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Sex-Types and Instrument Selection: The Effect of Gender Schemas on Fifth Graders' Instrument Choices

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Since the mid-1970s, music education researchers studied and followed musicians' and non-musicians' views of music instrument gender stereotypes and associations. The vast majority of studies focused on children, ranging in age from preschool through high school. Students' gender associations have changed little from 1978 (Abeles, 2009; Abeles & Porter, 1978). Researchers tried treatments such as having instrumental demonstrators of both sexes performing with varying degrees of success (Harrison, 2000; Killian & Satrom, 2011). Even with treatment, survey results suggested that children continue to stereotype instruments in the same way as their counterparts did a generation earlier (Abeles, 2009; Abeles & Porter, 1978; Eros, 2008). Researchers identified variables determining students' instrument selection and gender associations based on age, culture, and the influence of adults on the child. This research explored the causes of instrument gender stereotypes, the variables that cause stereotypes, and the treatments used to affect change.

To understand instrument gender stereotypes, one must first understand the difference between sex and gender and gender's role in society. Sex is often defined as biological, whereas, gender is defined as socially constructed (O'Neill 1997; Sinsel et al, 1997). Some argue against this broad definition, as they see sex and gender as synonymous, together creating a suite of traits that construct a person biologically and socially (Sinsel et al, 1997). Others find the gender definitions of masculine and feminine too constricting, as they do not allow an in between or androgynous trait (Sinsel et al., 1997). Bem (1983) proposed androgyny and undifferentiated as sex-types, in addition to high feminine-low masculine sex type and high masculine-low feminine sex-type, which is determined by self-scored characteristics on the Bem Sex Role Inventory. Bem proposed that cultural observations made by young children, coupled with their ability to encode and organize information, allows them to create gender-schemas, which includes gender roles and gender-appropriate activities.

Gender-appropriate activities include musical activities, such as what types of music to listen to, reaction to different types of music, and what types of instruments to play. The instruments most often associated with femininity are flute, clarinet, and oboe (high woodwinds) and the instruments most associated with masculinity are trumpet, trombone (brass), and percussion (Abeles, 2009; Abeles & Porter, 1978; Killian & Satrom, 2011). Saxophone is often considered

gender neutral and little research has utilized the French horn. It is unclear how and when gender associations with instruments began in the United States. Children consistently assign instruments to genders in the same manner as their parents (Abeles, 2009; Abeles & Porter, 1978). This leads some to believe that children are learning sex-type instruments from their parents and media (Abeles, 2009; Abeles & Porter, 1978; Fortney et al, 1993; Griswold & Chroback, 1981). This belief corresponds with Bem's (1983) gender-scheming theory of children observing, ordering, and creating gender-stereotypes based on what is modeled and said by their parents and other influential adults.

Influential adults, other than parents and close family members, may include band directors or demonstrators of instruments. Numerous studies have looked at the effect of demonstrator-gender on children with varying results (Harrison, 2000; Killian & Satrom, 2011). In her 2000 study, Harrison interviewed students at three middle schools for a baseline reading, and then held concerts at two of the three middle schools, one with gender-consistent models, one with gender-inconsistent models, and the third was the control with no models. Her findings suggested that both boys and girls were affected by seeing gender-inconsistent models, namely boys with the piano and flute, and girls with the trumpet or guitar. Other instruments, namely the drums, were unaffected by gender, with a majority of students preferring drums following the concerts, regardless of the model's gender. This suggests that the music played by the drummer (which was not controlled) affected the students' preference more than did the sex of the model.

In their 2011 study, Killian and Satrom had a similar study, in which they controlled the repertoire the demonstrating musicians of both genders played ("Twinkle, Twinkle Little Star", mid-range). The researchers detected a trend with many students changing their instrument preference following the concert; however, this trend yielded no significant difference in the statistical data, which the researchers attributed to the small sample size. Like Harrison (2000), Killian and Satrom recommended further research on the role of significant adults, especially parents, in student instrument preference.

