Correlation between Voice Classification and Personality Traits

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ABSTRACT

This study was created to find a correlation between vocal classifications (soprano, tenor, alto, and bass) and personality traits. For this project, the Personal Style Inventory personality test\(^1\) and the Specific Trait Personality Test\(^2\) were used to determine whether there were significant differences between the classifications, as hypothesized.

Though there were many surprising similarities in the varying classifications, results show that the stereotypical personality traits were generally confirmed in the surveyed choir.

Introduction

In society, there exist groups or teams working together for a common purpose. One such group in the musical world is the choral ensemble. The choral ensemble, as any other group, is comprised of numerous personality types. These personalities interact and, in a choral setting, often create stereotypes. These stereotypes include that sopranos are emotional divas, tenors are glory-hogs, basses are wise-crackers, and altos are truly the ‘real’ musicians of the choir.\(^3\) Additional stereotypes include that sopranos think that they rule the world and that all other sections of the choir are inferior; altos are the salt of the earth and “they get a deep, secret pleasure out of conspiring together to tune the sopranos flat;” tenors are spoiled and a conductor would rather cut off his arm than lose a single one; and that basses are stolid, dependable people who have more facial hair than anyone else, are prone to mistakes, but know that eventually they’ll “end up at the root of the chord.”\(^4\)

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\(^2\) Tanya J. Johnson. 2003. Specific Trait Personality Test.


\(^4\) http://www.comedycorner.org/70.html
These stereotypes may affect the attitude within a choral group. For example, humorous references about a particular choral section may help to dispel tension during a rehearsal, or they may lead to hurt feelings and a general feeling of mistrust.\(^5\) This distrust is detrimental to the atmosphere of a choir where a feeling of unity and trust is most valuable. To achieve a more supportive environment, it would be beneficial to find whether these stereotypes are true and to take action, if needed, to channel any use of the stereotypes to build a nurturing atmosphere.

As James Jordan, associate professor of conducting at Westminster Choir College of Rider University has stated, “A major role of the rehearsal experience should go beyond the teaching of the notes and rhythms. The rehearsal must be a place where the individual singers and instrumentalists understand, too, how to be open toward each other and the conductor.”\(^6\)

In this study, it is hypothesized that members of the concert choir of a small, mid-western state university exhibit many distinctive personality characteristics encapsulated in the typical vocal stereotypes. It is further hypothesized that the undertones generated by the propagation of negative stereotypes often make it difficult to achieve a homogeneous sound and a nurturing environment. The identification of existing stereotypical personality traits within the choir would facilitate solutions to improved choral relations.

**Review of Literature**

There is a dearth of scholarship on personality issues in choristers. The writings and research that are available deal primarily with personality types of conductors, professional vocalists, instrumental ensembles, and personality differences in education in general.

One educational researcher, Ray Crozier, asserts that while the current emphasis in education leans towards a common method to teach all students, methods for identifying the different personality types and developing lessons to suit their individual needs are largely ignored or neglected.\(^7\)

Another researcher, Barbara Pollack, has studied the effects of choral conductor’s personality traits in solving rehearsal problems. Pollack uses the Myers Briggs Type Indicator (hereafter referred to as MBTI) to

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identify which personality type the conductor is, and discusses rehearsal behaviors she observes through videotaped rehearsals and a period of extended interviews. “Of the many tools that aid in fostering personal growth, the MBTI is one of the most useful. It is accessible, non-threatening, and ultimately very powerful.” The MBTI also assesses the strengths and weaknesses of the individuals in a very proficient manner. This paper addresses the query as to whether it is useful to extend this examination to all students in a choral setting.

By examining the stereotypes within a choir, one easily finds the strengths and weaknesses implied. Inferring that a soprano is a prima donna or diva may indicate that she is an emotional “pain in the …!” Nonetheless, divas can be thought of positively. As Paul Driscoll writes, “A diva was a singer, one adored, an object of worship, an artist who provided thrills and inspired frenzy.” Marquita Lister adds: I looked forward to being called prima donna, especially when the people I admired the most were referred to that way—Maria Callas, Leontyne Price, Renata Scotto, Martina Arroyo—these were all considered the great primas of our time. So sure, to be referred to as that was really quite special. Those are big shoes to step into. Even to be thought of in that way is a great honor.

