F. (Compiler). (2008a). *Young Ladies, shipmates & journeys: 21 classical songs for young men ages mid-teens and up*. [Songbook] Milwaukee, WI: Hal Leonard Corporation.
- Boytim, J. F. (Compiler). (2008b). *Roses, laughter and lullabies: 18 classical songs for mezzo-soprano ages mid-teens and up*. [Songbook] Milwaukee, WI: Hal Leonard Corporation.
- Bralley, R. C., Bull, G. L., Harris Gore, C., & Edgerton, M. T. (1978). Evaluation in vocal pitch in male transsexuals. *Journal of Communication Disorders*, 11(5), 443-449.
- Britto, A. I., & Doyle, P. C. (1990). A comparison of habitual and derived optimal voice fundamental frequency values in normal young adult speakers. *Journal of Speech and Hearing Disorders*, 55(3), 476-484.
- Carew, L., Dacakis, G., & Oates, J. (2007). The effectiveness of oral resonance therapy on the perception of femininity of voice in male-to-female transsexuals. *Journal of Voice*, 21, 591-603.
- Clemmons, M. J. (2007). *Rapport in the Applied Voice Studio*. (Doctoral dissertation). Retrieved from ProQuest Dissertations. (3259241)
- Connell, R. W. (2002). *Gender: A short introduction*. Malden, MA: Polity Press.
- Constansis, A. (2008). The changing female-to-male (FTM) voice. *Radical Musicology*, 3. Retrieved from <http://www.radical-musicology.org.uk/2008/Constansis.htm>
- Creswell, J. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publishing.
- Dacakis, G. (2000). Long-term maintenance of fundamental frequency increases in male-to-female transsexuals. *Journal of Voice*, 14(4), 549-556.

- Dacakis, G., Davies, S., Oates, J., Jacinta, D., & Johnston, J. (2013). Development and preliminary evaluation of the transsexual voice questionnaire for male-to-female transsexuals. *Journal of Voice, 27*(3), 312-320.
- Davies, S., & Goldberg, J. M. (2006). Clinical aspects of transgender speech feminization and masculinization. *International Journal of Transgenderism, 9*(3-4), 167-196.
- Delzell, J., & Leppla, D. (1992). Gender associations of musical instruments and preferences of fourth-grade students for selected instruments. *Journal of Research in Music Education, 40*(2), 93-103.
- Dimon, T. (2011). *Your body, your voice: The key to natural singing and speaking*. Berkeley, CA: North Atlantic Books.
- Doscher, B. (1994). *The functional unity of the singing voice*. Metuchen, NJ: Scarecrow Press.
- Duke, R., & Simmons, A. (2006). The nature of expertise: Narrative descriptions of 19 common elements observed in the lesson of three renowned artist-teachers. *Bulletin of the Council for Research in Music Education, 170*, 7-19.
- Feinberg, L. (1999). *Trans liberation: Beyond pink or blue*. Boston, MA: Beacon Press.
- Feldman, S. (2010). *RCM: A quantitative investigation of teachers associated with the RCM exam process*. Toronto, ON: Susan Feldman & Associates.
- Flaherty, S. (Composer). (2016). *My Petersburg*. [Sheet Music]. Van Nuys, CA: Alfred Publishing Co., Inc.
- Freer, P. K. (2009). Choral warm-ups for changing adolescent voices. *Music Education Journal, 95*(3), 57-62.
- Gelfer, M. P., & Ramsey Van Dong, B. (2013). A preliminary study on the use of vocal function exercises to improve voice in male-to-female transgender clients. *Journal of Voice, 27*(3), 321-334.
- Giles, P. (1994). *The history and technique of the counter-tenor*. Brookfield, VA: Ashgate Publishing Company.
- Giles, P. (2005). *A basic countertenor method for teacher and student*. London, UK: Kahn & Averill.
- Gilmore, S. I., Guidera, A. M., Hutchins, S. L., van Steenbrugge, W. (1992). Intra-subject variability and the effect of speech task on vocal fundamental frequency of young adult Australian males and females. *Australian Journal of Human Communication Disorders, 20*(2), 65-73.

