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CLOSING THE GAP IN PERFORMING MUSIC ENSEMBLES: A STUDY TO EXAMINE BARRIERS OF ACCESS TO EQUITABLE PARTICIPATION

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ABSTRACT

CLOSING THE GAP IN PERFORMING MUSIC ENSEMBLES: A STUDY TO EXAMINE BARRIERS OF ACCESS TO EQUITABLE PARTICIPATION

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The purpose of the study was to determine if there is a significant difference in student participation in the music courses of band, chorus, orchestra, and general music as related to race/ethnicity, ELL status, and free and reduced lunch status. The participants in the study included 389 eighth-grade students from a suburban middle school in the northeastern United States, located near a major metropolitan city. The school district maintains a nationally recognized music program.-The quantitative study used archival data including student music course selection, GPA at the end of 8th grade, and 9th grade music course selection, race/ethnicity of the student, student free and reduced lunch status, and student ELL status. Redistribution, recognition, and representation of Nancy Fraser's social justice theory, along with the essential elements of the Cultural Proficiency Framework, were the lenses which guided the study. Findings indicated that White students are overrepresented in the performing music ensembles, while Black, Asian, and Hispanic students, along with ELL students and those classified as lower income, are much less likely to choose to participate in band, chorus, and orchestra. However, when they do enroll, they are more likely to continue in the program through high school and their academic average increases. The study is timely in its attempt to examine recruitment and retention methods to identify potential economic or social barriers that limit full student body participation in beneficial performing music

programs. Improved access to music opportunities for all students increases equity in performing music ensembles and supports student choice.

DEDICATION

For Amelia, Margaret, and Joan,

who continue to teach me new and beautiful things every day.

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Thank you to my students. It is a privilege to make music with young people and see how their experience helps them grow into compassionate and wonderful human beings.

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CHAPTER 1 INTRODUCTION

Music students and educators have long agreed with research confirming that the vibrancy of the school music program is an essential component in the engagement of the school community and is an indicator of positive school culture (Thomas et al, 2013; Sheltzer, 2019). Participation in the traditional performing music ensembles of band, chorus, and orchestra goes beyond the basic and required "general music" coursework, and has been shown to increase student academic achievement, foster leadership and collaborative skills, and improve student's social and emotional health (Sheltzer, 2019). However, even in communities with thriving and comprehensive music programs, students in traditionally underrepresented groups are not enjoying those same benefits. There is a lack of meaningful outreach for ELL, low-income, and marginalized groups to participate in these programs (Aprile, 2021). Post-COVID education in the arts will be informed by changes in curriculum design and delivery. Music administrators and teachers would be wise to reflect on the structural and ideological deficiencies that existed previously in elective music course programming. Music leaders especially should explore the equity of access to band, chorus, and orchestra classes for all students, and how recruitment and retention policies may remove any social, financial, or systemic barriers that currently exist.

The face of public schools nationwide is changing; classrooms are becoming more diverse in student race/ethnicity, socioeconomic status, and level of English proficiency (Hussar et al., 2020). Schools are increasingly faced with budgetary concerns while twenty-first century students are encouraged to enroll in coursework that prepares them for college and career. Bergee and Weingarten (2021) and Guhn, Emerson, and

Gouzouasis (2020) documented that students who were enrolled in performing music groups (band, orchestra, and chorus) had higher mean exam scores than their non-music peers in academic areas including math, science, and reading. Policies that seek to cut or reduce music instruction in schools in favor of more time for test preparation may actually work against students' best interests. There is currently a lack of literature on how the change in music instruction due to COVID-19 affected student participation in performing music programs at the secondary level according to free and reduced lunch status, ELL status, and race/ethnicity.

