



Teaching Adolescents with a Holistic Perspective

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When describing the young adolescent, floods of words come to mind. Unpredictable. Emotional. Hilarious. Moody. Angsty. Perhaps, however, the word “individual” is the most appropriate, because each adolescent is unique and progresses through adolescence in his or her own way. They are this odd mix of goofy and mature rolled into one package. They can carry on an incredibly mature, deep conversation and in the next breath are burping the alphabet. Because they straddle childhood and adulthood, adolescents are young enough to mold yet old enough to stand on their own. It is for all of these reasons—and many more—that educators enjoy working with adolescents so much.

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Adolescence spans across middle and high school, ending in the mid-20s.¹ Therefore, the discussion within this paper is not limited to students in middle school or junior high alone. Rather, the conversation before us pertains to choral students in both middle and high school, with the caveat that (as mentioned above) each person experiences adolescence in a unique way. This paper comprises two main sections. The first addresses emotion and physical development, which are two key adolescent characteristics commonly encountered in the choral classroom; the second concerns puberty and adolescent voice change.

The Adolescent Choral Student

Emotion

In my work with adolescent singers, I have found them to be smart, clever, hardworking, and extremely loyal once you get them on your side. Because these students truly straddle both child and adult worlds, however, identity navigation and decision-making are not always accomplished in the most sophisticated ways. As a result, general public perspective of adolescents is one of deficit, anguish, unpredictability, and irrational behavior. Fueling the stereotype are adolescent emotions, which have a tendency to run high and fluctuate often. In his book *Adolescence*, Ian McMahan illustrates the point:

I dropped by a large bookstore and browsed in the Parenting department. The books were arranged by age. On the first shelves, I noticed such titles as *The Magic Years*, *How to Raise a Happy Baby*, and *Kids Are Worth It*. The covers featured cute, smiling babies and attractive, smiling parents. Then I moved a few feet to the right, to the Adolescence section. Some of the titles caught my eye: *The Roller Coaster Years*, *How to Keep Your Teenager Out of Trouble*, *How to Stop the Battle with Your Teenager*, *How to Keep Your Teenager from Driving You Crazy*, *Yes, Your Teen Is Crazy!* Clearly, the idea that adolescence has to be a time of “storm and stress” is alive and well.²

Many of our choral students will experience difficulties during adolescence, but we can choose to focus on this population with a “glass half full” attitude and remain resolute that “‘Storm and stress’ is not a universal experience of early adolescence. Some individuals are (or seem to be) well adjusted.”³

Attempts to control or direct adolescent emotion in the choral classroom are as pointless as trying to prevent the ocean from crashing against the shore. However, through acknowledgment of adolescents’ emotional fluctuation—embracing it, even—our work as choral music educators can be less burdened. When students seem emotional or angry, there are only benefits in honoring what students are experiencing, even if we (as adults) find the reason for their despair to seem a bit trite. A simple, nonjudgmental comment such as, “I am so sorry that you are feeling this way,” can go a long way with adolescent students who crave validation and belonging.⁴

In addition, as we work with students for multiple consecutive years, they tend to consider us a safe person. Consequently, we are often a lightning rod for students’ emotional outbursts that have little or nothing to do with us. It is important to objectively consider the situation at hand before reacting—is this an instance of fear? Anger? Boredom? Confusion? Excitement? Anxiety due to the adolescent “invisible audience”? Outright insubordination? Music educators Peggy D. Bennett and Douglas R. Bartholomew call this moment of pre-reaction contemplation “a moment of grace.”

A moment of grace is the interval of time we take to reframe someone’s behavior so that we can react with curiosity, compassion, or openness rather than judgment, annoyance, or defensiveness. Giving someone the “benefit of the doubt” allows us to delay our reaction to the comment or action with the intent of looking beyond our immediate response. This form of second-guessing can serve several constructive purposes: It can help us avoid responding in ways that we may later regret, it can help us look further into sometimes innocent reasons for the behavior, and it can help us develop a habit of openness to varying levels and dimensions of understanding others.⁵

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Music is emotional, and singing especially so, and adolescent emotion will make a regular and varied appearance in choir. Rather than viewing such instances as a complication to the choral rehearsal, use glimpses of emotion to connect with adolescent singers in meaningful ways, help them to relate more to one another, teach about empathy and humanity, and elicit conversations that lead to deeper connections with choral music.