- GLAAD Media Reference Guide. (2016). Retrieved from <http://www.glaad.org/reference>
- Goffi-Fynn, J., & Carroll, L. (2013). Collaboration and Conquest: MTD as Viewed by Voice Teacher (Singing Voice Specialist) and Speech-Language Pathologist. *Journal of Voice*, 27(3), 391.e9-391.e14.
- Gorton, R. N., Buth, J., & Spade, D. (2005) *Medical therapy and health maintenance for transgender men: A guide for health care providers*. San Francisco, CA: Lyon-Martin Women's Health Services.
- Green, J. (2004). *Becoming a visible man*. Nashville, TN: University Press.
- Gross, M. (1999). Pitch-raising surgery in male-to-female transsexuals. *Journal of Voice*, 13(2), 246-250.
- Hackmann, D. (2002). Using portraiture in educational leadership research. *International Journal of Leadership in Education*, 5(1), 51-60
- Halberstam, J. (1994). F2M: the making of female masculinity. In L. Doan (Ed.), *The Lesbian Postmodern* (210-228). New York, NY: Columbia University Press.
- Halverson, S. K. (2004). *Emotional contagion in leader-follower interactions*. (Unpublished doctoral dissertation.) Rice University, Houston, TX.
- Hancock, A., Colten, L., & Douglas, F. (2014). Intonation and gender perception: Applications for transgender speakers. *Journal of Voice*, 28(2), 203-209.
- Hancock, A., & Helenius, L. (2012). Adolescent Male-to-Female Transgender Voice and Communication Therapy. *Journal of Communication Disorders* 45(5), 313-324.
- Hancock, A., Krissing, J., & Owen, K. (2011). Voice perceptions and quality of life of transgender people. *Journal of Voice*, 25(5), 553-558.
- Hausman, B. L. (2001). Recent transgender theory. *Feminist Studies*, 27(2), 465-490.
- Henry, D. (2017). *Trans voices: Becoming who you are*. London, UK: Jessica Kingsley Publishers.
- Hershberger, I. G. (2005). *The effects of singing exercises and melodic intonation therapy (MIT) on the male-to-female transgender voice* (Master's Thesis). University of North Carolina at Greensboro, Greensboro, NC. Retrieved from <http://libres.uncg.edu/edocs/etd/1063/umi-uncg-1063.pdf>
- Isshiki, N., Taira, T., & Tanabe, M. (1983). Surgical alteration of the vocal pitch. *Journal of Otolaryngology*, 12(5), 335-340.

- Janovy, C. J. (2016, May 21). Transgender choruses harness the (changing) power of voices. *National Public Radio*. Retrieved from <https://www.npr.org/sections/deceptivecadence/2016/05/21/478863157/transgender-choruses-harness-the-changing-power-of-voices>
- Kalra, M.A. (1977). Voice therapy with a transsexual. Paper presented at American Speech and Hearing Association Convention, Chicago, IL.
- Kaye, J., Bortz, M. A., & Tuomi, S.K. (1993). Evaluation of the effectiveness of voice therapy with a male-to-female transsexual subject. *Logopedic Phoniatrics Vocology, 18*(2), 105-109.
- Kennell, R. (1992). Toward a theory of applied music instruction. *The Quarterly Journal of Music Teaching and Learning, 3*(2), 5-16.
- Kosciw, J. G., Greytak, E. A., Giga, N. M., Villenas, C., & Danischewski, D. J. (2016). *The 2015 national school climate survey: Executive summary*. New York, NY: GLSEN.
- Kozan, A. (2012). The singing voice. In R. K. Adler, S. Hirsch, & M. Mordaunt (Eds.), *Voice and communication therapy for the transgender/transsexual client: A comprehensive clinical guide* (2nd ed.). San Diego, CA: Plural Publishing.
- Lawrence-Lightfoot, S., & Davis, J. H. (1997). *The art and science of portraiture*. San Francisco, CA: Josey-Bass Inc.
- Leoni, F. (Composer). (1918). Tally-Ho! [Sheet Music]. New York, NY: G. Schirmer, Inc.
- Lessley, E. (2017). *Teaching transgender singers* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (1943885845).
- Lhamon, C. E., & Gupta, V. (2016). Dear colleague letter on transgender students. *U.S. Department of Education and U.S. Department of Justice*. Retrieved from <http://www2.ed.gov/>
- LoVetri, J. L., & Weekly, E. M. (2003). Contemporary commercial music (CCM) survey: Who's teaching what in nonclassical music. *Journal of Voice, 17*(2), 207-215.
- Luecke, J. C. (2011). Working with transgender children and their classmates in pre-adolescence: Just be supportive. *Journal of LGBT Youth, 8*(2), 116-156.
- Mackworth-Young, L. (1990). Pupil-centered learning in piano lessons: An evaluated action-research programme focusing on the psychology of the individual. *Psychology of Music, 18*(1), 73-86.

