

RELATIONSHIPS BETWEEN GENDER AND MUSICAL INSTRUMENT
SELECTION IN MIDDLE SCHOOL BAND STUDENTS

By

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Sex-stereotyping of instruments (the perception that certain instruments are more “masculine” or “feminine” than others) may play a role in how middle school band students initially select their primary musical instruments. The purpose of this project was to examine the relationship between musical instrument selection and gender in middle school band students as well as to examine their band directors’ feelings on the prevalence of sex-stereotyping of instruments in their band. Abeles and Porter’s 1979 study on musical instrument selection seemed to indicate that there was a preference for females and males to play certain instruments: particularly for females to play the flute and males to play brass and percussion instruments. Abeles conducted a follow-up study in 2009 in which he demonstrated that these stereotypes were still in place.

Data were gathered using an on-line survey of band students for middle school band directors in North Central Florida. The results showed a strong preference of flute and clarinet and a strong avoidance of tuba for females, and a moderate to strong preference of trumpet and percussion and a strong avoidance of flute for males. When asked to describe whether they thought sex-stereotyping of instruments occurred in their

experience, most of the respondents stated that they believed there was a perception of gender inequality in instruments, but that it was only a perception and the data revealed that that the instruments themselves were equal in terms of masculinity and femininity in this study.

INTRODUCTION

Selecting a musical instrument is one of the first musical decisions a potential musician makes in beginning band. However, this choice may be impaired by sex-stereotyping of musical instruments. Although the stereotyped instruments have changed over the centuries, the practice of sex-stereotyping instruments is actually quite old.

Baldassarre Castiglione, in his 1598 book *Libro de cortegiano*, wrote:

Imagin with your selfe what an unsightly matter it were to see a woman play upon a tabour or drum, or blow in a flute or trumpet, or like any instrument: and this because the boisterousness of them doth both cover and take away that sweete mildness which setteth so forth everie deede that a woman doth.

Approximately 300 years later, Sidney Lanier allowed that women could play instruments, but only certain “feminine” instruments:

Let our young ladies...address themselves to the violin, the flute, the oboe, the harp, the clarinet, the bassoon, the kettledrum. It is more than possible that upon some of these instruments the superior daintiness of the female tissue might finally make the woman a more successful player than the man.

The purpose of the study was to examine the relationship between musical instrument selection and gender in middle school band students. This study also queried band directors regarding their observation of any trends in musical instrument selection that pertain to gender as well as their bands’ instrumentation as a whole. This information could be used to formulate further studies of band students, particularly when it comes to the musical instrument selection process, which in turn is important when trying to create a balanced band.

RELATED LITERATURE

Several studies have shown that the selection of musical instrument carries many implications, and that these implications affect how the musician is perceived in terms of

gender and musical strength. Particular instruments have been found to be perceived as masculine (such as the trumpet, trombone, and percussion instruments), feminine (such as the flute, violin, and piano), or “gender-neutral,” (such as the saxophone and cello) and these labels are often transferred to the musicians who play these given instruments, regardless of the performer’s biological sex.

The relationship among musical instruments, timbre, and emotions may also be of interest. Hailstone et al. (2009) conducted an experiment on whether the timbre of an instrument affects how listeners perceive a given melody emotionally. The authors defined timbre as “the acoustic property that distinguishes two sounds of identical pitch, duration, and intensity, and is integral to the identification of all kinds of auditory objects, including musical instruments, voices, and environmental sounds.” To prevent past emotional connections from influencing responses, the melodies used were created specifically for the experiment.

The participants in this experiment were categorized in one of two ways: as younger adults and older adults. The participants were grouped by age in order to observe the stability of the connection between timbre and emotion over time, and potentially to see whether more exposure to typical musical patterns over time could have an effect on the results. The four melodies created for this experiment were designed to display one of the following emotions: happiness, sadness, fear, or anger. These melodies were then performed on four instruments selected for their unique timbres: piano (string/percussion), violin (string), trumpet (brass/wind), and electronic synthesizer.

Participants were asked to respond to each stimuli and say whether they believed the melody to be conveying happiness, sadness, fear, or anger. The stimuli were repeated

several times to ensure reliability. Each repetition was carefully temporally spaced so that priming was not a factor in responses.

The results showed that among both age groups, fear and anger were more difficult to identify than happiness and sadness. Both age groups were also less able to identify happy melodies played on the violin, sad melodies played on the synthesizer, and fearful melodies played on the trumpet. In addition, the older age group was less able to identify angry melodies when played on the trumpet. It was noted that any discrepancies in the results between the synthesizer and the other “natural” instruments may have been due to performer influences. The results were statistically significant, and show that the same melody can be perceived differently when presented on two different instruments. Thus, a player of one of these instruments might be better suited to play music conveying certain types of emotions.