Physical development

During our time with adolescent choral students, most of them will experience a growth spurt that “is so rapid that motor abilities lag behind”⁶ resulting in great motor-skill awkwardness. Erratic physical growth has enormous implications for our work as middle-level choral teachers, for all aspects of the vocal mechanism grow as unpredictably as other body parts (more on that in the next section). In her book *Not Much Just Chillin*⁷ Linda Perlstein beautifully describes adolescent physical development:

It happens at different times for everyone, which is why there are kids in sixth grade who look eight and kids who look eighteen. These physical changes are the greatest they’ve experienced since they were babies. This mysterious force that visits preteen boy’s bodies, which causes blond hair to darken and easy grace to disappear in a tangle of limbs and skin to pock with pimples, is objectively something wonderful—growth! change! maturity!—but it infuses them with a profound, unidentifiable sense of loss, as they start to see their childhoods fall. They’re not so cute anymore, and they know it. Their smells outpace their awareness of them, feet and armpits and breath, such that sixth-grade teachers wonder if they can tell their first-period classes to brush their teeth, or should they have the nurse do it? Eventually muscles will form, visible through forearms when fingers are flexed, but for now the bones come alone, and arms and legs grow faster than the brain’s ability to track them. A boy hits himself on corners of doorways, bangs his funny bone. So many times, as he races to get his gym clothes off to catch the bus home, Jimmy gets his head stuck in his shirt,

the pants in the shoes, so he’s starting to wear his gym clothes home. Entering puberty, a child grows so fast (three inches a year, on average, for boys) and so unevenly that inactivity is actually painful. He squirms after sitting still for fourteen minutes, which makes eighty-minute classes excruciating. Why do the teachers make you sit up straight? They think you can learn only if your body is propped a certain way?⁸

Alongside significant increases in awkwardness, physical strength, and size during adolescence, students will also begin to experience a refinement of motor skills that leads to a desire for specialization in activities. “The specialization stage of motor development continues through adulthood. It is characterized by the individual’s desire to participate in a limited number of activities and represents a combination of all preceding stages.”⁹

Therefore, at this peak time of great physical awkwardness and unpredictability, students start to make key choices about their musical involvement—largely based on current perceptions of their abilities at musical tasks. Again, *at a time when they are the most awkward*, students make big choices about their future involvement in music. It is a dangerous intersection for us as music teachers and we must proceed wisely to help our students feel successful and understand that physical skills will catch up to cognitive learning in due time, meanwhile keeping our music programs meaningful and relevant for adolescent musicians.¹⁰

The voice change experience can be a crossroads of whether or not female and male singers continue with participation in choir. If singers feel especially awkward or not confident about their singing voice, which is endlessly personal, students will simply *stop*. As we move into the second section of this paper focused on facets of voice change, above all we must remain incredibly sensitive to the adolescent ego and this intersection of awkwardness and specialization. Promoting a healthy self-esteem is part and parcel of work with changing voices—students must feel psychologically and emotionally positive and motivat-

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ed to continue singing until the physiological pieces of the voice fall into place. This never involves lying to students about their work, as that is not beneficial to anyone; but thoughtful and constructive feedback and focus on large and small accomplishments goes a long way.

Think, for example, of a changing voice student with a three-note range; you can certainly be positive about their effort, and details such as facial expression or demeanor when singing. Feedback can include, “That is the best that you have sung that passage!” or “I appreciate the shape of your vowels very much.” And as the student gains greater control over their voice, feedback can broaden to, “Now you did not sing that one as in tune as the last time; let’s try that again” and applaud their efforts when they sing with better intonation. When adolescent choral students feel good about their voices and singing, it is more likely that they will continue at it. Especially as students consider specialization during times of difficult vocal stages, a focus on process, effort, and accomplishment should take precedence over aims of perfect performance in middle-level choral classrooms.