As stated previously, psychology has long neglected the study of voice classification personalities within a choir. However, in a related study, Glenn D. Wilson performed research on the personality of opera singers. In this study, he discovered that “both self-report and other person ratings indicate that for both men and women higher-voiced singers are more feminine, emotional, unreliable, conceited and difficult than lower-voiced singers of the same sex.” He found that “compared with non-singing controls, opera singers appear to be more extraverted and conceited, and less intelligent, faithful and considerate.” Wilson also found that

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higher voices report more stage fright and are more opinionated. Higher voices also have more variability from one performance to the next.\textsuperscript{12}

While there appears to be no previous research on the subject of personalities in the choral setting, there is previous research on the personalities within an orchestra. Jack Lipton’s study showed that “the personalities of the brass and strings were consistently on opposite poles of the continua.” For instance, the strings were rated as more introverted and less athletic, whereas the brass instrumentalists were considered jovial, loud, and athletic.\textsuperscript{13}

In another instrumental study, John Booth Davies’ analysis of musicians revealed that oboe players were neurotic, string players were oversensitive, and brass players were loud-mouthed and coarse.\textsuperscript{14} Questions raised by these studies include: could these studies be a preview of the personalities within the choir? Would the high voices have distinctive traits that the low voices would not? The present study could prove fruitful in finding whether any similarities or differences in personality are present in choral settings.

Materials

There were two test components to the current study. The first test, Specific Trait Personality Test, was a test that the researcher designed herself to study particular areas that she felt the Personal Style Inventory test did not explore. Numerous personality websites were visited to get ideas to formulate effective questions.\textsuperscript{15} The questions were then divided into five categories to identify different traits: self-image, responsibility/initiative, openness, social behavior (extrovert/introvert), and level of irritability.

The second test, Personal Style Inventory, by R. Craig Hogan and David W. Champagne, was also administered. This test uses the Myers-
Briggs Type Indicator to score the results. The MBTI breaks down a person’s personality traits into four separate categories: Orientation of Energy-Extroversion-Introversion Attitude (E/I), Perceiving Function-Sensing-Intuition (S/N), Judging Function-Thinking-Feeling (T/F), and Orientation to Outer Life-Judging-Perceiving Attitude (J/P). Each of these categories reveals the subject’s specific weaknesses and strengths in that area (see Appendix Four).

Population

The population consisted of members of a small, mid-western state university concert choir. There were sixty people present the day of the test, consisting of forty women and twenty men. Twenty-seven of the choristers were music majors. Of the twenty-seven, thirteen were vocal education majors (choral and/or general music with primary instrument being voice), and one was a vocal performance major.

Methodology

The Personal Style Inventory test (see Appendix Two) and the Specific Trait Personality Test (see Appendix One) were administered in May, 2003, to the members of the concert choir. Most of the students completed the survey in less than twenty minutes. They placed the surveys in a box at the front of the room upon completion. After the subjects completed the survey, the box was placed in a locked office. A few students could not complete the survey at the given time, so they took the test and placed it into a secure mailbox at their leisure. The surveys were then analyzed over a period of six days.

Response Rate

There were two tests included in the survey, and a different number of people completed each of the tests. The first test, the Specific Trait Personality test (see Appendix One), was completed successfully by fifty-two subjects. The tests were classified by the voice type of the respondent, i.e., soprano, alto, tenor, and bass. Four respondents had identified themselves as two voice classifications. To address this problem, a separate classification was created for “mixed voices.” The second test, the Personal Style and Inventory by R. Craig Hogan and David W. Champagne (see Appendix Two), was successfully completed by fifty-four of the choristers.

A spreadsheet was created tabulating the individual scores on the Specific Trait Personality Test. The mean and the mode were determined
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(see Appendix Three) and the results were analyzed. The results from the Personal Style Inventory Survey were also tallied and analyzed using the MBTI system. The results were then compared against each other (see Appendix Five).

Results

The results of the Specific Trait Personality Test\textsuperscript{16} showed that altos and sopranos exhibited the most irritability, while basses and mixed showed the least amount of irritability. While all choristers showed high amounts of responsibility and initiative, the altos and sopranos had the highest amount of responsibility and initiative overall. Sopranos showed the least amount of openness while altos showed the highest degree of openness. Basses showed that they had the highest self-image while altos had the lowest self-image. All members showed high degrees of extroverted social behavior. There were very few choristers who displayed introverted social behavior qualities on this test.

The results of the Personal Style Inventory test show that the overall personality of the choir was INFJ.\textsuperscript{17} The Altos and Sopranos both displayed this personality type. INFJ’s have a strong drive to help others. They are serious students who really want to contribute. Basses displayed the INFP trait. INFP’s are self-sacrificing, idealistic people with a high capacity for caring. Tenors displayed the ENFJ trait, making them outstanding leaders and aggressive at helping others become the best they can be. Mixed displayed the E N/S T/F P trait, making them a mixture of many traits including being emotional, expressive, enthusiastic, clever, being good performers, and action-oriented.\textsuperscript{18}

Discussion

The results of this survey both support and contradict the given stereotypes. Instead of altos consistently displaying traits that were on the opposite side of the continuum of the sopranos, altos were frequently on the same side. Moreover, altos and sopranos displayed the same personality type in the Personal Style Inventory test, and showed that both voice classifications considered themselves equally irritable, responsible, and both showed high initiative in the Specific Trait Personality Test.