In 2010, Payne published a study of the relationship between musical instrument selection and timbre preference, personality traits, and gender. The participants, 624 band students, were first given a survey of their demographic information and were then administered the Adolescent Personal Style Inventory (which examines agreeableness, conscientiousness, emotional stability, extraversion, and openness) and Gordon’s Instrument Timbre Preference Test. Payne found that gender was a significant predictor of musical instrument selection when it came to those playing the flute, clarinet, trombone, baritone, and tuba, and that most participants were not playing an instrument that matched their timbre preference; it is possible that gender stereotyping prevents students from playing an instrument whose timbre they might prefer.

Abeles and Porter conducted a series of three studies regarding the sex-

stereotyping of musical instruments. These studies, which spanned three years between 1975 and 1978, were designed to examine the existence and strength of these stereotypes in both children and their parents. The first of these studies showed that, when asked to select a musical instrument for a hypothetical son or daughter to play, there were definite gender stereotypes: those asked to select for a son were most likely to select drums, trombone, or trumpet. In contrast, those selecting for a daughter were most likely to choose flute, violin, or clarinet. The other two instrument choices, cello and saxophone, were effectively rated as being “gender neutral” and were not especially preferred by parents choosing for either sex.

In the second study, Abeles and Porter attempted to create a masculine/feminine continuum for the eight musical instruments in the previous study. The participants were presented with a list of 28 pairs of musical instruments and were asked to circle whichever instrument they found to be the most masculine. The results were in accordance with those results of the first study; the participants ranked the drum as the most masculine, followed by the trombone, trumpet, saxophone, cello, clarinet, violin, and flute.

The third study in the series examined the existence and strength of sex-stereotyping of musical instruments in children ages kindergarten through fifth grade. The children were presented with pictures of the eight instruments used in the previous studies and were played recordings of examples of the same melody on every instrument. They were then asked to circle the name of the instrument they would most like to play if they were given the chance. The results showed that while sex-stereotypes were not very pronounced in children in grades kindergarten through second grade, they became

pronounced starting in third grade. A follow-up to this study was conducted to determine whether seeing pictures of someone actually playing the instruments (as opposed to simply seeing the instrument pictured) would affect a child's preference for the instrument; it was found that boys' responses became more stereotyped when pictures of children playing the instruments were presented. As well, in both the third study and the follow-up fourth study, instruments on the masculine end of the continuum were more favored overall than those on the feminine end, and girls tended to choose more of a variety of instruments than did boys.

In 2009, Abeles conducted a follow-up to this series of studies to see whether gender stereotypes had changed or lessened over the years. Although it was found that musical instrument gender associations among college students had lessened, upon examining students in middle and high school bands, Abeles found that children still adhered to the stereotypes when selecting instruments; that is, that girls played the flute, violin, and clarinet, while boys played the trombone, trumpet, and drums. Abeles also discovered that girls, when in a band setting, were more likely to play non-stereotypical instruments than were boys.

In 2009, Colley et al. conducted a study on whether children's drawings of people playing musical instruments would reflect gender stereotypes. In their study, two groups of children (one group consisting of seven to eight-year-olds and the other of ten to eleven-year-olds) were asked to draw either a picture of a person (the control group), or a picture of a person playing a musical instrument. In both conditions, it was specified that the person involved could be anyone and that it did not have to be a self-portrait. The children were instructed to produce their own work and not to talk while finishing the

picture. When the pictures were completed, an experimenter collected them and asked each child questions about the picture in order to determine what exactly was going on in the picture (the sex of the person, the approximate age of the person, who the person was, and what instrument they were playing in the experimental condition). This information was recorded along with the picture, the age and sex of the artist, and whether the artist played a particular musical instrument.

The results showed that the younger children were far more likely to draw pictures of themselves in all conditions, while the older children were more likely to draw a random child. In the musical instrument condition, nearly all groups of children drew their own sex regardless of instrument. The exception to this was the older girls, who were almost equally likely to draw a male figure.

For the purposes of this experiment, the flute, piano, and violin were considered feminine instruments, while the guitar, drums, and trumpet were considered masculine instruments. Overall, more masculine instruments were portrayed than feminine instruments, especially when drawn by boys (although the younger boys drew a significantly higher number of feminine instruments than did older boys). Interestingly, fewer than half of the 38 students who reported playing an instrument drew the instrument they played, and of those, only two drew themselves playing the instrument.