Female and Male Voice Change

At its core, adolescent voice change is simply a growth spurt of the larynx. Everything within this complicated organ is functioning normally, but rapid physical growth leads to issues with laryngeal coordination. Among the results include a raspy or breathy tone, lack of phonation of certain pitches, or loss of vocal color.¹¹ Adolescent singers often have little or no understanding of how their voice functions; it is a mystery akin to Ariel’s glowing orb voice in *The Little Mermaid*.¹² And complicating the matter, unfortunately, is the lack of understanding that many choral teachers have about the physiological function of the voice. This just makes navigation of voice change even more confusing and frustrating for both teachers and students, and, as a result, discussions of laryngeal function and voice change are avoided altogether.

Rather than considering voice change as an intimidating process to navigate, liken it to a form of physical therapy after an injury. Working through voice change takes time, strategy, effort, patience, and a good attitude, but eventually function returns. Every day provides an opportunity to move forward one more step through the

process of physical readjustment and development.

For students to persevere through the process of voice change, they must be provided general information about vocal function and details of physiological happenings during voice change. Remember that adolescents lack control of so many aspects of their lives at this moment that understanding what is physically happening with their voices (and that difficulties shall pass) provides some sense of ownership of the process. It takes away the mystery of what is happening to them and reassures that their vocal experiences are normal—that *they* are normal. Bottom line: understanding the physiology behind their voice change empowers adolescent choral students in an uncontrollable situation, and they are more willing to work through vocal challenges and take musical risks.

Dialogue about vocal function and voice change should be a regular occurrence in adolescent choral classes, not a one-and-done conversation. To assist in these efforts, many of the available resources regarding anatomy and physiology of the voice, including posters or pictures of the larynx and the respiratory system, can be displayed in the choral classroom for reference during discussions of vocal function. (Perhaps even the digestive system, as it seems that people are easily confused about the trachea vs. the esophagus.) A quick search on YouTube yields an abundance of options for showing the voice in real-time action during laryngoscope (or perhaps you have a video of your own vocal scope?), which reinforces the idea that the voice functions logically—no mysterious Ariel orb here after all.

Adolescence is also a prime time to begin conversations about vocal health and phonotrauma, which is replacing the term “abuse and misuse” of the voice (and implies that singers are always to blame for vocal difficulties). Phonotrauma is defined in clinical practice as “voice use patterns leading to traumatic tissue changes of the vocal folds.”¹³ Discussions with adolescent choral students can promote awareness of non-voiced forms of photo-trauma (e.g., non-prescriptive drug use, alcohol, smoking, tobacco, hydration, diet/nutrition, gastro esophageal reflux disease, allergies, sleep deprivation, coughing and throat clearing) and voiced forms (e.g., vocal load and vocal technique).¹⁴

When we approach teaching adolescent choral students from a physiological and holistic point of view, we

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further validate our work in the eyes of students, parents, and administration. Such discussions legitimize the voice as a real and complex instrument that takes time to understand and learn to use. By teaching the physiology of the voice, we also move further away from the perception that choir is a “just show up and sing” sort of class or experience. The following discussion is intended as a basic introduction to vocal function and adolescent female and male voice change. Again, the idea of “individual” is present here as there is no one cookie-cutter approach to adolescent voice change. Each student’s experience is unique and unpredictable; each must be addressed on a case-by-case basis.

Physiology

Before launching into details of voice change, consider the basic structure and function of the larynx. It is an organ in our neck, about the size of a walnut, composed of many ligaments, cartilage, and tissue. The technical information that follows is essential for us to understand as choral music teachers and, often, as the only provider of voice instruction in our students’ lives. However, because adolescents each process information uniquely, an advised strategy is to discuss technical terms of vocal function in conjunction with layman’s terms and analogies.

The larynx is suspended in your neck from your hyoid bone. Its biological function is to protect your lower respiratory tract. Your larynx is really just a valve on top of your trachea, connected at the front, with the ability to open and close at the back. This valve function serves to prevent air from escaping from the lungs, to prevent foreign substances from entering the lungs, and to expel those substances if they invade. Its structure is made out of nine distinct cartilages, three of them paired (the arytenoids, the corniculates, and the cuneiforms) and the remaining three unpaired (the thyroid, the cricoid, and the epiglottis).¹⁵

They are all very connected and interact by way of intrinsic (internal) ligaments and muscles. You have very little direct control over their actions.