- Manternach, B. (2017). Teaching transgender singers. Part 2: The singer's perspectives. *Journal of Singing*, 74(2), 209-214.
- Manternach, B., Chipman, M., Rainero, R., & Stave, C. (2017). Teaching transgender singers. Part 1: The voice teacher's perspectives. *Journal of Singing*, 74(1), 83-88.
- Mastronikolis, N.S., Remacle, M., Biagini, M., Kiagiadaki, D., & Lawson, G. (2013). Wendler glottoplasty: An effective pitch raising surgery in male-to-female transsexuals. *Journal of Voice*, 27(4), 516-522.
- McKinney, J. (1994). *The diagnosis & correction of vocal faults: A manual for teachers of signing and for choir directors*. Nashville, TN: Genevox Music Group.
- McNeill, E. J. M., Wilson, J. A., Clark, S., & Deakin, J. (2008). Perception of voice in the transgender client. *Journal of Voice*, 22(6), 727-733.
- Mendoza, E., Valencia, N., Muñoz, J., & Trujillo, H. (1996). Differences in voice quality between men and women: Use of long-term average spectrum (LTAS). *Journal of Voice*, 10(1), 59-66.
- Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Josey-Bass Inc.
- Miller, J. R. (2016). Creating choirs that welcome transgender singers. *Choral Journal*, 57(4), 61-63.
- Miller, R. (1996). *The structure of singing: System and art in vocal technique*. Belmont, CA: Wadsworth Group.
- Mock, J. (2014). *Redefining realness: My path to womanhood, identity, love & so much more*. New York, NY: Atria Books.
- Mount, K. H., & Salmon, S. J. (198). Changing the vocal characteristics of postoperative transsexual patient: A longitudinal study. *Journal of Communication Disorders*, 21(3), 229-238.
- Nagoshi, J., & Brzuzy, S. (2010). Transgender theory: Embodying research and practice. *Affilia: Journal of Women and Social Work*, 25(4), 431-443.
- Nagoshi, J., Brzuzy, S., & Terrell, H. (2012). Deconstructing the complex perceptions of gender roles, gender identity, and sexual orientation among transgender individuals. *Feminism & Psychology*, 22(4), 405-422.
- Neumann, K., & Welzel, C. (2004). The importance of the voice in male-to-female transsexualism. *Journal of Voice*, 18(1), 153-167.

- Nichols, J. (2013). Rie's story, Ryan's journey: Music in the life of a transgender student. *Journal of Research in Music Education*, 61(3), 262-279.
- Papp, V. (2011). *The female-to-male transsexual voice: Physiology vs. performance in production* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (1034390419)
- Palkki, J. (2016a). Gender trouble: Males, adolescence, and masculinity in the choral context. *Choral Journal*, 56(4), 25-33.
- Palkki, J. (2016b). "My voice speaks for itself": *The experiences of three transgender students in secondary school choral programs*. (Doctoral dissertation). Retrieved from ProQuest Dissertations. (10141543)
- Palkki, J. (2017). Inclusivity in action: Transgender students in the choral classroom. *Choral Journal*, 57(11), 20-34.
- Parkes, K. A., & Wexler, M. (2012). The nature of applied music teaching expertise: Common elements observed in the lessons of three applied teachers. *Bulletin of the Council for Research in Music Education*, 193, 45-64.
- Payne, E., & Smith, M. (2014). The big freak out: Educator fear in response to the presence of transgender elementary school students. *Journal of Homosexuality*, 61(3), 399-418.
- Pernet, C. R., & Belin, P. (2012). The role of pitch and timbre in voice gender categorization. *Frontiers in Psychology*, 3(23), 1-11.
- Rastin, M. (2016). The silenced voice: Exploring transgender issues within western choirs. *The Canadian Music Educator*, 57(4), 28-32.
- Remacle, M., Matar, N., Morsomme, D., Veduyck, I., & Lawson, G. (2011). Glottoplasty for male-to-female transsexualism: Voice results. *Journal of Voice*, 25(1), 120-123.
- Rands, K. E. (2009). Considering transgender people in education: A gender-complex approach. *Journal of Teacher Education*, 60(4), 419-431.
- Roen, K. (2001a). "Either/or" and "both/neither": Discourse tensions in transgender politics. *Signs*, 27(2), 501-522.
- Roen, K. (2001b). Transgender Theory and Embodiment: the risk of racial marginalization. *Journal of Gender Studies*, 10(3), 253-263.