\textsuperscript{16} See Appendix Three for complete results.
\textsuperscript{17} See Appendix Six for a detailed explanation of the specific MBTI personality types.
\textsuperscript{18} All personality descriptions in this paragraph was adapted from: <http://www.personalitytest.net/types/descriptions/default.htm>
There were differences between the two voice classifications, however. The sopranos showed that they have higher self-image than the altos, and the altos showed that they were more open than the sopranos. This survey therefore demonstrates that the stereotypes of the “diva” sopranos may hold some truth. The survey also seems to corroborate the alto stereotype of being “the salt of the earth,” as shown by their lower self-image and openness.

The basses and tenors also demonstrated opposite personality traits. While basses were introverts, tenors showed themselves to be extroverts, and while the basses had the perceiving trait, the tenors possessed the judging trait. Further differences included the higher number of followers present in the basses and the higher irritability factor in the tenors. While the results of the Specific Trait Personality Test proved similar for both the basses and tenors, the results of the Personal Style Inventory test were more varied. By scoring high on the extroversion and judging traits, as well as scoring high in self-image, the tenors appear to be more self-confident than the other classifications.

Out of all the classifications, the basses seemed to have the most unexpected answers. They displayed the highest degree of self-image, displayed a very high degree of extroverted social behavior, and one of the lowest levels of irritability (tying with the mixed classification) on the Specific Trait Personality Test. Interestingly, their score on the Personal Style Inventory test indicated that they hold introverted qualities. Because none of the questions dealt with humor, it is impossible to judge whether the bass stereotype of being wise-cracking is correct. However, because of their extroverted behavior, low irritability, and higher level of openness, they appear to be a more congenial section of the choir, able to get along with others easily. Their very high self-image is likely an indicator of how secure they are with themselves.

Further Research

Due to the limited population which this study surveyed, it would be valuable to do further research in universities and conservatories across the country. It would be very beneficial to see whether the results changed in a population with a higher percentage of vocal education majors and/or vocal performance majors. Research should also be done with more specific discrimination between the voice classifications. For example, there should be a distinction between first and second sopranos. Included in the survey could also be the opinions of each classification for the others, as in Wilson’s research. For example, a section could be included where a list of personality traits is printed, and the subjects mark which classification they feel fits each trait, thereby identifying the stereotypes.
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present in each choir. It would also be beneficial to include questions pertaining to a section’s sense of humor.

**Conclusion**

Although this study proves that the stereotypes are accurate in many aspects, it also shows that the voice classifications of the concert choir are more alike than different. The choir’s responses showed remarkable similarity on many of the questions in the survey. The differences exhibited, however, fit the stereotypes. The tenor’s tendency towards high self-image may exhibit the stereotype of being more self-confident. As a whole, the sopranos demonstrated many traits of having high self-image as well as being less open, which could demonstrate the stereotype of being ‘divas’ and ‘prima donnas.’ The altos seemed to display the stereotype of being the ‘salt of the earth’ through their tendency towards being open. Although the basses proved to have the highest self-image, their general openness and high self-image (even higher than the sopranos and tenors!) seem to confirm their stereotype of being congenial and stolid, though unspectacular.

This study shows that most of the stereotypes in the choirs have some truth to them, as stereotypes often do. It would be wise to ensure that the stereotypes remain at a humorous, rather than a vindictive or malicious level, to ensure a positive and nurturing environment.

**Acknowledgements**

I would first and foremost like to thank my magnificent teacher, mentor, and friend, Dr. Matthew Faerber for the unending support that he so willingly gives. Thank you. I also thank Sue Holm, Director of the McNair program, and Sonja Olson, Academic Coordinator, for the unending amount of knowledge and experiences that they’ve given me by accepting me into this incredible program. And last, but not least, I thank my husband, Shawn, who willingly gave up time with me so that I could work on this paper. I love you.
Appendix One: Specific Trait Personality Test

1. **What voice type do you consider yourself to be?** (classification‡)
   - Alto
   - Bass
   - Soprano
   - Tenor

2. **What part do you sing in choir?** (classification)
   - Alto
   - Bass
   - Soprano
   - Tenor

3. **Do you consider yourself to be a:** (Social Behavior)
   - Leader
   - Follower

4. **When given constructive criticism in a group setting, do you feel it frequently:** (Self-Image)
   - Applies to others besides yourself
   - Applies mainly to you.
   - Applies to everyone.