The current study seeks to explore differences in the rate of participation between various groups of students, identified by free and reduced lunch status (FRL), ELL status, and race/ethnicity. Schools serving low-income populations and a majority of students of color traditionally have less access to arts education (Feindler, 2020). Lack of reliable internet access goes in tandem with lower income buildings, so multiple barriers existed during the period of remote instruction in 2020-2021. Additionally, values of individual states, counties, superintendents, and communities affected the priority placed on the resources and training allocated to music instruction and whether it was offered at all. The marginalization of arts instruction in some areas is at odds with reports from students indicating that participation, even in Zoom music instruction, was a creative outlet for them throughout difficult times (Feindler, 2020). Arts educators have known for a long time that intentional and thoughtful arts education can support students' social and emotional health (Shaw, 2022; Sheltzer, 2019).

Enrollment and engagement in school music programs is contingent on interest of the student population, quality of instructional program, resources utilized to support the

program, and access for those students who wish to pursue music study. Even within a small geographic area, music programs can vary greatly based on location, number of course offerings, hiring of a certified or qualified music instructor, and frequency of meeting times (Aprile, 2021). Often, pressures of accountability in other academic areas disproportionately eliminate the possibility of scheduling music courses for those very students who are underrepresented in music. No Child Left Behind and other accountability measures influenced districts to provide remediation and academic support services in high-poverty and high-minority communities (Shaw, 2022). Students identifying as Black, Hispanic, English Language Learners (ELL), and of lower socio-economic status (SES) are often most affected when arts are reduced at the secondary level. Students with higher socioeconomic status and high grade-point averages are overrepresented, and non-White students and English language learners are underrepresented (Escalante, 2019). Identifying barriers to equal access to music programs among Black, Latinx and other underrepresented groups of students allows arts leaders to modify existing frameworks and seek out the resources necessary to remedy this inequity.

The demographics of New York State public schools is changing, but proportionately, students from traditionally underserved communities are not represented in performing music programs such as band, chorus, and orchestra (Thomas, Singh, Klopfenstein, and Henry, 2013). Effective recruitment and retention of underrepresented populations in public school music programs is necessary to provide all students with a high-quality arts education. Research that identifies gaps that exist in enrollment in

performing arts courses can assist in future outreach and curriculum design to increase access to performing music ensembles.

Music learning among diverse populations is an important component of both assessing present day music curriculum and planning for the future of music programs in schools across the country. As music serves as both a means of expression and a source of cultural identity for many racial and ethnic groups, attention to how and what we teach in music programs is necessary (Escalante, 2019). Multicultural education research seeks to find ways to increase access for all students and provide educational equity among all student groups. Research shows that educators who understand and incorporate the culture of their students and then create learning experiences designed with them in mind are more successful and effective in reaching their students (Butler, Lind, and McKoy, 2007).

Purpose of the Study

The purpose of this non-experimental study was to determine if there is a significant difference in student enrollment in performing arts courses when comparing the race/ethnicity, ELL status, and free and reduced lunch status of the student. Additionally, the study sought to explore if the retention rate for each subgroup changes over time as a result of the district initiative of the Second Chance Instrumental Summer Music Program, which provides outreach to students who have historically not participated in the performing music program. The independent variables in the study were student groups defined by ELL status, free and reduced lunch status, and race/ethnicity (Black, White, Hispanic, Asian, More than one). The dependent variables were the number of students participating in performing music ensembles, defined as

Band, Chorus, and Orchestra. The sample was composed of an entire grade level of a middle school from a suburban area located outside a major metropolitan city and was approximately 389 students. Their enrollment in either General Music, Band, Chorus, or Orchestra was self-selected by the student and parent. The elective courses of Band, Chorus, and Orchestra are not mandated at the state level and therefore demonstrate student choice while also indicating accessibility. Further, the study then compared the retention of each subgroup of students from 8th grade (2022-2023) to 9th grade (2023-2024) to determine whether there was a significant difference when comparing which student subgroups continued with their elective music participation. At this point in their schooling, students may elect not to participate in a performing music ensemble or school music at all, as New York state does not specify which courses must be taken to fulfill the two-year arts requirement in high school. Courses in fine art, such as drawing, photography, and other visual arts courses are offered in the district.