- Roll, C. (2014). *Female musical theater belting in the 21st century: A study of the pedagogy of the vocal practice and performance*. (Doctoral dissertation). Retrieved from ProQuest Dissertations. (3621794)
- Sanchez, J. (2013). *Acoustic and perceptual study of female-to-male transgendered voice* (Unpublished master's thesis). William Patterson University, New Jersey.
- Sears, C. (2010). *Paving their own way: Experiences of female high school band directors*. (Doctoral dissertation). Retrieved from ProQuest Dissertations. (3424962)
- Silveira, J. M., & Goff, S. C. (2016). Music teachers' attitudes toward transgender students and supportive school practices. *Journal of Research in Music Education, 64*(2), 138-158.
- Sims, L. (2017a). Teaching transgender students. *Journal of Singing, 73*(3), 279-282.
- Sims, L. (2017b). Teaching Lucas: A transgender student's vocal journey from soprano to tenor. *Journal of Singing, 73*(4), 367-375.
- Sparks, R. W., & Holland, A. L. (1976). Method: Melodic intonation therapy for aphasia. *Journal of Speech and Hearing Disorders, 41*, 287-297.
- Spradley, J. (1980). *Participant observation*. Orlando, FL: Holt, Reinhart, & Winston.
- Spradley, J. (1979). *The ethnographic interview*. Orlando, FL: Holt, Reinhart, & Winston.
- Steinmetz, K. (2014). The transgender tipping point: America's next civil rights frontier. *Time*, 38-46. Retrieved from <http://time.com/135480/transgender-tipping-point/>
- Stone, S. (1991). The empire strikes back: a posttranssexual manifesto. In J. Epstein & K. Straub (Eds.), *Body guards: The cultural politics of gender ambiguity*. New York, NY: Routledge.
- Stryker, S. (1994). My words to Victor Frankenstein in above the village of Chamounix: Performing transgender rage. *GLQ: A Journal of Gay and Lesbian Studies, 1*(3), 237-254.
- Titze, I. R. (1994). *Principles of voice production*. Englewood Cliffs, NJ: Prentice Hall.
- Uptis, R., Abrami, P.C., Brook, J., Boese, K., & King, M. (2017). Characteristic of independent music teachers. *Music Education Research, 19*(2), 169-194.
- Uszler, M. (1996). The independent music teacher: Practice and preparation. *Arts Education Policy Review, 97*(3), 20-29.

- Van Borsel, J., De Cuypere, G., Rubens, R., & Destaeke, B. (2000). Voice problems in female-to-male transsexuals. *International Journal of Language and Communication Disorders*, 35(3), 427-442.
- Vennard, W. (1967). *Singing: The mechanism and the technic*. New York, NY: Carl Fischer.
- Walls, R.T., Nardi, A.H., von Minden, A.M., & Hoffman, N. (2002). The characteristics of effective and ineffective teachers. *Teacher Education Quarterly*, 29(1), 39-48.
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society*, 1(2), 125-151.
- Wexler, M. (2008). *A comparative survey of goals and strategies of college music performance teachers across instrumental groups*. (Unpublished doctoral dissertation). Teachers College, Columbia University, New York.
- Wilchins, R. (2002). Queer bodies. In J. Nestle, C. Howell, & R. Wilchins (Eds.), *GenderQueer: Voices from beyond the sexual binary*. Los Angeles, CA: Alyson Books.
- Zimman, L. (2012). *Voices in transition: Testosterone, transmasculinity, and the gendered voice among female-to-male transgender people*. Retrieved from ProQuest Dissertations & Theses Global. (1081491564)

APPENDICES

Appendix A

Singer's Information Sheet

Completed by the researcher:

Participant's Name: _____

Contact information (e-mail and/or phone number):

Date of Birth (month/day/year): _____

Gender identity: _____

Use of hormone replacement therapy: Yes –or– No

If yes, for how long? _____

Voice Part/Fach: _____

Prior singing and voice lesson experience:

Teacher's Name: _____

Teacher Contact information (e-mail and/or phone number): _____

Other information:

Appendix B

Interview Protocol

Trans and Non-Binary Singers in the Applied Voice Studio

Research Question:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

Student Participant

Themes: (1) Identity, (2) Perceptions, (3) Self-Efficacy, (4) Training, (5) Development