The views of influential adults, such as parents, have not been studied since the seminal Abeles and Porter 1978 study. Band directors have been surveyed (Johnson & Stewart, 2004), with results suggesting that band directors were impartial to instrument gender associations; however, it is interesting that typically bands are grouped by gender associations (i.e. males are on low brass instruments, females are on high woodwinds), even if survey results suggest directors assign instruments based solely on physical characteristics, not gender. Why is there a difference? Is it because of band directors, students, parents, or a combination of the three?

This research aims to study the views of beginning band students and their parents, and if their opinions of music and gender affect their instrument selections. Do fifth graders select their instruments based on social perceptions? Are parents a dominant force in their child's decision on what instrument to play in band? Is the sex role of the student reflected in their instrument selection? Would parents support their child if they opted for a gender-inconsistent instrument? These questions were synthesized in two surveys, one for parents and one for students, which were completed during an instrument drive at a North Texas-area middle school. I hypothesized that this group of students would be more gender neutral, which would correlate with a gender-neutral band director and parents. Is this generation of new band students truly gender neutral, or is this middle school an exception to the norm, with other middle school students basing their instrument selections on gender guidelines placed on them by their parents and other outside influences that create their gender schemas?

Method

To determine the reasoning behind fifth graders' instrument selections and their corresponding sex-types, students (n =73) and their parents (n = 73) were given surveys when they arrived at the instrument selection nights at one intermediate school in North Texas. The school was chosen based on availability and the gender neutrality of its band director and instrument testers. Only one school participated in this study, as it is a pilot study. The selection nights were on two consecutive evenings in May 2011. The researcher was present at all times during the selection nights and all procedures protected the students' identities and their well-being.

When students and parents arrived at the event, they were given a three-page packet that contained both the parent and student surveys. They were told that the surveys were to study instrument drives in the North Texas area and would not be shared with the band director or affect their instrument assignments. Each survey was premarked with the participant number. Parents and students were prompted to take the survey prior to testing the instruments. The student survey was one page, with questions on the front and back. The questions were mostly closed-response questions, with the option of "other" for clarification. The student survey asked who helped the student in picking out their top three instruments and then asked why they selected each instrument. The final question asked if the student would refuse band if they had to play a specific instrument. An open answer follow-up question allowed students to state which instrument they would not play and why. The student survey is shown in Figure 1.

Student Questionnaire. Only to be filled out by the future band member.
There are no wrong answers. This questionnaire will not be used for your instrument assignment and will not be shared with anyone (it is confidential).

Please circle the answer that best fits you.

1. Sex:
   Male Female
2. Current Grade:
   5th 6th
3. Were you in band class with Mr. Taylor last year?
   Yes No
4. Have you selected the three instruments you most want to play for band?
   Yes No
5. If **yes**, who helped you select your top three instruments? Check who you think helped you the most.
   [Band Director} My Parents
   My Friends No one, I chose by myself
6. My top three instruments are (circle your top three):

Bassoon	Clarinet	Euphonium	Flute
French Horn	Oboe	Percussion	Saxophone
Trombone	Trumpet	Tuba	Other:_____

For the next questions, make sure to choose the **one** answer that bests describes you.

7. My first choice is _____ (please fill in) because:
   I like the sound. A family member plays it.
   My friends play it. I'm good at it.
   [The Director] made me. My parents made me.
   The instrument looks cool. The size of the instrument.
   Other_____
8. My second choice is _____ (please fill in) because:
   I like the sound. A family member plays it.
   My friends play it. I'm good at it.
   [The Director] made me.. My parents made me.
   The instrument looks cool. The size of the instrument.
   Other_____
9. My third choice is _____ (please fill in) because:
   I like the sound. A family member plays it.
   My friends play it. I'm good at it.
   [The Director] made me. My parents made me.
   The instrument looks cool. The size of the instrument.
   Other_____
10. I would not join band if I had to play an instrument I did not like.
    Yes No
11. If **yes**, what instrument(s) and why?
    _____

Figure 1. Student Survey

The parent survey was two pages, with questions on the front and back of both pages. Like the student survey, questions were closed-response with the option of "other" for clarification. The parent survey asked for the parent's and family's formal music background. Of particular interest are questions 13 through 29, a series of statements about their child's personality in order to gauge the child's sex-role. These questions were selected from Boldizar's *Children's Sex Role Inventory* (CSRI)(1991). The survey included five masculine items, five feminine items, and seven neutral items. The statements were in the order of: masculine trait, feminine trait, and neutral trait. Two additional neutral questions (#28 and #29) followed the last series in order to create an even number of questions. These answers were not counted in the final neutral score.

