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An Analysis of Middle School SATB and SAB Choral Sight Reading Contest Literature

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"The voice should not be made to fit the music, the music should be made to fit the voice" (Collins, 1982, p. 5).

Between 2006 and 2012, 9% of all middle school choral entries in the Texas University Interscholastic League (UIL) Concert and Sight Reading Contest consisted of mixed choirs (*N*=842) (Texas UIL, 2012a). Middle school mixed choirs pose unique pedagogical problems for directors. One such challenge lies in the determination of whether to perform Soprano Alto Tenor Bass (SATB) or Soprano Alto Baritone (SAB) literature. While a director must take into consideration the number, strength, and vocal independence of boys in the choir, the range of the part or parts and the students' progress in the voice change process are perhaps the most critical factors. The purpose of this study was to conduct an analysis of the UIL SATB and SAB middle school sight-reading literature from 2006 – 2012 and the corresponding UIL sight reading contest ratings.

Adolescent Vocal Ranges

Voice mutation, occurring in both adolescent males and females, is one of many physiological and psychological changes that occur during puberty (Gackle, 2011). Choral directors face unique challenges as they seek to find appropriate literature for choirs filled with changing voices. Though the characteristic symptoms of voice change may be less drastic in adolescent females than in males, they are present nonetheless (Gackle, 2011). Gackle (1991, 2011) developed a series of vocal phases for adolescent females that coincide with the stages of pubertal development (see Figure 1). Her ranges have been endorsed by several noted scholars and choral educators including Collins (1999), Cooksey (1999), and Haston (2007). Phase I, Prepubertal or Unchanged, is characterized by a clear, flute-like vocal quality and extends anywhere from ages 8 to 11. During this phase, the female voice is typically flexible and agile, with no obvious register breaks, and closely resembles the male voice at this age. Gackle recommends assigning girls in this stage to the Soprano I voice part. Phase IIA, the Pre-

menarcheal Phase, is when mutation begins. As females enter this phase, the first signs of physical maturation begin to appear, including breast development, height increase, and the development of other secondary sex characteristics. During this stage, girls exhibit more breathiness of tone, and register changes (or passaggio) from F4-A$^{\#}$4. Girls may experience a loss of their upper register and may have some difficulty in the lowest part of their range. Recommended voice parts are either Soprano II or Soprano I.

The third phase, IIB, the Post-menarcheal Phase, represents the pubertal stage at the highest point of mutation. At this point of development, the voice sounds husky, register changes appear between F4–A$^{\#}$4 and D5–F$^{\#}$5, and lower notes are more easily produced, giving the illusion of an Alto quality. Girls in Phase IIB may experience some difficulty or discomfort with singing in that voice cracking and breathiness frequently occur and vibrato may begin to appear as the voice progresses through this phase. Recommended voice parts are either Soprano II or Alto. In the final phase, Phase III, the Young Adult Female, the voice is characterized by a timbre that begins to approximate a young-adult quality. Tone becomes richer, range increases, breathiness decreases, registers are more consistent, and the voice is more flexible and agile. The D5–F$^{\#}$5 register change is more apparent in this phase, in addition to an increase in volume and resonance capabilities. Recommended voice parts include Soprano I, Soprano II, and Alto. Research undertaken by Williams, Larson, & Price (1990) affirmed many of the characteristics attributed to Gackle's four phases of female vocal development.

The phases of vocal maturation among adolescent males pose infinitely more difficulties for the composer and choral educator. The male vocal anatomy undergoes drastic changes during puberty, the end product being roughly an octave drop in the vocal range (Collins, 1999; Cooksey, 1999; Gackle, 2011; Swanson, 1961). One of the most widely-accepted theories regarding the male voice change process is the "Continuing and Eclectic Theory for the Training and Cultivation of the Junior High Male Changing Voice" developed by Cooksey (1977a, 1977b, 1977c, 1978, 1999), the six phases of which are outlined in Figure 1. He affirmed: "The voice change process in adolescent boys is a predictable, sequential, but sometimes erratic process which generally takes place over a period of one to two years" (1999, p. 12).