Purpose	Question
Introduction/ Consent	Hello, my name is William Sauerland. Thank you so much for chatting with me today. I appreciate your time. My purpose today is to learn about your aspirations as a musician and your experiences in singing lessons. The risks of this interview are minimal, but if any question makes you uncomfortable, please let me know and we will skip it. I have a copy of your signed Informed Consent and Participants. Do you have any questions before we begin?
Background	Tell me about yourself.
<i>Identity</i>	<ol style="list-style-type: none"> 1. How do you identify? 2. What are your pronouns? 3. Where did you grow up? 4. Where do you live now? 5. How did you become interested in music? 6. When did you start singing? 7. Tell me about a specific musical experience that stands out in your mind. 8. Are there aspects of your culture or community that have influenced you as a musician?
RQ #1	Tell me about your singing.
<i>Perceptions</i>	<ol style="list-style-type: none"> 1. What is your perception of your voice? 2. How do you perceive of your voice? 3. Do you feel your voice is congruent with your gender? 4. Tell me about any vocal changes you have experienced.
<i>Self-Efficacy</i>	<ol style="list-style-type: none"> 5. What steps or actions have you taken to change your voice?

	<ol style="list-style-type: none"> 6. Have you taken any hormones as part of your transition? 7. Have you worked with a speech-language pathologist? 8. What are your singing goals?
<p>RQ #2</p> <p><i>Training</i></p> <p><i>Development</i></p>	<p>Tell me about your vocal training.</p> <ol style="list-style-type: none"> 1. How long have you studied singing? 2. How long with current teacher? 3. Tell me about any previous singing instruction you have had. 4. What is your purpose for taking singing lessons? 5. Walk me through a voice lesson. 6. How is a lesson structured? 7. What vocal exercises do you sing? 8. What repertoire are you working on? 9. What is your favorite song you are learning? 10. What other resources have you explored for vocal training, such as YouTube videos or masterclasses? 11. Tell me about the vocal progress you have made in your lessons. 12. Are you happy with your vocal progress? 13. Do you feel you are making progress toward your aspirations? 14. To what do you attribute progress?
<p>Conclusion</p>	<p>Guiding Questions:</p> <ol style="list-style-type: none"> 1. Since the purpose of this interview is to discuss your aspirations as a singer and your experiences in singing lessons, is there anything else you think might be pertinent? 2. If you were to be able to offer feedback to voice teachers about working with transgender singers, what might you say? 3. Is there anything else you would like to share? <p>Thank you so much for your time. I really appreciate you speaking with me today. I will be sending you a transcript of this interview, so in case you would like to amend anything you said, you will have an opportunity.</p>

Teacher Participant

Themes: (1) Identity, (2) Training, (3) Perceptions, (4) Pedagogy

Purpose	Question
Introduction/ Consent	Hello, thank you so much for chatting with me today. I appreciate your time, and I appreciated the opportunity to observe your voice lessons. The purpose of this interview is to discuss your experiences in working with your transgender voice student(s) and any strategies or practices you use to develop their singing voices. The risks of this interview are minimal, but if any question makes you uncomfortable, please let me know and we will skip it. I have a copy of your signed Informed Consent and Participants. Do you have any questions before we begin?
Background	Tell me about your musical background.
<i>Identity</i>	1. How do you identify?
	2. What are your pronouns?
	3. What is your voice type?
<i>Training</i>	4. Where did you train as a musician?
	5. How long have you been teaching voice?
	6. Who or what has influenced the way you teach?
	7. What colleagues, mentors, or research did you consult for knowledge of working with transgender singers?
	8. When did you first start working with transgender/non-gender conforming singers?
	9. How did you get started in working with this community?
RQ #3	Tell me about working with your transgender/non-gender conforming student.
<i>Perceptions</i>	1. How long have you been teaching them?
	2. Describe their singing voice.
	3. Tell me about their vocal abilities.
	4. What rewards have you encountered in teaching them?
	5. What challenges have you encountered in teaching them?
	6. Have you discovered any unusual vocal qualities in your student? Like what?
	7. Do you think your student's perception of their singing voice is aligned with your own or how others perceive their voice?
	8. Do you think the goals your student has for their singing voice are possible for them?
	9. How has their voice changed in the time you have been working with them?