Abeles and Porter, in their 1979 article “So Your Daughter Wants to be a Drummer?” offer some suggestions for downplaying the sex-stereotyping of instruments. They note that parents must be involved and aware of the stereotypes, and that they should reinforce their children’s choices and resist falling into the trap of gender stereotypes. Teachers should also be aware of stereotyped pictures (that is, those with

children demonstrating proper posture and positioning of the instruments, or advertisements of instruments featuring children playing them) and should make efforts to expose children to pictures of other children that are not stereotypical; for instance, a picture of a girl at a drum set or a boy playing the violin. Most of all, the authors recommend promoting awareness of the problem and possibly alerting the music industry so that the trend in stereotyped advertisements might change.

PROCEDURES

During the third week of September an on-line survey was administered to band directors in middle schools in five separate counties in North Central Florida. Approximately one week before sending out the survey, an e-mail notice was sent explaining the survey on the relationship between musical instrument selection and gender in middle school band students as well as an attachment with further details about the study, an informed consent document (to which a reply e-mail was considered an on-line signature), and contact information for further questions before taking the survey. The survey was conducted on-line as well, using the tool SurveyMonkey (www.surveymonkey.net). Participants were given one week to finish the survey, and were informed that they may withdraw at any time prior to completion of the survey.

After receiving the results of the completed surveys, I calculated the number and mean per band for each instrument represented, for both males and females. These data as well as the answers to the questions regarding the band directors' opinions are represented in the Results section and further opinions and questions are formulated in the Discussion section.

The survey consisted of the following eighteen questions:

For the following questions, please give the answers pertinent to your **most advanced band only**.

1. Flute

How many **males** play this instrument?

How many **females** play this instrument?

2. Clarinet

How many **males** play this instrument?

How many **females** play this instrument?

3. Alto Saxophone

How many **males** play this instrument?

How many **females** play this instrument?

4. Trumpet

How many **males** play this instrument?

How many **females** play this instrument?

5. French Horn/ Mellophone

How many **males** play this instrument?

How many **females** play this instrument?

6. Baritone/Euphonium

How many **males** play this instrument?

How many **females** play this instrument?

7. Trombone

How many **males** play this instrument?

How many **females** play this instrument?

8. Tuba/Sousaphone

How many **males** play this instrument?

How many **females** play this instrument?

9. Percussion

How many **males** play this instrument?

How many **females** play this instrument?

10. Do any students play other instruments (string bass, oboe, bassoon, etc)? If so, what are the instruments and the genders of the students playing those instruments?

11. Do you believe that there is a gender divide between band instruments (that some are more masculine or feminine than others)?

12. If you answered “yes” to Question 11, what are your thoughts on the divide and why it exists? If you answered “no” to Question 11, do you think that the instruments are fairly equal? Why or why not?

13. Do you feel that the instrumentation and the amount of boys and girls playing the selected instruments in your band is typical of middle school bands? If not, how does it differ?

14. How many years have you been teaching music in **your current position**?

15. How many years have you been teaching music in **total**?

16. Do you have a primary instrument which you play in your own time? If so, what do you play?

17. What is your gender?

18. Do you have any other comments?

RESULTS

The survey was sent out to nineteen band directors from four separate counties in North Central Florida. There were nine responses to the survey for a response rate of 47.37%. One of the nine survey responses was not completed correctly and was not included in the results for the first ten questions (those dealing with the number of males

and females performing on each instrument) for the purposes of statistics. The distribution of instruments mentioned in the first ten questions is included in Tables A (females) and B (males):

Table A. Distribution of Middle School Band Instruments for Females

	Number total	Mean per band	Percentage (%)
Flute	87	10.86	30
Clarinet	84	10.5	29
Alto saxophone	18	2.25	6
Trumpet	36	4.5	12
French horn	15	1.86	5
Baritone	8	1	3
Trombone	17	2.13	6
Tuba	7	0.86	2
Percussion	18	2.25	6

Table B. Distribution of Middle School Band Instruments for Males

	Number total	Mean per band	Percentage (%)
Flute	7	0.86	2
Clarinet	31	3.86	10
Alto saxophone	43	5.38	14
Trumpet	75	9.38	25
French horn	12	1.5	4
Baritone	26	3.25	9
Trombone	27	3.38	9
Tuba	20	2.5	7
Percussion	58	7.25	19

Five of the respondents stated they had students who played instruments not listed in the survey questions. Among these other instruments were oboe (7 females, 6 males),

bassoon (2 females, 4 males), bass clarinet (3 females, 0 males), tenor saxophone (4 males), and baritone saxophone (1 male, 1 female).