5. **When you listen to yourself, do you consider yourself to be a great musician?** (Self-Image)
   - Yes
   - No

6. **I have a positive attitude about myself.** (Self-Image)
   - (Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

7. **I tend to blow off my duties.** (Responsibility/Initiative)
   - (Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

8. **I put up a front to keep others from knowing the real me.** (Openness)
   - (Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

9. **I’m a kind person.** (Self-Image)
   - (Strongly Agree) 5 4 3 2 1 (Strongly Disagree)
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10. **I admire people who own expensive things.** †

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

11. **I have an opinion on everything.** (Openness)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

12. **I like who I am.** (Self-Image)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

13. **I’m a tense person.** (Irritability)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

14. **I’m a soft-hearted person.** (Self-Image)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

15. **I like dealing with new and unusual situations.** (Social Behavior)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

16. **I get a warm feeling from cooperating with others.** (Social Behavior)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

17. **I thrive on competition.** (Social Behavior)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

18. **I’m a worrier.** (Irritability)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)

19. **It’s more important to get ahead than to get along.** (Social Behavior)

   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)
20. Overall, I'm pretty satisfied with myself. (Self-Image)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

21. I feel pretty useless sometimes. (Self-Image)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

22. If I had to choose, I would rather feel: (Self-Image)

Loved by others At Peace with myself

23. I like to live life: (Social Behavior)

On the edge Far from the edge

24. Most people consider me to be a serious and driven person, even a perfectionist. (Responsibility/Initiative)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

25. I enjoy being the center of attention. (Social Behavior)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

26. I take things too personally. (Self-Image)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

27. I am a great people motivator and have excellent people skills. (Social Behavior)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

28. I'm a decisive and take charge type of person. (Responsibility/Initiative)

(Strongly Agree) 5 4 3 2 1 (Strongly Disagree)

29. When I come through a difficult challenge I feel: (Self-Image)

Stronger and Tougher Disheartened and Tired
30. If I can tell someone doesn’t like me when they first meet me: (Self-Image)
   I feel sad                 I blow it off

31. The glass is: (Self-Image)
   Half empty                Half full

32. When I do something I’m proud of, I like to show it to people. (Social Behavior)
   Yes                       No

33. I verbally abuse myself when I mess up. (Self-Image)
   Yes                       No

34. I wait for someone to tell me that I’ve done a good job before I feel proud. (Self-Image)
   Yes                       No

35. On a scale of 1-10, I’m a 10. (Self-Image)
   Yes                       No

36. Quick… Are you able to name your top three qualities without hesitating? (Self-Image)
   Yes                       No

37. Do you critique yourself often? (Openness)
   Yes                       No

38. I am constantly trying to improve myself. (Openness)
   (Strongly Agree)  5  4  3  2  1  (Strongly Disagree)
39. I frequently critique the performance of others around me. (Social Behavior)

(Strongly Agree)  5  4  3  2  1 (Strongly Disagree)

40. When a troublesome situation occurs, I feel responsible for taking action. (Responsibility/Initiative)

(Strongly Agree)  5  4  3  2  1 (Strongly Disagree)

41. I feel I have many soloist qualities. (Self-Image)

(Strongly Agree)  5  4  3  2  1 (Strongly Disagree)

‡ The comments in parentheses after the questions/comments were not included in the original test. The statements describe what category the question was placed into for analyzing purposes.

† This question was viewed as unnecessary after the survey had been taken and was not included in the scores.
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Appendix Two: Personal Style Inventory Test

The following items are arranged in pairs (a and b), and each member of the pair represents a preference you may or may not hold. Rate your preference for each item by giving it a score of 0 to 5 (0 meaning you really feel negative about it or strongly about the other member of the pair, 5 meaning you strongly prefer it or do not prefer the other member of the pair). The scores for a and b MUST ADD UP TO 5 (0 and 5, 1 and 4, 2 and 3, etc.). Do not use fractions such as 2½.

I prefer:

1a. making decisions after finding out what others think.
1b. making decisions without consulting others.
2a. being called imaginative or intuitive.
2b. being called factual and accurate.
3a. making decisions about people in organizations based on available data and systematic analysis of situations.
3b. making decisions about people in organizations based on empathy, feelings, and understanding of their needs and values.
4a. allowing commitments to occur if others want to make them.
4b. pushing for definite commitments to ensure that they are made.
5a. quiet, thoughtful time alone.
5b. active, energetic time with people.
6a. using methods I know well that are effective to get the job done.
6b. trying to think of new methods of doing tasks when confronted with them.
7a. drawing conclusions based on unemotional logic and careful step-by-step analysis.
7b. drawing conclusions based on what I feel and believe about life and people from past experiences.