<i>Pedagogy</i>	<p>Walk me through a voice lesson.</p> <ol style="list-style-type: none"> 1. How is a lesson structured? 2. What specific exercises do you use with your transgender student? 3. What do you work on in a lesson? 4. Tell me about any technical concepts or ideas you have found to be useful? 5. What repertoire do you use appropriate for the vocal abilities of your student? 6. Does a lesson with your transgender/non-gender conforming student look different from any other student? If so, how?
Conclusion	<p>Guiding Questions:</p> <ol style="list-style-type: none"> 1. Since the purpose of this interview is to discuss your experiences in working with a transgender singer, is there anything else you think might be pertinent? 2. If you were to be able to offer knowledge to other voice teachers working with transgender singers, what might you say? 3. Is there anything else you would like to share? <p>Thank you so much for your time. I really appreciate you speaking with me today. I will be sending you a transcript of this interview, so in case you would like to amend anything you said, you will have an opportunity.</p>

Appendix C

Observation Protocol

Trans and Non-Binary Singers in the Applied Voice Studio

Research Question:

1. How do musical spaces shape the identity of trans and non-binary singers?
2. How do trans and non-binary singers describe their vocal training in voice lessons?
3. How do voice teachers characterize the training of trans and non-binary singers?

Themes: (1) Student-Teacher Talk, (2) Practices/Strategies, (3) Feedback, (4) Technique

Themes	Observations
<i>Student-Teacher Talk</i>	<ul style="list-style-type: none"> • Do the teacher and student talk about things other than singing? • How does the lesson begin? • What time is allotted between personal and musical work? • How is student-teacher rapport? How is rapport established?
Notes:	
<i>Practices/Strategies</i>	<ul style="list-style-type: none"> • How does the lesson begin? • Does the lesson begin with vocal or physical exercises, or repertoire? • What vocal exercises (if any) are performed? • What purpose do the vocal exercises have? • What strategies does the teacher employ? • Who drives the pacing of the lesson? • What repertoire is being studied?
Notes:	

<i>Feedback</i>	<ul style="list-style-type: none"> • How does the teacher affect change? • How does the teacher provide constructive feedback? • Does the teacher model good vocal technique? • Does the teacher use visualization/imagery? • Does the teacher ask for feedback from the student? How do they finesse the lesson??
Notes:	
<i>Technique</i>	<ul style="list-style-type: none"> • What is the student's range? • Does their range align with their vocal aspirations? • Does it seem their vocal and gender identity is aligned? • Does the student struggle with aspects of the vocal exercises or repertoire? • What are the technical goals? Big picture and lesson?
Notes:	

For lesson 2 (or 3), revisit the above themes, and include:

- How does this lesson compare to the previous lesson(s)?
- Is there any sign of vocal, musical, or emotional/confidence growth from the previous lesson(s)?
- Are there any setbacks from the previous lesson(s)?
- Has the language evolved? How? Why?
- Have the vocal exercises and repertoire changed or remained the same? How? Why?

Notes:

Appendix D

Singer Recruitment E-mail

Dear _____,

My name is William Sauerland and I am currently the Director of Choral and Vocal Activities at Chabot College. I am also the Artistic Director of the Oakland-East Bay Gay Men's Chorus. I am also pursuing a doctorate of education in music and music education from Teachers College, Columbia University.

As a doctoral student, I am working on a dissertation that seeks to understand the experiences of trans and non-binary singers in the applied lessons studio. For this study, I will be observing trans and non-binary students in private singing lessons and interviewing students to better understand the singer's vocal identity. I am writing to see if you would be willing to participate in this study. As you might be aware, there are few major studies that have focused on the experience of transgender individuals participating in singing lessons, and so I hope this study will be a useful contribution in music education.

It is my plan to observe lessons and conduct interviews during the fall of 2017. I kindly request you reply to this e-mail if you are interested in learning more about participation in this study. In return, I will send you an Informed Consent document providing your rights as a participant in the study. After I have received these signed documents from you, I will then contact your teacher to see if they are willing to participate in the study. Thank you so much for considering this request.

Appendix E

Informed Consent Form—Singers

Teachers College, Columbia University
 525 West 120th Street
 New York, NY 10027
 (212) 678-3000
 www.tc.edu

INFORMED CONSENT FORM – SINGERS – THE EXPERIENCES OF
 TRANSGENDER SINGERS AND THEIR TEACHERS IN THE APPLIED VOICE
 STUDIO

DESCRIPTION OF RESEARCH: You are invited to participate in a research study on the transgender singing voice. You will be asked about your vocal identity and vocal training in private singing lessons to further the understanding of transgender singing. You will be asked to discuss your perceptions and experiences in an interview. Your interview will be transcribed for analysis. William Sauerland will conduct the research, and he will observe two or three of your private voice lesson. The lesson observations will occur wherever you have your voice lessons, and the interviews will be conducted in a convenient location for you or via Skype.