When asked whether they believed there was a gender divide for the instruments, five of the nine respondents said they did not believe there was. Of the remaining four, three said they believed there was a divide. The final respondent said he/she believed there was a tendency for the flute to be more feminine and the tuba to be more masculine but there was not as great a divide for other instruments.

Seven respondents included reasons for their response to the previous question. Several of those respondents included that they believed the instruments were equal, but the perception of the instruments was not. Two of the respondents included that they worked actively to discourage that stereotype, one claiming to “encourage the students to play what they would like.” Other responses indicated that the number of students on each instrument fluctuates greatly from year to year.

When asked if they believed the instrumentation of their band was typical of middle school bands, seven of the nine respondents said they believed it was typical. Of the other two, one said he/she believed there were “many more boys in band than girls at the present time, and I think that accounts for a lot of (the) difference.” The other remaining respondent said he/she believed there was typically more of a 60/40 female/male ratio for clarinets, and that the trombone was more male dominated in most bands as opposed to their own.

The distribution of years teaching middle school band in the current position and total years teaching music are given in Table C:

Table C. Years teaching in current position and total years teaching music.

	Years in Current Position	Years total
Participant 1	5	15
Participant 2	1	1
Participant 3	7	24
Participant 4	13	29
Participant 5	2	13
Participant 6	4	12
Participant 7	33	35
Participant 8	11	31
Participant 9	4	15
Mean	8.89	19.44

When asked if they played any instruments and what their primary instrument was, three participants said they played the clarinet. Two said they played the trumpet. Of the remaining four, the responses were French horn, saxophone, percussion, trombone and bass guitar. Finally, five of the respondents identified themselves as male and four as female.

SUMMARY AND DISCUSSION

The purpose of this project was to examine the relationship between musical instrument selection and gender in middle school band students. According to the results of the survey, the students in this sample have a high degree of sex-stereotyping for their musical instruments. The most popular instrument for females was the flute, which was the least popular instrument for males; and the most popular instrument for males was the trumpet.

The students included in this small sample were almost equally divided between

the sexes (290 females and 299 males). Although with this small sample it is impossible to generate any normative data, it is interesting to note that this differs from many peoples' perceptions of the professional music world, which is often seen as male-dominated. This idea possibly dates back to the classical period, when it was seen as feminine to have proficiency on an instrument, but masculine to have mastery over it. Further longitudinal research would be needed to ascertain how many female band students continue with their musical studies, whether for pleasure or as a career.

The results seem to indicate that females prefer the flute and clarinet and are very unlikely to choose the tuba, while males prefer the trumpet and percussion and are very unlikely to choose the flute. However, the least popular instrument for females, the tuba (with an average of .86 female tuba players per band), was also not very popular among the boys (2.5 male tuba players per band). The least popular instrument for males (the flute, with .86 male flute players per band) was, in contrast, the most popular instrument for females (10.86 female flute players per band).

Part of the reason for this disparity may be the typical instrumentation of school bands. Fewer tubas are needed to create a balanced sound. This may be why the tuba is not as noticeably popular as other instruments; there are simply not as many positions needing to be filled.

Another possible reason for the lack of interest in the tuba is its immense size. With the exception of certain percussion instruments, most of which would never be carried by the students, the tuba is the heaviest and most cumbersome instrument in the school band setting. Thus, the tuba may be reserved for those who are physically large enough and strong enough to hold and carry it.

The same may go for other instruments. The larger and heavier instruments may be reserved for those who are strong enough to hold and carry them and also to put enough air through the horns to play them properly. This could certainly explain why the larger instruments of both the woodwind and brass family are more popular with male band students than females, who dominate the smaller woodwind instruments.

The obvious exception to this idea is the trumpet, which is comparable in size to the clarinet. According to this sample, it is the most popular instrument for males. However, the trumpet, while far behind the flute and clarinet in popularity, is the third most popular instrument for females by a wide margin. Therefore, in this sample, while the instrument is certainly dominated by males, there is a sizeable minority of female players.

Another factor that may come into play along with the size of the instrument is the sound of the instrument. Brass instruments, as mentioned previously, are louder in volume than woodwind instruments. Both families of instruments (brass and woodwind) have a wide range of pitch while maintaining this disparity in volume and “boldness” of sound. They may be seen as comparable to the human voice. Traditionally, a soft voice is seen as “feminine” while a loud and bold voice is seen as “masculine,” regardless of the actual pitch of the voice itself. Therefore, a bold and brash but high-pitched sound might be seen as more masculine than a sound that is lower pitch-wise but also calmer and more quiet.