You can’t say to yourself, “Now, thyroarytenoid muscle, lengthen a little.” What you can do is learn to control their actions by trial and error, remembering what your successes feel like, and then reproducing them again and again. A good mantra to remember this principle is “the memory of how it feels is your main method.”¹⁶

The vocal folds are both loosely covered with a mucous membrane, which is an important factor in how they vibrate. The vibration begins when you deliver that slow, steady stream of well-coordinated air to your vocal folds. Voice scientists call this action myoelastic-aerodynamic. (Stay with me now!) Myoelastic means muscle (myo) that moves (elastic); aerodynamic means the motion of air and the forces that act on it. When air moves through your larynx on its way to your vocal tract, certain aerodynamic properties suck the vocal folds together and then re-open them in a physics principle called the Bernoulli Effect. As applied to singing, scientists call this action “flow phonation.” At the same time, the “myoelastic” element works as a self-sustained oscillator, also contributing to a very complex vibration mechanism. Voice scientists refer to this complex vibration as “floppy,” meaning that the muscle, ligament, and mucosa have the ability to vibrate in more than one mode, not just back and forth like sharply clapping your hands together, but like a ribbon undulating with many rippling motions. And remember that your vocal folds are very tiny; when they are closed (adducted), for men they are about 15-22 mm long; for women, 9-13 mm. What is really important for us to know is that this myoelastic-aerodynamic “floppy” vocal fold action, coupled with sharp, clean onsets, creates the most desirable complex vibration or sound wave. This is the raw material that is acted on in the resonators to create the most beautiful singing tone. (Did you get this far? Read it again if you need to. It is complicated but important.)¹⁷

In addition, it is important for adolescent singers to

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understand that the vocal folds are positioned in the larynx parallel to the ground and not in a vertical position. As I have always described to my students, “If I cut off your head and looked down your neck, I would be looking directly down on your vocal folds. If I continue down between your vocal folds, down into your neck, I would be in your trachea on my way to your lungs.” As adolescent female and male singers have a habit of “turtle-necking” or physically stretching/craning their neck to sing certain pitches, awareness of how the vocal folds are actually positioned in their larynx and neck can nip this habit in the bud. If they understand that folds are not vertical, there is no point in stretching the neck to try and reach a note, period. It’s a psychological tactic, but effective.

Voice Change

Voice change is an anatomical readjustment in both female and male adolescents. The larynx enlarges in an anterior-posterior (front to back) manner for males, resulting in the appearance of an “Adam’s apple” after puberty due to anterior protrusion of the larynx.¹⁸ Laryngeal growth in females is more of a rounding, or growth in height and width (therefore, rarely resulting in an Adam’s apple-esque protuberance).¹⁹ Laryngeal muscles for females and males are weakened from sudden growth and thickening of folds, requiring “a constant reassertion of the muscle control skills needed for speech and singing.”²⁰ So vocal folds continue to adduct normally, but weakened laryngeal muscles cannot control the posterior (back) portion of cartilage of larynx, which then remains somewhat open during phonation. This open space allows excess air to infiltrate the voice, resulting in the characteristic adolescent breathy or husky vocal sound. In addition, this gap also creates passagio problems, for lack of closure in the posterior glottis prevents “floppy” vibration on that part of the vocal fold.

Vocal folds themselves also experience a growth spurt. For females, the vocal folds grow approximately 3-4 millimeters during voice change, resulting in a range extension downwards of 1/3 an octave and up 3-4 pitches. For males, vocal folds grow approximately 1 centimeter, resulting in a range extension downwards of one octave and up a sixth.²¹

Consider the following analogy: If unchanged voices

are violins, during voice change, female voices transition to a viola and male voices to a string bass. At the conclusion of voice change, both males and females end with a new instrument that has its own unique characteristics and considerations. And even if the female viola operates more similarly to the original violin than the male string bass, everyone ends with a new instrument when all is said and done. The more subtle nature of female voice change has also been described as *shades of change*:

Perceptually, female voice change can best be described as shades of change. If the color blue is suggested, the mind may conjure many different shades of blue—from azure to royal or navy blue—with many colors represented in between. In many ways, color association is an appropriate way to understanding the development of the female voice. The overall color is that of a treble sound—it does not change. However, in terms of richness, depth, and warmth, the quality changes noticeably, and those stages of change can readily be identified by a trained listener.²²