RISKS AND BENEFITS: The research has the same amount of risk singers will encounter during a usual interview or lesson observation. Subjects may benefit from the research by self-reflecting on their vocal identity and training. Though risk is minimal, the research will investigate the congruency of gender and vocal identity, and therefore some questions might be of sensitive to the participant. If a participant does not want to participate in all aspects of the study, they may say so and continue onto the next portion of the study or discontinue participation entirely.

PAYMENTS: You will not be paid for your participation.

DATA STORAGE TO PROTECT CONFIDENTIALITY: Your identity will be confidential, and a pseudonym of your choosing will be used in the study. Data will be used for professional purposes, and stored on a private computer.

TIME INVOLVEMENT: Your participation will consist of approximately one interview for 45-60 minutes, and two or three one-hour lessons.

HOW WILL RESULTS BE USED: The results of the study will be used primarily for this dissertation. The findings might also be presented at conferences, publications, and used for educational purposes.

Appendix F

Teacher Recruitment E-mail

Dear _____,

My name is William Sauerland and I am currently the Director of Choral and Vocal Activities at Chabot College. I am also the Artistic Director of the Oakland-East Bay Gay Men's Chorus. I am also pursuing a doctorate of education in music and music education from Teachers College, Columbia University.

As a doctoral student, I am working on a dissertation that seeks to understand the strategies and approaches for training trans and non-binary singers in the applied lessons studio. For this study, I will be observing trans and non-binary students in private singing lessons and interviewing voice teachers of transgender students. Your student, (insert name), has agreed to participate in this study. I am writing to see if you would be willing to participate as well. As this study seeks to understand the full experience of the training process, I require both the student and teacher participate in the study.

As you might be aware, there are few major studies that have focused on the experience of trans individuals participating in singing lessons, and so I hope this study will be a useful contribution in music education. Your student, (insert name), had already agreed to participate in this study.

It is my plan to observe lessons and conduct interviews during the fall of 2017. I kindly request you reply to this e-mail if you are interested in learning more about participation in this study. In return, I will send you an Informed Consent document providing your rights as a participant in the study. Thank you so much for considering this request.

Appendix G

Informed Consent Form—Teachers

Teachers College, Columbia University
525 West 120th Street
New York, NY 10027
(212) 678-3000
www.tc.edu

INFORMED CONSENT FORM – TEACHERS – THE EXPERIENCES OF
TRANSGENDER SINGERS AND THEIR TEACHERS IN THE APPLIED VOICE
STUDIO

DESCRIPTION OF RESEARCH: You are invited to participate in a research study on the transgender singing voice. You will be asked about your strategies and approaches for teaching a transgender singer in your private vocal studio. William Sauerland will conduct the research, and he will observe two or three private voice lessons with the transgender student. The lesson observations will occur wherever you have your voice lessons, and the interview will be conducted in a convenient location for you or via Skype after the conclusion of the lesson observations.

RISKS AND BENEFITS: The research has the same amount of risk teachers will encounter during a usual interview or lesson observation. Subjects may benefit from the research by self-reflecting on their vocal pedagogy. If a participant does not want to participate in all aspects of the study, they may say so and continue onto the next portion of the study or discontinue participation entirely.

PAYMENTS: You will not be paid for your participation.

DATA STORAGE TO PROTECT CONFIDENTIALITY: Your identity will be confidential, and a pseudonym of your choosing will be used in the study. Data will be used for professional purposes, and stored on a private computer.

TIME INVOLVEMENT: Your participation will consist of approximately one interview for 45-60 minutes, and two or three one-hour lessons.

HOW WILL RESULTS BE USED: The results of the study will be used primarily for this dissertation. The findings might also be presented at conferences, publications, and used for educational purposes.