Thus far, the discussion has centered on wind instruments. However, percussion instruments were, in this sample, the second-most popular instrument for males (58 students) and far less popular for females (18). Because the survey did not differentiate

between pitched and non-pitched percussion instruments, it is impossible to know exactly what sounds the percussion students are producing. However, it is possible that the comparably “violent” action of physically striking the instrument might be seen as a “masculine” action, at least as opposed to the more “gentle” playing of wind instruments. In addition, to get sufficient volume out of certain percussion instruments, a good amount of physical force is needed. Further investigations into the popularity of specific percussion instruments would certainly be valuable.

Another factor which is separate from the sound and size of the instruments may come into play for middle school band students. Specifically, some middle schools are associated with specific high schools, and thus middle school band students may often come into contact with their high school peers. Regardless of the high school students’ specific reasons for choosing their instruments, it is entirely possible that younger students may take them as models and select their instrument in order to emulate the older students. Thus, the stereotypes become cycles: the middle school students select their instruments to imitate the high school students and then, when they reach high school, the younger generation entering middle school in turn emulates them. Further research detailing the connection between middle and high school bands is needed.

An interesting result that may have to do with the small sample size was the concentration of females on the flute and clarinet to the exclusion of other instruments despite the fact that there are a nearly equal number of females (290) as males (299) in band. When combined, flute and clarinet players accounted for 58.97% of all female band members. In contrast, the two most popular instruments for males (trumpet and percussion), accounted for 44.48% of all male band students.

Results of this study contrast with Abeles's findings that females are more likely to break the gender stereotypes in instrument selection (Abeles, 2009); these results show that for these participants, male band students are generally more evenly distributed among the instruments than females. This could mean it is possible the lack of male flute and (to a lesser extent) clarinet players is due not to a perception that it is a "feminine" instrument but possibly because these instruments are not made available to them. Then again, it is also possible that females are choosing what instruments are "left" for them. A project in which males and females select instruments entirely separate from one another might make this possibility more clear.

Abeles and Porter previously found that the alto saxophone was generally considered a gender-neutral instrument; that is, females were as likely to play it as males were. According to results from the sample in this project, however, the alto saxophone was considered more masculine than feminine. This may be partly due to survey error, as at least one of the participants, when responding to the alto saxophone question, also gave the numbers of their (male) tenor saxophone players; it is possible other participants included tenor and baritone saxophone players along with the numbers of their alto saxophone players. In previous studies, tenor and baritone saxophone had not been identified as gender-neutral, and their inclusion (if indeed they were included) may make this particular statistic artificially masculine.

One potential pitfall of this survey was that it did not include a question about students doubling on instruments; that is, students who play more than one instrument. Although this practice is likely not common among middle school students as it requires a proficiency on both instruments, it is possible that at least one or two participants play

multiple instruments. A survey including questions for students who double on instruments might gain an idea of how common the practice is and would also raise more questions about how students make their instrument selections.

There seemed to be little relation between the band directors' opinions on sex-stereotyping of instruments and their years of experience, likely due in part to the fact that there was such a small sample. However, all band directors seemed to agree that there was at least a perception of gender inequality between the instruments. Reasons cited by the band directors for the divide included social pressures and perceived "boldness" of sound. Two of the participants, who have been teaching music for 24 and 29 years, said they work actively to eliminate the stereotype.

The male band directors were, save for one, more experienced in their total years as music educators than their female counterparts. Apart from that, it is difficult (particularly with this small sample size) to draw any further connections between the band directors' opinions and their gender. Indeed, within this small sample, even the primary instruments the directors play in their own time are well-distributed between males and females. One of the three clarinet players was male, while one of the two trumpet players was female. The remaining female played the French horn, an uncommon instrument for both males and females according to these results, and the remaining males played saxophone (though it was not mentioned whether it was an alto saxophone or one of the larger saxophones), percussion, and trombone and bass guitar.

Further research is needed in order to generalize the results to a larger population. The sample size here is far too small for results generated to be useful when drawing comparisons to the population at large, though they provide a basis to initiate research on

a larger, broader scale. These findings could provide a catalyst to future research studying musical instrument selection and gender on a statewide or even national level.

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BIOGRAPHICAL SKETCH

Lindsay Benet Crowe completed her Master of Music Education degree at the University of Florida in December, 2010. She earned a Bachelor of Arts degree in music from New College of Florida (Sarasota, FL) in May, 2008. In addition to her studies, Lindsay is a substitute teacher in the Marion County School system for all subjects and all grades.