When a boy progresses from the Unchanged Stage to the Midvoice I Stage, he will often lose some of his higher pitches (usually C5-F5). As his height and weight begin to increase, his vocal cords start to grow, causing cartilage structure and muscles to develop around his vocal cords. During this phase, initial stages of sexual development begin to occur, e.g. increase in size of primary sex organs and first appearance of pubic hair. Cooksey states the average age of onset is 12-13 years, and this phase can last from several months to a year.

The next phase, Midvoice II, is marked by the emergence of the falsetto register, appearance of register lift points, and some loss of coordination. Average age of onset is 13 years, and this phase can last 12-13 months. The Midvoice IIA Stage is when the voice is most vulnerable to abuse. With onset at 13-14 years of age, and lasting from 1-10 months, Cooksey (1999) maintains this phase is vocally challenging. The falsetto can be difficult to access, singers can lose agility as the range lowers, and boys can become prone to pushing or forcing tone at range extremes. "There are coordination problems with the control of sound, particularly if the voice is forced to sing out of the restricted range. This is the time when many vocal problems are created, and serious dysphonias appear" (Cooksey, 1977b, p. 13). Physical characteristics of the Midvoice II and IIA Stages include a clearly prominent "Adam's apple," continuing increase in

height and weight, a disparity in body proportions, and a rapid growth of the head. As lungs grow larger, breathing capacity increases, and primary sexual characteristics are clearly manifested.

This stage is followed by the New Baritone Stage, in which the range begins to stabilize. While falsetto can be produced more easily, there is less pitch agility, due to the increasing strain to produce notes at the top of the range. This is when the "blank spot" (Swanson, 1961) often begins to appear, wherein boys are unable to produce pitches, typically between C4-F4. According to Cooksey, onset usually occurs around 14 years of age and lasts for 3-5 months. Weight increases begin to subside, and there is a cessation of height increase. This is the pinnacle of the development of sexual characteristics, when facial hair begins to appear and develop, chest and shoulder dimensions continue to increase, and the vocal cords reach maximum length, having grown 1 cm. since the onset of mutation. The singing voice is marked by a loss of childlike soprano qualities, but still lacks a fully developed adult sound. Resonation capabilities in lower extremes are not fully reached. The voice remains light, but approximates the mid-baritone sound.

Finally, the young male enters the Settling Baritone, or "Emerging Adult Voice" Stage. With onset at 14-15 years of age, the singer sees a gradual expansion in his range and vocal capability. Vocal production is more consistent, with a clearer and more focused falsetto register. The chest, shoulders, and muscles continue to develop, but height and weight, body metabolism, and heart rate become stabilized. The singing voice is marked by an increase of body and resonance of tone, along with emerging adult qualities. Voice classification becomes easier to determine. If the voice is to become tenor, some lower notes may disappear.

Onset of Voice Change

Gackle's (2011) ages of onset for the stages of female voice change (outlined in Figure 1) are widely accepted. Cooksey's research on the stages of male vocal maturation has been replicated and upheld (Rutkowski, 1985); however, other researchers (Killian & Moore, 1997; Killian & Wayman, 2010; Moore ,1995; Rutkowski, 1985) assert that the age of onset of vocal mutation in boys may be occurring earlier. Cooksey (1999) submitted the most active phase of the voice change occurs on average between 12.5 and 14 years of age, the precise ages of most US middle school 7th and 8th grade boys. Cooksey (1977b) found 8th grade to be the time when the most dramatic voice mutation occurred, and that the most dramatic changes happened over a span of 1.5 -2.5 years. Moore (1995), however, showed that less than 1% of 7th grade boys (generally ages 12-13) had unchanged voices at the *beginning* of the 7th grade year. Moore's findings were upheld by Killian (1999a), who found that 81.4% of 6th grade boys were in one of the changing voice categories. She found only 18.6% of 6th grade boys to be unchanged. Gackle (2011) stated that girls are also entering menarche and going through puberty earlier than their mothers did. What this means for middle school choral educators, who usually teach students ages 11-14, is that they can expect to have boys and girls of all stages of voice change in their choirs at any given time.