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8a. ___ avoiding making deadlines.
8b. ___ setting a schedule and sticking to it.
9a. ___ talking awhile and then thinking to myself about the subject.
9b. ___ talking freely for an extended period and thinking to myself at a later time.
10a. ___ thinking about possibilities.
10b. ___ dealing with actualities.
11a. ___ being thought of as a thinking person.
11b. ___ being thought of as a feeling person.
12a. ___ considering every possible angle for a long time before and after making a decision.
12b. ___ getting the information I need, considering it for a while, and then making a fairly quick, firm decision.
13a. ___ inner thoughts and feelings others cannot see.
13b. ___ activities and occurrences in which others join.
14a. ___ the abstract or theoretical.
14b. ___ the concrete or real.
15a. ___ helping others explore their feelings.
15b. ___ helping others make logical decisions.
16a. ___ change and keeping options open.
16b. ___ predictability and knowing in advance.
17a. ___ communicating little of my inner thinking and feelings.
17b. ___ communicating freely my inner thinking and feelings.
18a. ___ possible views of the whole.
18b. ___ the factual details available.
19a. ___ using common sense and conviction to make decisions.
19b. ___ using data, analysis, and reason to make decisions.
20a. ___ planning ahead based on projections.
20b. ___ planning as necessities arise, just before carrying out the plans.
21a. ___ meeting new people.
21b. ___ being alone or with one person I know well.
22a. ___ ideas.
22b. ___ facts.
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23a. ___ convictions.
23b. ___ verifiable conclusions.

24a. ___ keeping appointments and notes about commitments in notebooks or in appointment books as much as possible.
24b. ___ using appointment books and notebooks as minimally as possible (although I may use them).

25a. ___ discussing a new, unconsidered issue at length in a group.
25b. ___ puzzling out issues in my mind, then sharing the results with another person.

26a. ___ carrying out carefully laid, detailed plans with precision.
26b. ___ designing plans and structures without necessarily carrying them out.

27a. ___ logical people.
27b. ___ feeling people.

28a. ___ being free to do things on the spur of the moment.
28b. ___ knowing well in advance what I am expected to do.

29a. ___ being the center of attention.
29b. ___ being reserved.

30a. ___ imagining the nonexistent.
30b. ___ examining details of the actual.

31a. ___ experiencing emotional situations, discussions, movies.
31b. ___ using my ability to analyze situations.

32a. ___ starting meetings at a prearranged time.
32b. ___ starting meetings when all are comfortable or ready.
Appendix Three: Results of Test One-Divided Into Subgroups

Social Behavior-Extrovert/Introvert

(Bold = extrovert tendencies)

<table>
<thead>
<tr>
<th>Tenor Question</th>
<th>Bass Question</th>
</tr>
</thead>
<tbody>
<tr>
<td># 3. 100% Leaders</td>
<td># 3. 63% Leader</td>
</tr>
<tr>
<td># 15. mean of 4  mode of 2, 4, 5</td>
<td># 15. mean of 4  mode of 4</td>
</tr>
<tr>
<td># 16. mean of 4  mode of 4</td>
<td># 16. mean of 4  mode of 4, 5</td>
</tr>
<tr>
<td># 17. mean of 4  mode of 3, 4</td>
<td># 17. mean of 4  mode of 4</td>
</tr>
<tr>
<td># 19. mean of 2  mode of 2</td>
<td># 19. mean of 2  mode of 2</td>
</tr>
<tr>
<td># 23. 57% On Edge 43% Far From</td>
<td># 23. 50% On Edge 50% Far From</td>
</tr>
<tr>
<td># 25. mean of 4  mode of 3</td>
<td># 25. mean of 3  mode of 4</td>
</tr>
<tr>
<td># 27. mean of 4  mode of 4</td>
<td># 27. mean of 4  mode of 4</td>
</tr>
<tr>
<td># 32. 100% Yes</td>
<td># 32. 88% Yes 12% No</td>
</tr>
<tr>
<td># 39. mean of 4  mode of 5</td>
<td># 39. mean of 4  mode of 3</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Soprano Question</th>
<th>Alto Question</th>
</tr>
</thead>
<tbody>
<tr>
<td># 3. 75% Leader 25% Follower</td>
<td># 3. 65% Leader 35% Follower</td>
</tr>
<tr>
<td># 15. mean of 4  mode of 3</td>
<td># 15. mean of 4  mode of 2, 4</td>
</tr>
<tr>
<td># 16. mean of 4  mode of 4, 5</td>
<td># 16. mean of 4  mode of 4</td>
</tr>
<tr>
<td># 17. mean of 2  mode of 1, 2</td>
<td># 17. mean of 3  mode of 4</td>
</tr>
<tr>
<td># 19. mean of 2  mode of 1</td>
<td># 19. mean of 2  mode of 2</td>
</tr>
<tr>
<td># 23. 56% On Edge 44% Far From</td>
<td># 23. 71% On Edge 29% Far From</td>
</tr>
<tr>
<td># 25. mean of 3  mode of 2</td>
<td># 25. mean of 3  mode of 2</td>
</tr>
<tr>
<td># 27. mean of 3  mode of 4</td>
<td># 27. mean of 4  mode of 3</td>
</tr>
<tr>
<td># 32. 88% Yes 12% No</td>
<td># 32. 88% Yes 12% No</td>
</tr>
<tr>
<td># 39. mean of 3  mode of 3</td>
<td># 39. mean of 3  mode of 3</td>
</tr>
</tbody>
</table>