Research substantiates voice change for both females and males,²³ yet focus in choral music education has historically remained on the experiences of adolescent male singers vs. adolescent female singers.²⁴ In recent research I reported that:

Words such as frustration, embarrassment, and pride illustrated emotions experienced during female voice change, the same descriptive words used by male singers. Several females felt alone during vocal challenges, even when singing with others; similar feelings of isolation were reported during male voice change. Female students reported feelings of empowerment during occasions of vocal consistency and increased vocal function following warm-ups and longer durations of vocalization, analogous to male singers who also experienced empowerment in similar singing situations.²⁵

Bottom line: as voice change is addressed in the choral classrooms, it is imperative that teachers acknowledge

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and validate voice change experiences of all changing voice students, regardless of gender.

There should not be a severity threshold that limits or withholds assistance from female adolescent singers, especially with knowledge that they are self-deprecating or feel “humiliated” from physiological occurrences out of their control. To disregard such challenges and struggles, we discount the experiences of our changing-voice female singers and potentially expose them to the same psychological and emotional risks with which adolescent male singers have struggled.²⁶

Voice classification

I have strong convictions about voice classification of young adolescent singers and am concerned about the practice of assigning permanent voice parts to changing voices. I liken this practice to assigning a seventh-grade baseball or softball player to the position of second base for the rest of their life. It is unrealistic and inappropriate to place such parameters on a human who is far from finished physiologically growing (as well as the emotional and psychological growth that accompanies it). Voice part labels can greatly impact and limit students’ perceptions of their instrument and influence future involvement with singing.

Part of my stance comes from my own experiences as an adolescent singer. When I was in sixth grade, I was assigned to sing alto because I played the piano and had a good ear, I could hold the harmony parts well, and my upper singing range was much weaker than my lower singing range. All throughout middle school, then high school, college, and as an adult, I was assigned to sing alto or second alto. As a result, from a very early age I embraced the idea that I could not sing high because no one ever assigned me to sing anything but the lowest parts. As a people-pleaser, I was not inclined to ask to sing another voice part, even once in a while; I trusted that my choral teachers knew what they were doing and that they knew I could only sing low. I became afraid of singing even remotely high and, to this day, am uncomfortable with using my voice in certain capacities. Ultimately, I am a classic case of the “Adolescent Alto”²⁷ where my adolescent voice quality gave the illusion that I should be

classified as an alto:

Girls’ voices during this period are inclined to be thin and sometimes shrill; the illusion that they are high voices will lead elementary school music teachers astray. A thin voice is not necessarily a high voice; it could be, of course, but this is not the general situation. Another phenomenon is that richer, thicker vocal quality does not necessarily indicate a low voice.²⁸

But the really problematic piece is that no teacher ever suggested to me, or provided additional opportunities for me, to expand my singing range during voice change or to develop my vocal identity since the age of eleven years old.

With changing voice singers, I support the practice of assessing adolescent choral students’ voices often and allowing them to assist during the process to increase sense of ownership over their voice change (by assessment, I mean “check-point” evaluation, not graded assessment). I also advocate for the practice of moving singers around to different vocal lines often, whether that be on different pieces of music within a concert cycle or per each new concert cycle: “In this piece you are singing the alto part” or “You are singing bass on this song” versus “You are an alto” or “You are a bass” (at least until their voices settle in several years). For example, a group of changing voice men could sing the soprano line down an octave or a group of women sing the bass line up an octave, and so forth. Or have groups of mixed voices sing each part, assigned to specific lines by accessible notes or notes that students are working toward. As many choral pieces are written unrealistically for the changing voice, this method helps to fit music to changing voices rather than forcing students to fit the music. It also very much reinforces music reading and listening skills for singers across the choir.