Challenges of Standard Choral Repertoire Ranges

The two voicing arrangements used for Texas UIL mixed choir sight-reading contest literature are SATB and SAB (Texas UIL, 2011a). Cooper noted the importance of each voice having a comfortable part to sing, compatible with his or her range (Collins, 1982). The changing, and often limited ranges of adolescent boys create substantial challenges for the composer and director in providing appropriate choral literature for these young singers. Most SATB music seems to have been composed with fully developed adult voices as the target performing audience, and is in fact, unsuitable for use with adolescent choirs (Cooksey, 1978, 1977a). In SATB literature, the Tenor part is usually too low for Midvoice II to sing, while the Alto part is too high, often requiring many abrupt pitch and register changes, and the Bass part is too low for changing baritones (Cooksey, 1978). Traditional soprano ranges may climb too high and alto ranges may be too low for girls in Gackle's Stages IIA or IIB.

Another option for mixed choirs is to perform music with only three parts, yet many range difficulties present there, as well. At the heart of the dilemma posed by middle school SAB choral literature lies the vocal range of the elusive Baritone part. The "baritone" section in many 7th and 8th grade mixed choirs is often comprised of adolescent boys who are in the midst of various stages of voice mutation. In fact, using Cooksey's (1999) stages of vocal maturation in conjunction with the previously discussed data regarding the age of onset of the various stages in boys today (Killian, 1999a; Killian & Moore, 1997; Moore, 1995; Rutkowski, 1985), a middle school director programming SAB music with his/her 7th and 8th grade mixed choir could realistically expect to have boys with six distinct range capabilities who would be expected to sing the same "Baritone" part. Cooksey (1978) pointed out that the ranges of SAB literature do not accommodate male changing voices in Midvoice II and IIA.

Another mixed choral configuration, generally tailored more towards adolescent voices, is the three-part mixed. In this arrangement, the parts are often labeled using gender-neutral numbers (i.e. part I, II, III). The structure is similar to that of SAB literature, however, the "Bass" part is generally narrower, has fewer skips with less challenging melodic contours, and is generally less difficult than that of an SATB or SAB Bass or Baritone part (Killian, 1999b). The three-part mixed "Bass" part is purposefully restricted to a very limited range (usually less than six notes, often G3-D4) to accommodate boys with changing voices (Killian, 1999b). "Three-part mixed is usually recommended for the less experienced choirs with boys whose voices are beginning to change, whereas SAB is written for the older mixed choirs with more mature male voices" (Collins, 1999). Killian (1998) recommended use of three-part mixed music with boys in the earlier stages of voice maturation, often found in 6th grade, and suggested reserving the wider ranged SATB and SAB literature for boys in later stages of the voice change. Specific three-part mixed choir selections may sometimes be included in SAB UIL listings, but it is not, however, one of the current voicing options allowed in Texas UIL Sight Reading Contest literature (Texas UIL, 2012b).

Swanson (1961) addressed the importance of boys singing in comfortable, attainable ranges, not only to ensure vocal health, but for extra-musical reasons as well, such as feelings of success and encouragement, retention of boys in choir, and more efficient classroom management. Killian's (2000) three-year study, which encompassed the literature selection, gender makeup, and ratings of middle school choirs participating in adjudicated choral festivals, showed that

though the number of boys participating in the festival was increasing each year, the level of success, as determined by a choir's rating, was not. Because choral directors seem to be largely selecting music for their mixed choirs with voicing and ranges that are unattainable for their singers, they are unintentionally setting them up to fail (Killian, 1998, 1999b, 2000, 2003; Killian & Moore, 1997). Killian (2000) found that 71% of middle school mixed choirs performed SA literature at festival, but only 34% of those doing so received Superior ratings. "Few male adolescents are willing to do very long what they are not good at, and all too frequently these young colts are quite resourceful in finding ways of expressing their resistance" (Swanson, 1961, p. 64).