Parents were asked to circle one of four answers for their child: “very true”, “mostly true”, “a little true”, and “not true”. These answers would be scored on a four-point Likert-type scale of 4 for “very true”, 3 for “mostly true”, 2 for “a little true”, and 1 for “not true”. The questions were selected based on their perceived gender neutrality and positive connotations, in case parents were concerned about these answers affecting their child’s standing with their band director. The masculine, feminine, and neutral items were added and averaged separately to reveal the child’s masculinity, femininity, and neutral ratings. Questions 30 through 34 asked for the parent’s personal influence on their child’s instrument selection and if they would have reservations towards any instruments and why. The parent survey can be seen in Figure 2.

After both surveys were completed, parents and students returned the surveys to the researcher and proceeded to the band hall to test the instruments. The students were given a score sheet marked with their participant number. This score sheet listed all of the instruments available for testing. Students were scored on a scale of 1 to 10, with 1 representing least natural ability and 10 representing most natural ability. If testers were given a score in between two numbers, the score was rounded up post-testing. Percussion was an exception, as the students were rated from 1 to 10 in three categories (pulse, technique, rhythmic execution) and given an average score post-testing. After trying as many instruments as they wanted, the students selected their top two instruments. The band director then made instrument assignments based on the students’ scores and requests. The instrument assignments and scoring sheets were relayed to the researcher, providing all data for analysis.

Parent Questionnaire. Only to be filled out by a parent of the future band student.
There are no wrong answers. This questionnaire will not be used for your child's instrument assignment and is completely confidential.

Please circle the answer that best fits you.

1. Sex:
Male Female
2. Musical background:
Yes No
3. If **yes**, what instrument(s) did you play? Circle all that apply

Alto Sax	Bass Clarinet	Bass Guitar	Bassoon
Baritone	Baritone Sax	Cello	Clarinet
Drum set	Euphonium	Flute	French Horn
Oboe	Percussion	Piano	String Bass
Soprano Sax	Trombone	Trumpet	Tuba
Viola	Violin	Other:_____	

4. If **yes** for how many years (total)?
<1 1 2 3 4 6 7 8 9 10+

5. How many children do you have total? Note: if they're a dependent on your tax return, please count them.
1 2 3 4 5 6 7 8 9 10+
6. If you have more than one child, do any of your other children play an instrument in band, or did at one time?
Yes No N/A
7. If **yes**, what instruments did they play?
Child 1_____
Child 2_____
Child 3_____
Child 4_____
Child 5_____
8. Did you help them pick out their band instrument?
Yes No N/A
For the next questions, please circle the answer that best describes your child who is trying out for band today:
9. My child is a _____ child:
Oldest Middle Youngest Only
10. My child has had formal music lessons before this year.
Yes No
11. If **yes**, on what instrument (please list): _____

12. If **yes**, for how long (in total years)?
<1 1 2 3 4 5 6 7 8 9 10+
13. My child makes decisions easily.
Very True Mostly True A Little True Not True