Theoretical and Conceptual Frameworks

Theoretical Framework

The theoretical framework for the current study was based on both Social Justice Theory of Nancy Fraser (2003) and the Cultural Proficiency Framework (Lindsey, Lindsey, Nuri-Robins, and Terrell, 1999). The theory and framework attempted to understand how students in marginalized groups are underserved in the areas of resources, cultural understanding, and equity in education. The current study sought to explore how the differences between groups may have affected their participation in performing music ensembles of band, orchestra, and chorus.

Social Justice Theory. Nancy Fraser's work on social theories in the late 1980's touched on issues of race, gender, and class. Her 2003 book, *Redistribution or Recognition? A Political-Philosophical Exchange,* outlined the tenets of her focus on social justice. She argued that justice is both distributive in equitable breakdown of resources, and that there also exists justice of recognition, valuing the equal recognition of different groups in a society (Fraser, 2003). The current study sought to examine social justice theory as it pertains to the recognition of groups of students according to variables including race/ethnicity, ELL status, and free and reduced lunch status (FRL), and to consider the need for redistribution of resources to increase equity in these groups' participation in performing music ensembles.

Social justice theory in education describes barriers students face and the possibility of equity when those barriers are addressed. Barriers can be social, cultural, economic, or political. Distributive justice addresses economic inequity, and justice of recognition addresses cultural differences and the historical tendency of marginalized groups to have their cultures viewed as worthless (Cadzen, 2012).

Cultural Proficiency Framework. Lindsey, Nuri-Robins, Terrell, and Lindsey (1999) outlined the Cultural Proficiency Framework for organizations to examine their policies and individuals to examine their relationships with people and groups that are different from them. The Essential Elements invite leaders to Assess Culture; Value Diversity; Manage the Dynamics of Difference; Adapt to Diversity; and Institutionalize Cultural Knowledge as they move along the Cultural Proficiency Continuum to remove Barriers and make decisions based on proactive Principles. The current study assessed what barriers may exist, in order to inform decision-making processes for

transformational change. Together with social justice theory's recommendations for redistribution and recognition, the inequity of traditionally underrepresented groups in performing music courses in public schools was addressed through the essential elements of the framework.