| Mixed Question | | |
|----------------|| |
| # 3. 50% Leader 50% Follower | # 3. 65% Leader 35% Follower |
| # 15. mean of 4  mode of 4 | # 15. mean of 4  mode of 2, 4 |
| # 16. mean of 4  mode of 4 | # 16. mean of 4  mode of 4 |
| # 17. mean of 3  no mode | # 17. mean of 3  mode of 4 |
| # 19. mean of 3  mode of 4 | # 19. mean of 2  mode of 2 |
| # 23. 100% On the Edge | # 23. 71% On Edge 29% Far From |
| # 25. mean of 3  mode of 3 | # 25. mean of 3  mode of 2 |
| # 27. mean of 3  mode of 3 | # 27. mean of 4  mode of 3 |
| # 32. 100% Yes | # 32. 88% Yes 12% No |
| # 39. mean of 2  mode of 1, 2 | # 39. mean of 3  mode of 3 |
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**Self-Image**
(Bold=extrovert tendencies)

<table>
<thead>
<tr>
<th>Tenor Question</th>
<th>Bass Question</th>
</tr>
</thead>
<tbody>
<tr>
<td># 4. A-14% B-29% C-57%</td>
<td># 4. C-75% A-25%</td>
</tr>
<tr>
<td># 5. no-40% yes-60%</td>
<td># 5. 50%-No 38%-Yes 12% Both</td>
</tr>
<tr>
<td># 6. mean of 3 mode of 4</td>
<td># 6. mean of 5 mode of 4, 5</td>
</tr>
<tr>
<td># 9. mean of 4 mode of 4</td>
<td># 9. mean of 5 mode of 5</td>
</tr>
<tr>
<td># 12. mean of 4 mode of 5</td>
<td># 12. mean of 5 mode of 5</td>
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<td># 14. mean of 5 mode of 5</td>
<td># 14. mean of 4 mode of 4</td>
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<td># 20. mean of 4 mode of 4</td>
<td># 20. mean of 5 mode of 4, 5</td>
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<tr>
<td># 21. mean of 2 mode of 2</td>
<td># 21. mean of 3 mode of 2</td>
</tr>
<tr>
<td># 22. 71% Self 29% Others</td>
<td># 22. 88% Self 12% Others</td>
</tr>
<tr>
<td># 26. mean of 3 mode of 4, 5</td>
<td># 26. mean of 3 mode of 2</td>
</tr>
<tr>
<td># 29. 57% ST 43% DT</td>
<td># 29. ST-100%</td>
</tr>
<tr>
<td># 30. 71% Sad 29% B.I.O.</td>
<td># 30. 63% Sad 25% B.I.O. 2% N/A</td>
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<tr>
<td># 31. 71% Full 29% Empty</td>
<td># 31. 75% Full 25% Empty</td>
</tr>
<tr>
<td># 33. 71% yes 29% No</td>
<td># 33. 75% No 25% Yes</td>
</tr>
<tr>
<td># 34. 86% No 14% Yes</td>
<td># 34. 63% No 37% Yes</td>
</tr>
<tr>
<td># 35. 100% No</td>
<td># 35. 75% No 25% Yes</td>
</tr>
<tr>
<td># 36. 86% No 14% Yes</td>
<td># 36. 63% Yes 37% No</td>
</tr>
<tr>
<td># 41. mean of 4 mode of 5</td>
<td># 41. mean of 3 mode of 4</td>
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<table>
<thead>
<tr>
<th>Soprano Question</th>
<th>Alto Question</th>
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<tbody>
<tr>
<td># 4. A-19% B-6% C-75%</td>
<td># 4. A-12% B-6% C-82%</td>
</tr>
<tr>
<td># 5. 56% Yes 44% No</td>
<td># 5. 53% no 41% yes 6% y/n</td>
</tr>
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<td># 6. mean of 4 mode of 4</td>
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<td># 9. mean of 4 mode of 4, 5</td>
<td># 9. mean of 4 mode of 5</td>
</tr>
<tr>
<td># 12. mean of 4 mode of 5</td>
<td># 12. mean of 4 mode of 4</td>
</tr>
<tr>
<td># 14. mean of 4 mode of 5</td>
<td># 14. mean of 4 mode of 4</td>
</tr>
<tr>
<td># 20. mean of 4 mode of 4, 5</td>
<td># 20. mean of 4 mode of 4</td>
</tr>
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<td># 21. mean of 2 mode of 1</td>
<td># 21. mean of 3 mode of 2, 3</td>
</tr>
<tr>
<td># 22. 75% Self 25% Others</td>
<td># 22. 53% Others 47% Self</td>
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<td># 26. mean of 4 mode of 4</td>
</tr>
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<td># 29. 100% ST</td>
<td># 29. 88% ST 12% DH</td>
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<tr>
<td># 30. 44% Sad 56% B.I.O.</td>
<td># 30. 59% Sad 41% B.I.O.</td>
</tr>
<tr>
<td># 31. 75% Full 25% Empty</td>
<td># 31. 65% Full 35% Empty</td>
</tr>
<tr>
<td># 33. 75% No 25% Yes</td>
<td># 33. 56% No 44% Yes</td>
</tr>
<tr>
<td># 34. 69% No 31% Yes</td>
<td># 34. 71% No 29% Yes</td>
</tr>
<tr>
<td># 35. 69% No 31% Yes</td>
<td># 35. 76% No 24% Yes</td>
</tr>
<tr>
<td># 36. 63% Yes 37% No</td>
<td># 36. 82% No 18% Yes</td>
</tr>
<tr>
<td># 41. mean of 3 mode of 3, 4</td>
<td># 41. mean of 3 mode of 3</td>
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</table>
Mixed Question