14. My child is good at understanding other's problems.
Very True Mostly True A Little True Not True

15. My child enjoys helping others.
Very True Mostly True A Little True Not True

Figure 2. Continued on next page

16. My child likes to lead groups.
Very True Mostly True A Little True Not True

17. My child is loyal to their friends.
Very True Mostly True A Little True Not True

18. My child has many friends.
Very True Mostly True A Little True Not True

19. My child is self-reliant.
Very True Mostly True A Little True Not True

20. My child is shy around new people.
Very True Mostly True A Little True Not True

21. My child easily adapts to new situations.
Very True Mostly True A Little True Not True

22. My child makes a strong impression on people.
Very True Mostly True A Little True Not True

23. My child enjoys spending time with babies and young children.
Very True Mostly True A Little True Not True

24. My child is dependable.
Very True Mostly True A Little True Not True

25. My child is willing to take risks.
Very True Mostly True A Little True Not True

26. My child tries to comfort those who are hurt or feeling bad.
Very True Mostly True A Little True Not True

27. My child is serious.
Very True Mostly True A Little True Not True

28. My child is happy.
Very True Mostly True A Little True Not True

29. My child is honest.
Very True Mostly True A Little True Not True

30. I know the three instruments my child wants to play the most.
Yes No
31. I helped my child choose these three instruments.
Yes No
32. I am open to any instrument my child decides to play.
Yes No
33. If **no**, please list the instrument(s) you do not want your child to play.
_____
34. What are the reasons, if any, why you do not want your child to play the above instruments? Circle all that apply:
Sound Availability Ability Cost
Size Other_____

Figure 2. Parent Survey

Results

The data are taken from the responses of 73 beginning band students and their parents. All beginning band students were in the fifth grade at the same school. The sample was largely male, with 60% of responders (n = 44) identifying as male and 40% (n = 29) identifying as female. The

average results from students' *Children's Sex Role Inventory* (CSRI) can be seen in Table 1 (Boldizar, 1991).

Table 1

Average CSRI Scores by Sex

Sex	Average Score (out of 20)	Masculine	Feminine	Neutral
Male (44)		15	14.77	15.95
Female (29)		15.65	16.59	16.24
Total (73)		15.33	15.5	16.05

The male students' average masculine inventory score was 15/20 and their feminine score was 14.77/20. The little disparity between the masculine and feminine scores suggests that most of the males identified as high masculine-high feminine, also known as androgynous. Interestingly, the female students had a *higher* masculine score than their peers. Perhaps this is because there were fewer female students (n = 29) than male students (n = 44). Like their male counterparts, the females had both high masculine and feminine scores, which can be identified as androgynous.

The majority of students in this study identified as high masculine-high feminine. To determine the sex role of the student, I took their masculine and feminine scores and determined which was one was higher. If both were high, I determined whether the student was androgynous or only high masculine or high feminine if the disparity between the feminine and masculine scores was equal to or greater than three points. I determined whether a student was low masculine-low feminine (or asexual) if both of their scores were less than 10. Although no students were classified as asexual, there were two students who consistently had scores in the low teens in all categories. The number of students identified in each *CSRI* determined sex-role can be seen in Table 2.

Table 2

Sex-Roles by Sex

	High Masculine-Low Feminine	High Feminine-Low Masculine	High Masculine-High Feminine	Low Masculine-Low Feminine
Number of Males	5 (11%)	7 (16%)	31 (70%)	0
Number of Females	2 (7%)	7 (24%)	20 (69%)	0
Total	7 (9%)	14 (19%)	51 (70%)	0

It is apparent that sex and gender are truly different, as an equal number of males and females identified as high feminine-low masculine. The next question is whether these students identified

with gender-consistent instruments or if they did not identify instruments with gender. Tables 3.1, 3.2, and 3.3 address this.

On examination of these tables, it is clear that both girls and boys play both gender-consistent and inconsistent instruments. One of the most startling figures is the number of male students who play clarinet. Once considered a feminine instrument, the clarinet is clearly viewed by these students as androgynous. This claim is supported by the high number (n = 12) of androgynous students assigned to clarinet. The horn, which has been included in few previous studies, was also viewed as a gender neutral instrument, with six students testing as high masculine-high feminine, as compared to the two high masculine students and the one high-feminine student. It is of note that the saxophone, which is often regarded as a gender-neutral instrument was comprised of androgynous students; however, there were no females selected to play saxophone in the sample. This may be explained by how well the females who tried saxophones scored (the average score was 5.76/10).