In Texas UIL SAB and SATB sight-reading literature, the Bass and Baritone notes often extend as low as C3 and D3, well below the range of most young adolescent boys (Cooksey, 1999). Because the sight-reading piece is performed a cappella, often directors are advised to simply raise the key in performance, but this often puts the sopranos in the untenable situation of having to sing much too high for comfort, vocal health, and security (Gackle, 2011). Another possible solution is having boys with limited ranges sing the Alto part. This is often met with resistance, however, due to the male's perception of singing alto as being less than "manly," which, at this stage of adolescent development, could be socially devastating (Dilworth, 2012; Roe, 1994).

Method

Participants were intact 7th and 8th grade[1], Conference C, CC, and CCC mixed choirs (N = 842) participating in 28 different regions of the annual Texas UIL Choral Concert and Sight Reading Contest for the years 2006-2012. Choirs were assigned either an SATB or an SAB octavo to sight read, based upon the majority voicing of the concert literature selected by the director (Texas UIL, 2012b). For the sake of this study, a determination was made, based upon the majority voicing of each choir's concert literature, to classify a mixed choir as having sight-read SATB or SAB literature. When the voicing of an octavo was not listed on the Texas UIL website, the online commercial music publishing databases of J. W. Pepper Music (2012) and Pender's Music (2012), two leading distributors of school choral music, were consulted. There were 128 instances of unknown voicing for choirs from 2006 – 2012, for which choral directors were contacted. Of these, 26 were unable to be resolved. Therefore, results from those 26 choirs were excluded from the data set.

A panel of three experienced choral adjudicators independently rated each choir's sight reading performance, according to the standards set forth in the UIL Vocal Sight-Reading Competition adjudication rubric (Texas UIL, 2011b), assigning a rating of Superior (1), Excellent (2), Average (3), Below Average (4), or Poor (5). These ratings were then published online annually, by region, as part of the *University Interscholastic League Official Concert & Sight Reading Contest Results* (Texas UIL, 2012a). For the purposes of this study, each choir was assigned a composite rating, formulated by adding each of the three original individual

[1] Composite choirs, which include 6th grade students, are also allowed to compete, as long as the choir is "comprised of a majority of 7th grade students or above" (Texas UIL, 2012b, Section 1102.b.2.B). Entry of such groups is likelier to occur among smaller choral programs.

sight-reading scores together (Baker, 2004). The lower the score, the better the rating, ranging from 3-15. The mean composite rating for each year, and cumulatively for all years, was calculated by averaging all of the raw composite scores for both SATB and SAB choirs, including both Varsity and Non-Varsity entries. Choirs that were labeled "DNA" (Did Not Arrive) or "DQ" (Disqualified) did not receive a rating. These eliminated choirs (n = 32) were not included in the calculation of mean ratings.

The scope of this study was restricted to the SATB and SAB octavos used for Varsity and Non-Varsity choirs in the C, CC, and CCC conferences, published by Southern Music (2000 – 2009) and RBC Publications (2010 – 2012). The sole dependent variable consisted of the adjudicator's ratings of a choir's sight-reading contest performance. Independent variables included sight-reading literature voicing and a choir's proficiency designation (Varsity or Non-Varsity).