Conclusion

Working with adolescent choral students is complex but exciting, enjoyable, and different every day. I left my undergraduate music education program thinking that I would only be a high school choral teacher, but available teaching positions landed me in a middle school choral

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classroom. It was the last place that I thought I wanted to teach but turned out to be one of the greatest things that has ever happened to me. In choral music education, every age group has their wonderfulness and their warts. Adolescents have no more warts than any other age group; they just have their own unique quirks and characteristics that take time to understand and strategies to address. But I promise you, time with adolescent choral students is time well spent. ■

NOTES

- ¹ Ian McMahan, *Adolescence* (New Jersey: Pearson, 2008).
- ² *Ibid.*, 156.
- ³ Thomas A. Regelski, *Teaching General Music in Grades 4–8* (New York: Oxford University, 2004).
- ⁴ McMahan, *Adolescence*, 185.
- ⁵ Peggy D. Bennett and Douglas R. Bartholomew, *SongWorks 1: Singing in the Education of Children* (Belmont, CA: Wadsworth, 1997).
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- ⁷ Linda Perlstein, *Not Much Just Chillin’: The Hidden Lives of Middle Schoolers* (New York: Random House, 2003).
- ⁸ *Ibid.*, 61–62.
- ⁹ Zaichkowsky and Larson, “Physical, Motor, and Fitness Development,” 64.
- ¹⁰ Bridget Sweet, *Growing Musicians: Teaching Music in Middle School and Beyond* (New York, NY: Oxford University Press, 2016).
- ¹¹ Richard Alderson, *Complete Handbook of Voice Training* (West Nyack, New York: Parker Publishing Company, 1979); Karen Brunssen, “The Evolving Voice: Profound at Every Age” *Choral Journal* 50, no. 1 (August 2010): 45-51; Lynne Gackle, “The Adolescent Female Voice: Characteristics of Change and Stages of Development,” *Choral Journal* 31, no. 8 (March 1991): 17-25; Bridget Sweet, “The Adolescent Female Changing Voice: A Phenomenological Investigation,” *Journal of Research in Music Education* 63, no. 1 (April 2015): 70-88; Deso A. Weiss, “The Pubertal Change of the Human Voice,” *Folia Phoniatica*, 2 (1950): 126-159.
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- ¹³ Katherine Verdolini, “The Language We Use in Clinical Practice,” *American Speech-Language Hearing Association Special Interest Division 3 Newsletter: Voice and Voice Disorders*, 8 (1998): 3-4.
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- ¹⁵ Katherine Rundus, *Cantabile: A Manual About Beautiful Singing for Singers, Teachers of Singing and Choral Conductors* (San Pedro, CA: Pavane Publishing, 2009): 58.
- ¹⁶ *Ibid.*, 59.
- ¹⁷ *Ibid.*, 60.
- ¹⁸ Weiss, “Pubertal Change.”
- ¹⁹ *Ibid.*
- ²⁰ Constance A. Barlow and David M. Howard, “Voice Source Changes of Child and Adolescent Subjects Undergoing Singing Training—A Preliminary Study,” *Logopedics Phoniatics Vocology*, 27 (2002): 27.
- ²¹ Richard Luchsinger and Godfrey E. Arnold, *Voice-Speech-Language: Clinical Communicology: Its Physiology and Pathology* (Belmont, CA: Wadsworth Publishing Co, 1965).
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- ²³ Jean Abitbol, Patrick Abitbol, and Beatrice Abitbol, “Sex hormones and the female voice,” *Journal of Voice* 13, no. 3 (September 1999): 424–446; Luchsinger and Arnold, *Voice-Speech-Language*; Weiss, “Pubertal Change.”
- ²⁴ Bridget Sweet, “Qualitative Choral Music Research,” in C. Conway (Ed.), *The Oxford Handbook of Qualitative Research in Music Education* (New York, NY: Oxford University, 2014): 41–60; Bridget Sweet, “Choral Journal and the Adolescent Female Changing Voice,” *Choral Journal* 56, no. 9 (2016): 53-64.
- ²⁵ Sweet, “The Adolescent Female Changing Voice,” 83-84.
- ²⁶ *Ibid.*, 84-85.
- ²⁷ Irvin Cooper and Karl O. Kuersteiner, *Teaching Junior High School Music* (Boston, MA: Allyn and Bacon, 1965); Gackle, “The Adolescent Female Voice.”
- ²⁸ Cooper and Kuersteiner, *Teaching Junior High School Music*, 17–18.