Table 3.1
Sex and Gender Role by Instrument

Males

	Bassoon	Baritone	Clarinet	Flute	Horn	Oboe	Percussion	Saxophone	Trombone	Trumpet	Tuba
HM-LF	-	-	-	-	2	-	1	-	1	1	-
HF-LM	-	-	2	-	-	-	1	1	-	1	2
HM-HF	-	3	7	-	1	-	5	5	3	6	1
Total	0	3	9	0	3	0	7	6	4	8	3

Table 3.2
Females

	Bassoon	Baritone	Clarinet	Flute	Horn	Oboe	Percussion	Saxophone	Trombone	Trumpet	Tuba
HM-LF	-	-		-	-	1	-	-	-	1	-
HF-LM	-	-	3	1	1	-	1	-	-	-	-
HM-HF	1	1	5	2	5	2	3	-	1	1	1
Total	1	1	8	3	6	3	4	0	1	2	1

Table 3.3
Instrument by Sex-Type

	Bassoon	Baritone	Clarinet	Flute	Horn	Oboe	Percussion	Saxophone	Trombone	Trumpet	Tuba
HM-LF	-	-	-	-	2	1	1	-	1	2	-
HF-LM	-	-	5	1	1	-	2	1	-	1	2
HM-HF	1	4	12	2	6	2	8	5	4	7	2
Total	1	1	17	3	9	3	11	6	5	10	4

Note: HM-LF for high masculine-low feminine, HF-LM for high feminine-low masculine, and HM-HF for high-masculine-high feminine.

The trumpet, often viewed as a masculine instrument, was selected mainly by androgynous students (n = 7), as was the trombone (n = 4). Percussion also contains mostly androgynous students (n = 8), with one high-masculine student and two-high feminine students.

The instruments with the largest concentration of high feminine-low masculine students were flute, clarinet, and tuba, with over 33% of the students selected identified as *high feminine*. It is somewhat surprising that two students identified as high feminine play the tuba, which is often considered a masculine instrument. What's even more interesting is that these students are male, and the other male and female in the class identify as androgynous. The only instrument with 33% of students identifying as high masculine is the oboe, which is often considered a feminine instrument. The other two students surveyed identified as androgynous.

Interestingly, the instruments students tested or selected as their top three instruments did follow gender-consistent patterns. Figure 4 shows the instruments tested by sex.

Table 4

Instruments Tested by Sex

	Clar	Flute	Horn	Oboe	Perc	Sax	Trbn	Tmpt	Tuba	Bari
Male	21	10	31	19	21	28	33	34	27	31
Female	22	21	22	19	13	17	11	21	10	11
Total	43	31	53	38	34	45	44	55	37	42

Note. clar for clarinet, perc for percussion, trbn for trombone, tmpt for trumpet, and bari for baritone.

Figure 4 reveals that, although the majority of students are androgynous, they are more likely to test *sex-consistent* instruments. For example, 72% of female students tested the flute, but only 22% of males tested it. The same is true for students testing the trombone: 38% of females tested the trombone, compared to the 75% of males. The instruments that this sample of students identified as feminine are flute and oboe, and trombone, tuba, and baritone are considered masculine. These results are consistent with those of Abeles (2009), with upper woodwinds considered feminine and low brass considered masculine. Yet some results differ from Abeles' most recent study, in that instruments considered gender neutral are expanding. In addition to saxophone and horn, trumpet is no longer masculine and clarinet is no longer feminine. It is difficult to gauge the students' view on percussion, as that was only tested one day, which limited the sample size. This limited sample (n = 34), show that an equal percentage of males (48%) and females (45%) tested percussion, an instrument that may be more gender neutral than in the past.

One of the most fascinating parts of the student survey was students' reasons for choosing their top three instruments. The survey asked the students to choose one of nine reasons for choosing their instrument (see Figure 2): sound, family member plays it, friends play it, ability, director's choose, parent's choose, aesthetics of the instrument, size of the instrument, and other (an open question). The results may be seen in Figure 5.

Table 5

Reason for Choosing Instrument

	Sound	Family	Friends	Ability	Director	Parents	Aesthetic	Size	Other
First	36	7	3	16	-	1	3	1	-
Second	33	1	5	7	-	1	2	1	1
Third	29	6	2	3	-	3	5	2	1

Note. family/friends means a family member/friend plays the same instrument and director/parent means the students' director/parent made them choose the instrument.

It is clear that the overwhelming factor in student's decisions is not social but kinesthetic and aural. The sound of an instrument is the main reason why a student wants to play it, with their ability to play the instrument second (if students gave multiple reasons, only the first was chosen, which is why ability is significantly less than sound). It is only on the student's second and third choice instruments that social influence becomes a more prominent factor.