Results

Of the middle school mixed choir Texas UIL entries from 2006 – 2012, 62.95% (n = 530) were classified as sight reading SAB literature, 33.97% (n = 286) as reading SATB literature, and 3.09% (n = 26) with undetermined voicing. Considerably more middle school choir directors chose to have their mixed choirs sight-read SAB rather than SATB literature. Even though the overall number of choirs reading SAB declined from 84 in 2006 to 63 in 2012, the number of choirs reading SATB remained relatively constant, at 42 in 2006 and 41 in 2012. Although more choirs sight-read SAB literature, Table 1 indicates that choirs reading SATB received better adjudication ratings. The mean composite rating for all SATB choirs receiving scores from 2006 - 2012 (n = 280), 3.85 (SD = 2.02), was 3.34 points better than that of all SAB choirs receiving scores (n = 504), 7.21 (SD = 3.86). Furthermore, the mean SATB rating was at least 2.78 points better than that of the SAB for every year of this study.

Table 1

Mean Sight-Reading Composite Rating of All Texas UIL SATB and SAB Middle School Choirs

	SATB			SAB		
Year	*n*	Mean Rating	*SD*	*n*	Mean Rating	*SD*
2006	41	4.20	2.53	80	8.28	3.70
2007	42	3.63	2.64	73	6.51	3.50
2008	41	3.56	1.45	74	7.85	4.22
2009	36	3.89	2.01	82	6.67	3.85
2010	50	3.73	1.69	69	7.23	3.85
2011	40	3.28	1.24	65	6.95	3.80
2012	39	3.64	1.66	61	6.85	3.92

Note. Composite rating was calculated by combining the individual ratings of the three adjudicators. Three is the best possible composite score, representing three individual ratings of Superior (1), while 15 is the poorest, representing three ratings of Poor (5). Mean rating for all SATB choirs (n = 280) was 3.85 (SD = 2.02); for all SAB choirs (n = 504), it was 7.21 (SD = 3.86).

Calculated in terms of number of half steps, the average range of male voice parts (tenor and bass) in SATB voicing for all years was 5.5. The average range of the Baritone part in SAB voicing was 7.71, wider by more than two half steps. The ranges of the male voice parts in the 2006 – 2012 Texas UIL Sight Reading Contest music were as follows:

Tenor: G3-E4
Bass: C3-B3 (Though 2012 was the only year to go below D3).
Baritone: D3-B3 (Non-Varsity optional notes extended up to D4)

In all but one year, optional notes to replace the lowest notes in the Non-Varsity SAB Baritone part (D3, with D4 as optional) were provided. No optional notes were provided, however, for any of the Varsity SAB pieces. The SATB Tenor part, with an average range of 4.43, was the narrowest of the male ranges.

Figure 1 shows a comparison of the above three ranges, representative of Texas UIL SATB and SAB sight reading literature from 2006-2012, along with the allowable ranges for all Texas UIL voice parts, and with Cooksey's and Gackle's recommended ranges and tessituras for the stages of adolescent vocal development. The male ages shown represent an amalgamation of Cooksey's suggestions with results of research regarding the onset of male voice change (Killian & Moore, 1997; Killian & Wayman, 2010; Moore, 1995). As the ages of most US middle school students span from 11 – 14 years, Figure 1 shows that a middle school choir director could

realistically have students in up to nine different stages of vocal maturation in one choir. This results in the daunting task of trying to accommodate nine distinct vocal ranges when selecting music.

According to Cooksey's stages, male students in the Midvoice II and IIA stages would be able sing pitches in the UIL Tenor range; those in the New and Settling Baritone stages would be able to sing the bass pitches; and those in the Midvoice IIA, New Baritone, and Settling Baritone stages would be able to sing the UIL Baritone pitches. None of the UIL tenor, bass, or baritone ranges, however, would be accessible to male students with unchanged voices or in the Midvoice I stage.