# 4. 100% C
# 5. 50% No  50% Yes
# 6. mean of 4  mode of 4
# 9. mean of 4  mode of 5
# 12. mean of 4  mode of 4
# 14. mean of 4  mode of 3, 4
# 20. mean of 4  mode of 4
# 21. mean of 3  mode of 2, 4
# 22. 100% Myself
# 26. mean of 3  mode of 3
# 29. 100% ST
# 30. 50% Sad  50% B.I.O.
# 31. 75% Full  25% Empty
# 33. 75% Yes  25% No
# 34. 75% No  25% Yes
# 35. 75% No  25% Yes
# 36. 50% Yes  50% No
# 41. mean of 3  mode of 3

Responsibility/Initiative

(Bold = extrovert tendencies)

Tenor Question

# 7. mean of 2  mode of 2
# 24. mean of 4  mode of 3
# 28. mean of 4  mode of 3, 5
# 40. mean of 4  mode of 4

Soprano Question

# 7. mean of 2  mode of 1
# 24. mean of 4  mode of 3, 5
# 28. mean of 4  mode of 4
# 40. mean of 4  mode of 3, 4

Bass Question

# 7. mean of 2  mode of 2
# 24. mean of 3  mode of 2, 3, 4
# 28. mean of 4  mode of 4
# 40. mean of 3  mode of 3

Alto Question

# 7. mean of 2  mode of 1
# 24. mean of 4  mode of 5
# 28. mean of 4  mode of 4
# 40. mean of 4  mode of 3

Mixed Question

# 7. mean of 2  mode of 2
# 24. mean of 4  mode of 3, 5
# 28. mean of 4  mode of 3
# 40. mean of 4  mode of 3, 4
Correlation between Voice Classification and Personality Traits

**Openness**
(Bold = extrovert tendencies)

**Tenor**

Question

- # 8. mean of 2 mode of 2
- # 11. mean of 4 mode of 4
- # 26. mean of 3 mode of 4, 5
- # 37. 86% Yes **14% No**
- # 38. mean of 4 mode of 4

**Bass**

Question

- # 8. mean of 2 mode of 2
- # 11. mean of 4 mode of 4, 5
- # 26. mean of 3 mode of 2
- # 37. 88% Yes **12% No**
- # 38. mean of 4 mode of 5

**Soprano**

Question

- # 8. mean of 2 mode of 1
- # 11. mean of 3 mode of 3
- # 26. mean of 3 mode of 3
- # 37. 56% Yes **54% No**
- # 38. mean of 4 mode of 5

**Alto**

Question

- # 8. mean of 3 mode of 3
- # 11. mean of 3 mode of 3
- # 26. mean of 4 mode of 4
- # 37. 94% Yes **6% No**
- # 38. mean of 4 mode of 5

**Mixed**

Question

- # 8. mean of 3 mode of 2, 3
- # 11. mean of 3 mode of 3
- # 26. mean of 3 mode of 3
- # 37. 75% Yes **25% No**
- # 38. mean of 5 mode of 5

**Level of Irritability**
(Bold = extrovert tendencies)

**Tenor**

Question

- # 13. mean of 3 mode of 2, 5
- # 18. **mean of 4** mode of 5

**Bass**

Question

- # 13. mean of 3 mode of 3
- # 18. mean of 3 mode of 2

**Soprano**

Question

- # 13. mean of 3 mode of 3
- # 18. mean of 3 mode of 5

**Alto**

Question

- # 13. mean of 3 mode of 4
- # 18. mean of 3 mode of 4

**Mixed**

Question

- # 13. mean of 2 mode of 2
- # 18. mean of 3 mode of 3
# Appendix Four: MBTI Vocabulary