Appendix H

Participant's Rights Form

Teachers College, Columbia University
525 West 120th Street
New York, NY 10027
(212) 678-3000
www.tc.edu

PARTICIPANT'S RIGHTS FORM - THE EXPERIENCES OF TRANSGENDER SINGERS AND THEIR TEACHERS IN THE APPLIED VOICE STUDIO

Principal Investigator: William Sauerland

Research Title: THE EXPERIENCES OF TRANSGENDER SINGERS AND THEIR TEACHERS IN THE VOICE STUDIO

- I have read and discussed the Research Description with the researcher. I have had the opportunity to ask questions about the purposes and procedures for this study.
- My participation in the study is voluntary. I may refuse to participate or withdraw from participation at any time without jeopardy to future medical care, employment, student status, or other entitlements.
- The researcher may withdraw me from the research at their professional discretion.
- If, during the study, significant new information that has been developed becomes available that may relate to my willingness to continue to participate, the investigator will provide this information to me.
- Any information derived from the research project that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- If, at any time, I have questions regarding the research or my participation, I can contact the investigator, who will answer my questions. The investigator's phone is (513) 515-7174.
- If, at any time, I have comments or concerns regarding the conduct of the research or questions about my rights as a research subject, I should contact Teachers College, Columbia University Institutional Review Board/IRB. The phone number for the IRB is (212) 678-4105. Or, I can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, NY, NY 10027, Box 151.

(PARTICIPANTS'S RIGHT FORM, continued)

- I should receive a copy of the Research Description and this Participant's Rights document.
- If video and/or audio taping is part of this research:
I () consent to be audio/video taped
I () do NOT consent to being video/audio taped.
The written, video, and or audio taped materials will be viewed only by the principal investigator and members of the research team.
- I () consent to the written, video and/or audio taped materials may be viewed in an educational setting outside the research.
I () do NOT consent to the written, video and/or audio taped materials may be viewed in an educational setting outside the research.
- My signature means that I agree to participate in this study.

Participant signature: _____ Date (m/d/y): ____/____/____

Appendix I

Compilation of Collected Vocal Exercises

Occluded exercises for minimal pressure and ease of registration

th _____ th _____ th _____
 v _____ v _____ v _____
 z _____ z _____ z _____

Figure 5. Vocal slide 1 on a perfect fifth for balanced onset and breath release

th _____ th _____ th _____
 v _____ v _____ v _____
 z _____ z _____ z _____

Figure 6. Vocal slide 2 on a fourth and octave for balanced onset and breath release

Figure 23. Descending fifth slides to release subglottal pressure

(rolled r) _____ (rolled r) _____

Figure 25. Rolled [r] on five-tone scale in middle-low range



Figure 26. Humming glide on an ascending perfect fifth for forward resonance



Figure 29. Octave glide on [ŋ] in lower range for aligning lower and upper range

Slides on open vowels for fostering chest voice/thyroarytenoid-dominant phonation



Figure 18. Perfect fifth slides on half notes for stretching upper range

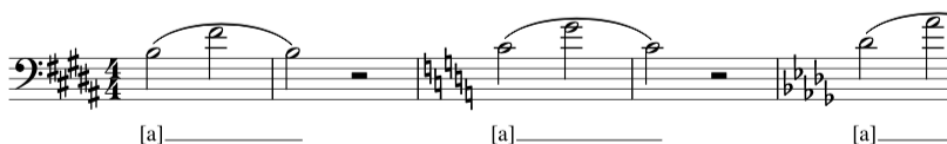


Figure 21. Perfect fifth on half notes to stretch lower register higher



Figure 17. Two-note pairs over a tenth for stretching upper range



Figure 34. Descending perfect fifth glide and scale for register alignment

Closed vowel exercises [u, y, i] to balance or lighten registration



Figure 31. Exercise 7, Octave glide on [i] from lower range to upper range



Figure 11. Stacked minor 3rds, version 1, for rounded lips and forward resonance



Figure 12. Stacked minor 3rds, version 2, for rounded lips and forward resonance



Figure 28. Five-tone scale on [u] for upper range development

Consonant combinations to encourage flexible articulation of tongue and lips

Figure 7. Exercise [ziŋa] for breath release and flexibility

Figure 8. Exercise [neomi] for resonance and released jaw and tongue

Figure 13. Stacked minor 3rds, version 3, for forward resonance and lifted soft palate

Arpeggio for movement in the voice to foster balance and align registers

Figure 19. Staccato triad arpeggio for upper extension and balanced onset



Figure 20. Nine-tone scale for upper range alignment



Figure 22. Descending five-note scale to extend lower range lower



Figure 30. Five-tone scale for lower range development



Figure 33. Nine-tone scale on [i] for registration alignment