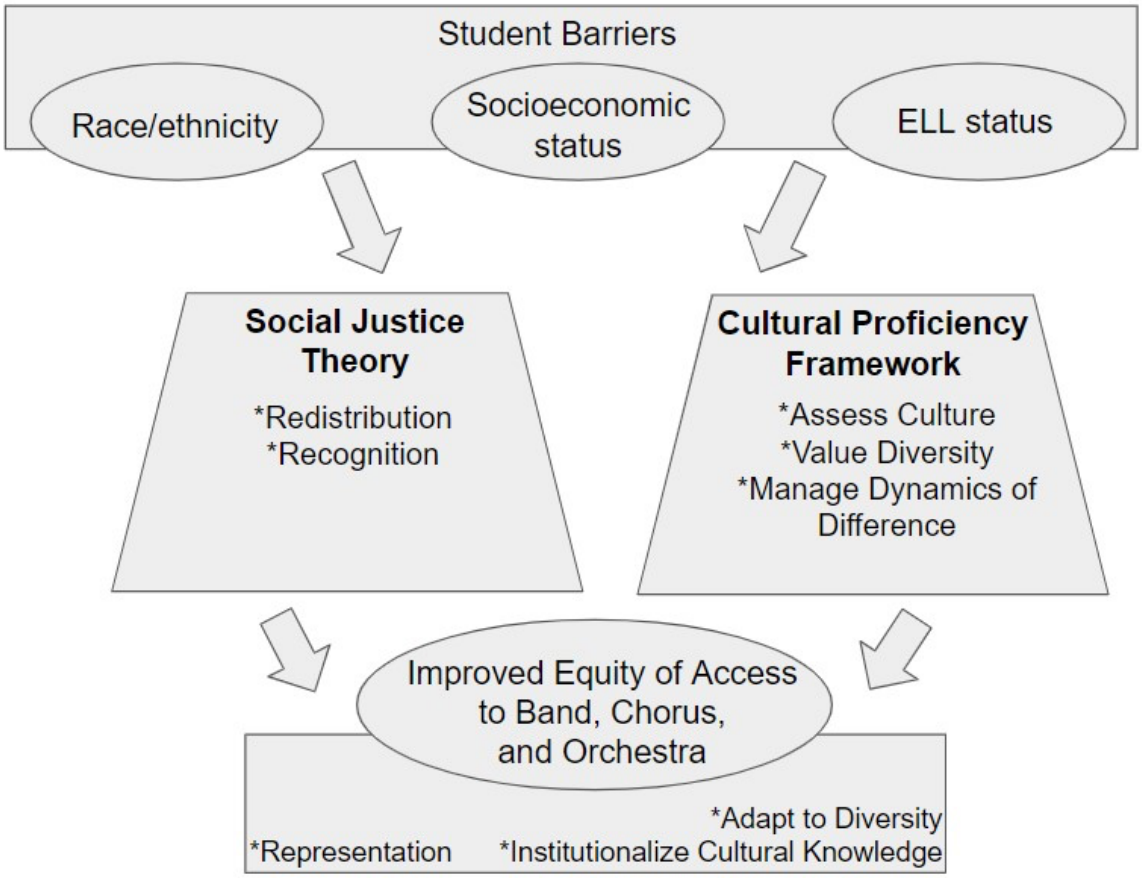
Conceptual Framework

The current study aims to build on prior research in arts participation rates by following a group of students over a transitional period of time. During the COVID-19 pandemic and directly after, arts leaders and school administrators were forced to address inequities in areas of educational access in regard to technology, materials, family support, and community outreach. Performing music programs were greatly affected by restrictions for health and safety. At the same time, the country experienced a shift in racial and ethnic relationships and teachers became more aware of the effects of the diversity, equity, and inclusion practices necessary to reach all students. By exploring the Essential Elements on the Cultural Proficiency Continuum and the Cultural Proficiency Framework, outreach to traditionally underrepresented groups should result in a greater sense of involvement and connection to school, which would increase participation in performing arts ensembles. In this quantitative study, an intervention by the district was offered in the summer for students who had previously been unable to participate in band or orchestra because of lack of access to morning rehearsals at the elementary level, lack of parental involvement to rent or purchase an instrument, moving into the district after 4th grade music enrollments were created, and lack of translated documents and outreach for the extracurricular activities offered by the school. By following a group of students over this time period and examining their rates of enrollment and retention, it can be seen

whether more work is still needed in reaching these subgroups of students in performing music classes. The conceptual framework demonstrates the positive outcomes when the ideal levels of both frameworks are reached for traditionally underrepresented student subgroups: Representation (Social Justice Theory) and Adapting to Diversity and Institutionalizing Cultural Knowledge (Cultural Proficiency Framework).

Figure 1

Conceptual Framework Demonstrating Outcomes of Addressing Inequities in Music Ensembles



Significance of the Study

Results from this study will help inform arts administrators and music teachers in crafting their approach to recruitment and retention of traditionally underrepresented student subgroups in performing music. School building leaders may reevaluate their policies regarding school schedules and identify and address barriers of access to performing music. School leaders may also use this data to make music courses available to older new students who did not start music instruction with their peers. In the current, traditional system, band, orchestra, and chorus classes that students choose in late elementary and early middle school limit their options down the line, eliminating the possibility of joining established ensemble programs. English Language Learners often enter a school community after kindergarten. They may have arrived recently in the country or from another state with differing ELL instruction. There are systemic barriers in place regarding entry to highly sequential performance-based music courses at the secondary levels (Lorah et al., 2014).

The current study will assist music directors in shaping programs that help transitioning students become more integrated into established music ensemble programs. By following the Essential Elements of the Cultural Proficiency Framework, a district arts program can: Assess Culture (assess what racial and ethnic groups live in the district and what their cultural norms may be), Value Diversity (explore ways in which students from these groups may require particular methods of outreach to be successful), Manage Dynamics of Difference (evaluate current policies and practices for gaps between what is currently done and what needs to happen for full inclusion and success of all students), Adapt to Diversity (implement the changes in policy and practice identified during the

previous stage) and Institutionalize Cultural Knowledge (integrate these best practices as a district and refer to the process when new students present with similar challenges.) The New York State Education Department (NYSED) has tasked all schools to examine their teaching and responsiveness via the 2021 Policy on Diversity, Equity, and Inclusion. Districts have been encouraged to adopt the Culturally-Responsive-Sustaining (CR-S) Framework; among its most relevant tenets are to "elevate historically marginalized voices" and "ensure that coursework, programs, and activities are accessible to all students, regardless of their disability status, native language, income level, or any other basis." With the effects of the COVID-19 pandemic still changing the way schools provide arts education, more relevant and timely research is needed.