Though consistent trends between range width and rating were not obvious, a few anomalies warrant discussion. Of the Non-Varsity SAB selections, the poorest mean composite rating (9.38, *SD* = 4.05) occurred in 2008, the only year in which no optional high notes were provided in the Baritone part as alternatives to singing D3. In 2006, the Varsity SATB selection had the widest Tenor range (7, compared with 3 and 5 the other years), the lowest tenor note, G3, as well as the widest soprano range (12, compared with 7, 8, or 9 most years), and the lowest soprano note (D4, compared with $F^{\#}4$ or G4 most years). Interestingly, that same year Varsity SATB choirs had the poorest mean composite rating (4.23, *SD* = 2.51).

The second poorest Varsity SATB mean composite rating (3.87, *SD* = 2.65) occurred in 2007, when the sight reading piece had a wide and low soprano range (exact same as 2006), along with the highest bass span (B3). The best SATB Varsity rating (3.44, *SD* = 1.16) occurred in 2011, when the contest music had the narrowest tenor (3) and soprano (7) ranges. The overall average range of boys' voice parts in SATB was 5.5, corresponding with a mean rating of 3.85 (*SD* = 2.02); in SAB the range was 7.71, corresponding with a mean rating of 7.21 (*SD* = 3.86).

The considerable difference in ratings between middle school choirs reading SATB and SAB literature would seem to indicate that the SAB literature is more difficult for students to perform successfully. If this is true, then why do the majority of middle school directors choose to have their choirs sight-read SAB? One possible reason could be the belief that the boys lack the musical independence to be able to sing in two parts, as required by SATB literature (S. Gulley, personal communication, October 15, 2012; T. Bradstreet, personal communication, October 15, 2012). Another possibility is the director's perception that the boys may be too few in number if divided into two parts to successfully balance the number of girls in the choir (A. Bond, personal communication, October 13, 2012). Yet another reason concerns the makeup of the boys' section in a given year. One director reported selecting SAB sight-reading because that year his choir lacked any true tenors (J. Bourdier, personal communication, October 13, 2012), while another cited the lack of basses, noting that the range of the SAB baritone part required him to transpose the piece higher (J. Price, personal communication, October 12, 2012). Such situations highlight the need for more voicing options to address the diverse ranges present in middle school mixed choirs.

Perhaps consideration of additional three-part voicing options, such as SAT or three-part mixed, for Texas UIL middle school choirs might be beneficial. An added benefit of the three-part-mixed setting is the traditional use of gender-neutral labels, thus enabling a director to assign boys to the middle, or traditional "alto" part, without fear of stigmatization. Another option to accommodate mixed choirs with boys whose voices are either unchanged or in the earliest stages of change, would be to allow them to perform three-part treble, or SSA, literature.

The ranges of the Texas UIL Alto parts for all Varsity and Non-Varsity SSA pieces from 2006-2012 for middle school treble choirs stayed well within Cooksey's recommendations for boys in the Unchanged, Midvoice I, and Midvoice II stages. The ranges spanned from C4 to A4, with the majority of pieces remaining between C4 and F4. A gender-neutral relabeling of the parts, however, would be advisable, to prevent possible embarrassment to boys.

Figure 1, Section A shows the acceptable middle school vocal ranges for Texas UIL sight reading music. Compositional guidelines do not specify which of the two soprano and tenor ranges should apply to the composition of SATB and SAB music (Texas UIL, 2011a). Section B shows, however, that composers have chosen to write to the extremes of both range options. For example, Section A shows the Tenor I acceptable range as A3-F$^{\#}$4 and the Tenor II range as F3-D4. Actual SATB compositions' tenor ranges spanned from G3-E4, too low for the Tenor I range and too high for the Tenor II range. The SATB and SAB Soprano parts span the range of Soprano I, the wider of the two options; SATB and SAB Alto parts come within one half step of the allowable maximum range; SATB Bass parts span the entire allowable range; yet, none of the SAB Baritone parts employ the lowest M3, or the highest m2 allowed by current Texas UIL guidelines.