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<tr>
<th></th>
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<th><strong>I Introversion</strong></th>
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<td></td>
<td>Energized by outer world</td>
<td></td>
<td>Focus on thoughts, concepts</td>
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</tr>
<tr>
<td></td>
<td>Focus on people; things</td>
<td></td>
<td>Reflective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Active</td>
<td></td>
<td>Depth of Interest</td>
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</tr>
<tr>
<td></td>
<td>Breadth of Interest</td>
<td></td>
<td>Understand it, then live it</td>
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</tr>
<tr>
<td></td>
<td>Live it, then understand it</td>
<td></td>
<td>Concentration</td>
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<td></td>
<td>Interaction</td>
<td></td>
<td>Inwardly directed</td>
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<td></td>
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<td>Fantasy</td>
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<td></td>
<td>Settled</td>
<td></td>
<td>Flexible</td>
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<td>Planned</td>
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<td>Spontaneous</td>
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<td></td>
<td>Decisive</td>
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<td>Tentative</td>
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</tr>
<tr>
<td></td>
<td>Control one’s life</td>
<td></td>
<td>Let life happen</td>
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</tr>
<tr>
<td></td>
<td>Set Goals</td>
<td></td>
<td>Undaunted by surprise</td>
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<tr>
<td></td>
<td>Systematic</td>
<td></td>
<td>Open to change</td>
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Adapted from:
Appendix Five: Breakdown of Individual MBTI Traits within the Choir

A.

<table>
<thead>
<tr>
<th>Number of I (52%)†</th>
<th>Number of E (48%)</th>
<th>Number of N (71%)</th>
<th>Number of S (29%)</th>
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<tr>
<td>Alto: 65%</td>
<td>Alto: 35%</td>
<td>Alto: 65%</td>
<td>Alto: 35%</td>
</tr>
<tr>
<td>Soprano: 52%</td>
<td>Soprano: 48%</td>
<td>Soprano: 65%</td>
<td>Soprano: 35%</td>
</tr>
<tr>
<td>Bass: 56%</td>
<td>Bass: 44%</td>
<td>Bass: 78%</td>
<td>Bass: 22%</td>
</tr>
<tr>
<td>Tenor: 33%</td>
<td>Tenor: 67%</td>
<td>Tenor: 100%</td>
<td>Tenor: 0%</td>
</tr>
<tr>
<td>Mixed: 25%</td>
<td>Mixed: 75%</td>
<td>Mixed: 50%</td>
<td>Mixed: 50%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of T (28%)</th>
<th>Number of F (72%)</th>
<th>Number of P (45%)</th>
<th>Number of J (55%)</th>
</tr>
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<tbody>
<tr>
<td>Alto: 40%</td>
<td>Alto: 60%</td>
<td>Alto: 20%</td>
<td>Alto: 80%</td>
</tr>
<tr>
<td>Soprano: 22%</td>
<td>Soprano: 78%</td>
<td>Soprano: 48%</td>
<td>Soprano: 52%</td>
</tr>
<tr>
<td>Bass: 22%</td>
<td>Bass: 78%</td>
<td>Bass: 67%</td>
<td>Bass: 33%</td>
</tr>
<tr>
<td>Tenor: 11%</td>
<td>Tenor: 89%</td>
<td>Tenor: 44%</td>
<td>Tenor: 56%</td>
</tr>
<tr>
<td>Mixed: 50%</td>
<td>Mixed: 50%</td>
<td>Mixed: 100%</td>
<td>Mixed: 0%</td>
</tr>
</tbody>
</table>

† Total percentage for choir as a whole.

B.

Personality of Choir: INFJ
Altos: INFJ
Sopranos: INFJ
Bass: INFP
Tenors: ENFJ
Mixed: E N/S T/F P
Appendix Six: Descriptions of Personality Types Apparent in Concert Choir

INFJ—Choir/Soprano/Alto trait
Quietly forceful and sensitive. Extremely perceptive about people and are concerned for their feelings. Well-respected for their determination in doing the right thing. Like to be individualistic, rather than leading or following.

INFP—Bass trait
Quiet and idealistic. Interested in serving humanity, understanding and helping people. Extremely loyal. Adaptable and laid-back unless values are threatened. Mentally quick, able to see possibilities.

ENFJ—Tenor trait
Popular and sensitive with outstanding people skills. Have real concern for how others think and feel. Dislike being alone. Very effective at managing people issues. Like to lead group discussions. Interested in serving others. Usually place others’ needs in front of their own.

ESTP—Mixed

ESFP—Mixed
Good people skills, fun loving. Live for the moment. Interested in serving others. Likely to be center of attention in social situations. Have good common sense.

ENFP—Mixed
Enthusiastic, idealistic, creative. Great people skills. Love new ideas, but bored by details. Open-minded and flexible, with a broad range of abilities.

ENTP—Mixed
Creative and intellectually quick. Good at a range of things. May be into “one-upmanship.” Get excited about new ideas. Generally outspoken and assertive. Enjoy people. Excellent ability to understand concepts.

Adapted from http://www.personalitypage.com/high-level.html
Correlation between Voice Classification and Personality Traits

**Works Cited**


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Correlation between Voice Classification and Personality Traits