The students who responded to "other" were both male and female. The male student chose "other" and said he, "[wanted] to try something new" by playing the horn; however, he was assigned his first choice, the clarinet, for which he cited "sound" as the main influence. The female student who chose "other" wanted to play saxophone because it was, "[her] Mimi's favorite". Interestingly, the student did not test the saxophone, and was assigned her first choice, percussion, for which she cited "sound" and "ability" as her main influences.

Just as interesting as the reasons why students want to play specific instruments, are the instruments they would refuse to play. Students were asked if they would not join band if they had to play and certain instrument. Of the 66 students who did respond, 65% (n =43) of students were still, hypothetically, interested in band; however, the students who refused to play (n =23) certain instruments provide insight into their gender schemas and thinking. Two female and two male students refused tuba because of its size. Four females and two males would not play specific instruments (flute, clarinet, French horn, and saxophone) because of ability. One male student would refuse tuba because, "[he] didn't like the sound". Another male student would refuse clarinet because, "[sic] requires too much attention", which could be analyzed as his lack of ability or his lack of attention. Three male students listed instruments and cited no specific reason. These instruments were flute (2), oboe (2), bassoon, trumpet, percussion and baritone. As stated previously, flute and oboe are often described as feminine, which may be some of their reasoning. Another factor may be their ability (which could explain the lack of interest in baritone, trumpet, and percussion). Three other male students cited not being interested or not liking these instruments: flute (2), oboe (2), bassoon (3), and clarinet. All of the instruments the males listed may be categorized as feminine, which leads to the one student who did cite gender as a reason for not playing an instrument. One male student refused tuba and flute because, " [sic] they are too girly or it's too big".

Discussion

This pilot study revealed insights into instrument selection and gender. Fifth graders do select their instrument based on social perceptions; however, the social perceptions are changing and more instruments are considered gender neutral or androgynous. Parents were not the dominant

force in their child's instrument selection among children in this sample; rather, the sound of the instrument and the student's ability and early success were the key factors in these children's instrument decision-making process. The sex-role of the student was sometimes reflected in their instrument selection. With little significant difference among the four sex-types, most of the students tested as androgynous; yet, they viewed the majority of their instruments as androgynous, as demonstrated in the high number of males and females testing and playing clarinet, horn, oboe, percussion, and trumpet.

It should be noted that the Children's Sex Role Inventory ought to be viewed as a measuring tool that does not reveal everything about a student. Like any test that measures personality traits, it must be stressed that these children do not personify their sex-types; rather, the student sex-types help us better understand the student. For example, if a person takes a Myers-Briggs personality test and is identified as "idealistic-introvert", it does not mean this person is anti-social or cannot handle social settings, but simply enjoys time to alone, something that everyone needs and appreciates. The personality aspects of the Children's Sex-Role Inventory must be viewed in that same light.

To better understand how sex-role affects the instrument selection process, a large-scale study must take place. A greater sample would add depth to the pilot study, and should include different areas of North Texas, and possibly participants in other states. The future study also needs a larger sample of sex-role questions for the students or the students' parents to answer, which would be more effective at measuring a child's sex-type (and needs to include the reasoning process behind question selection.) This larger sample of questions should also include aspects of masculinity and femininity that could be perceived as negative, in order to better understand the student. The social, cultural, and economics of the school could possibly be a major factor in a child's gender schema and instrument selection process. The larger sample would also yield a diverse group of band directors and music educators, and if their gender-biases effect their student's instrument choices.

The information regarding why students choose their instruments could also become a study in and of itself. A longitudinal study that tracks children through band to see if their initial interest is maintained and, what factors affect a child's experience in band, both positive and negative. This would provide insight into why some students quit or become bored early in their music career.

The question persists of how and why musical instruments are given gender roles. When does this develop and, does it develop in their early listening? Is it possible to create a gender-neutral environment? If so, how would students then select instruments? Would it still be primarily based on sound and ability? This question, and others posed in this pilot study, can only be answered with further research in the field of instrument selection and gender stereotyping in fifth grade band students.

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