These guidelines allow for an SAB Baritone range from B^{b}2-C4. The pieces written from 2006 – 2012, however, exhibit a restricted baritone range, from D3-B3. These SAB Baritone parts are already only fully accessible by boys in the Midvoice IIA, New Baritone, or Settling Baritone stages – the latest of Cooksey's stages of male vocal maturation. Even then, the Baritone range does not fully lie within the tessitura recommendations for any of those three parts (see Figure 1). A Baritone part reaching down to B^{b}2 would only be accessible by boys in the final Settling Baritone stage; and it would lie outside the tessitura recommendations for every single one of Cooksey's six stages. The difficulties of accommodating many different voice types under the banner of the SAB "Baritone" have already been discussed in detail. The problem could potentially be compounded further simply by following current compositional guidelines set forth by Texas UIL. The fact that the Texas UIL range guidelines allow for the Baritone part to extend two half steps lower than the Bass part (C3) is an indicator that something is amiss. Perhaps it is time to reevaluate the current range allowances for Texas UIL middle school mixed choirs.

As Figure 1 illustrates, not all adolescent boys can successfully sing notes in the ranges of the three traditionally male voice parts. In SAB choirs with boys in all stages of vocal maturation, the director must make the decision to either have all boys sing the Baritone part, knowing they will not all be able to access all of the pitches, or to assign some boys to traditionally female voice parts. In truth, assignment to Alto in some situations would likelier be more comfortable for some boys in early stages of voice change. The pitfalls of assigning boys to voice parts with feminine labels, however, has also been addressed. If a mixed choir category is going to continue to be a staple of the Texas UIL Sight Reading Contest, perhaps a reevaluation of the part labels used would be beneficial.

The mean range size of the male voice parts for the SATB compositions was 5.5, while the mean SATB rating was 3.85 (*SD* = 2.02). The mean range size of the male voice part for the SAB compositions was 7.7, while the mean rating was 7.21 (*SD* = 3.86). It is possible that there is a connection between the wider range spans in the SAB literature and the poorer ratings. The poorest Varsity SATB mean composite rating (4.23, *SD* = 2.51) occurred in 2006, when the

soprano and tenor ranges were the widest and lowest. In fact, this was the only year in which the tenor range extended down to G3, notably outside the allowable Texas UIL range for Tenor Is. Conversely, in 2011, when the Varsity SATB mean composite rating (3.44, *SD* = 1.16) was best, the tenor range was the narrowest. The tenor range that year spanned a mere m3, from B3-D4, comfortably within the acceptable Texas UIL ranges for both Tenor Is and Tenor IIs.

The poorest mean composite rating among the Non-Varsity SATB choirs (7.67, *SD* = 5.03, *n* = 3), occurred in 2012, which also saw the highest soprano range, extending up to E5 (exceeding the acceptable range for Soprano II), and the widest and highest tenor range, spanning a P5 from A3-E4 (exceeding the acceptable range for Tenor II).

Though consistent trends between the span of all voice part ranges and mean composite rating were not immediately apparent, it appears that the range of the tenor part is of particular importance. For the SATB Varsity choirs, the best and worst ratings corresponded respectively with the narrowest and widest tenor ranges. Perhaps the tenor part is critical due to the number of boys in the earlier, less stable stages of voice mutation who would likely be singing that part. Cooksey (1999) noted the particular difficulty facing boys in the Midvoice II and IIA stages in terms of voice control and dexterity. The recommended tessituras for these two stages, $G^{\#}3$-F4 and $F^{\#}3$-D 4 respectively, would be better accommodated by the tenor than the bass voice parts in SATB literature.

It is notable that 6 of the 7 Non-Varsity SAB octavos from 2006-2012 include optional high notes that can be sung in place of the low D3s, which would be out of the range of boys in the first three of Cooksey's stages of voice change. It is also quite remarkable that the lone year in which the Non-Varsity SAB octavo did not include optional notes saw the poorest mean composite rating for that division, 9.38. None of the Varsity SAB compositions, however, included optional notes. Nowhere in the Texas UIL (2011a) sight-reading composition guidelines, however, does it even address the inclusion or omission of optional notes for SAB sight-reading compositions in either division.

Baker (2004) and Killian (1998, 1999b, 2000) both noted the importance of literature selection on choral festival rating outcomes and the correlation between literature and a choir's rating. In the same way, literature selection has a direct impact on sight-reading voicing. The difference is that directors are not at liberty to peruse the sight-reading music in advance to make an informed decision regarding voicing and ranges. In the case of Texas UIL Concert and Sight Reading Contest, the majority voicing of a mixed choir's selection of concert literature determines that the choir will sight read one of two voicing options: SATB or SAB. As the previous pages of this study have illustrated, there is a high degree of range variability possible in a given year's sight-reading octavos. Until more voicing options are made available to Texas UIL middle school mixed choirs, directors are essentially required to make a choice between the lesser of two evils: dividing the number of boys into two sections or singing a single male voice part with a wider range.

Discussion

Perhaps it is time to consider making changes to the current Texas UIL compositional guidelines, in order to better accommodate adolescent singers. The allowable keys of C, F, and G Major are also somewhat problematic. All of the mixed octavos for the years 2006-2012 are in the key of G Major. In fact, an examination of the mixed octavos going back to the year 2000

indicated that all but one year's octavos were composed in the key of G Major. The one exception occurred for the Varsity SATB and SAB pieces of 2000, which were written in F Major. As a result of this key decision, the Bass part of the SATB piece extended down to C3. Even more problematic, the Baritone part of the SAB piece, which had no optional notes, also extended down to C3, well beyond the range of most adolescent boys. None of the octavos written between 2000 and 2012 were composed in the key of C Major.

For SAB compositions in G Major, the overwhelmingly most popular key, the Baritone part usually extends down to D3. Due to this low range, and particularly due to the lack of optional notes in the Varsity music, it is not uncommon for directors of SAB choirs to raise the a cappella performance key to A^{b} Major or A Major. Performing in one of these keys would likely raise the highest soprano note to $E^{b}5$ or E5, which is not ideal, but which is arguably better than requiring the boys to sing notes entirely out of range. Why not consider replacing the possible key of C Major with either A Major or A^{b} Major, and have students learn to sight read in the actual key of their likely performance? The selection of C, F, and G Major as allowable keys seems rather arbitrary. These keys might be considered the simplest with regards to middle school instrumentalists, requiring the navigation of fewer flats and sharps. Such consideration really has no bearing on vocalists. Adding either the key of A^{b} Major or A Major would theoretically necessitate singers' needing to become familiar with sight-reading in with a new key; however, whereas instrumentalists might be required to learn additional fingerings for new notes, singers simply need to become accustomed to a new orientation of notes on the staff. In this regard, vocal sight-reading in A^{b} Major or A Major is no more difficult than sight-reading in C Major.

As discussed earlier, another consideration for mixed choirs would be the inclusion of more voicing options for middle school choirs beyond SATB and SAB. Finally, the inclusion of optional notes to replace those at range extremes should be required for all SAB sight reading compositions, at both the Varsity and Non-Varsity levels. The existing range of the Baritone part is simply too large for all adolescent boys to be expected to navigate successfully.

It is the hope of this researcher that an earnest assessment and evaluation of the current Texas UIL compositional guidelines for middle school mixed choir sight-reading literature might be undertaken by choral educators and changes recommended. It is the duty of choral educators to feed their young singers music which is accessible and which lends itself to successful performance. If we hope to see the participation of adolescent and post-adolescent males in choir continue to increase, it is imperative that such students not be set up for failure by the literature they are expected to perform. After all, as Collins (1982) wisely said, "the voice should not be made to fit the music, the music should be made to fit the voice" (p. 5).

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