Connection to Social Justice

In addition to the low number of ELL students in music courses, students at the lowest socioeconomic level are also underrepresented in music programs; reasons for this can vary from the monetary investment required for instrumental study to the time required for practice, which may be replaced by after-school jobs to supplement family income (Morrison, 1994). Students in these ELL courses are often the most restricted when it comes to course choice due to remedial coursework. They also are less likely to have an advocate who understands the curriculum enough to request a music course (Lorah et al., 2014). Likewise, Black and Latinx students have often felt alienated due to the music studied and performed in public schools (Escalante, 2019).

Research Questions

Research Question 1

Is there a difference in music course choice when comparing students of different race/ethnicities?

Hypothesis 1

H_0: There will be no significant association between participation percentages in performing music ensembles when comparing student groups by race/ethnicity (White, Black, Asian, Hispanic).

H_1: There will be a significant association between participation percentages in performing music ensembles when comparing student groups by race/ethnicity (White, Black, Asian, Hispanic).

Research Question 2

How does free and reduced lunch status (FRL) and ELL status affect participation in (a) performing music ensembles, and specifically in (b) band, (c) chorus, (d) orchestra?

Hypothesis 2(a)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in performing music ensembles.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in performing music ensembles.

Hypothesis 2(b)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in band.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in band.

Hypothesis 2(c)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in chorus.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in chorus.

Hypothesis 2(d)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in orchestra.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in orchestra.

Research Question 3

To what extent is the academic achievement of eighth grade students, as indicated by final GPA, influenced by their race/ethnicity and participation in musical ensembles?

Hypothesis 3

H_0: There will be no significant difference in academic achievement (measured by final GPA in 8^{th} grade) based upon student race/ethnicity (White, Black, Asian, Hispanic, More than One Race)

H_1: There will be a significant difference in academic achievement (measured by final GPA in 8^{th} grade) based upon student race/ethnicity.

H_0: There will be no significant difference in academic achievement (measured by final GPA in 8^{th} grade) based upon student participation in musical ensembles.

H_1: There will be a significant difference in academic achievement (measured by final GPA in 8th grade) based upon student participation in musical ensembles.

H_0: There will be no interaction effect between student race/ethnicity and participation in musical ensembles.

H_1: There will be an interaction effect between student race/ethnicity and participation in musical ensembles.

Research Question 4

How does 8th grade student race/ethnicity affect the decision to enroll in Band, Chorus, and Orchestra in 9th grade?

Hypothesis 4

H_0: Student race/ethnicity does not affect a student's choice to continue to participate in performing music ensembles in 9th grade.

H_1: Student race/ethnicity does affect a student's choice to continue to participate in performing music ensembles in 9th grade.

Research Question 5

How does implementation of a specialized summer program affect enrollment in band and orchestra for subgroups identified by race/ethnicity, ELL status, and free and reduced lunch status (FRL)?

Definition of Terms

Culturally Responsive-Sustaining (CR-S) Framework

A framework mandated by the NYSED that embeds the ideals of diversity, equity, and inclusion in learning environments.

Performing Music Ensembles

For the purpose of this study, performing music ensembles will be band, orchestra, or chorus courses that meet during the school day for curricular credit in grades 6 through 12.

CHAPTER 2 LITERATURE REVIEW

The previous chapter introduced the current study and its research questions. The study sought to explore the relationships between student race/ethnicity, free and reduced lunch status, and ELL status and participation in band, chorus, and orchestra ensembles at the middle school level. Further, the study hoped to illustrate the increase in academic achievement by those students who do choose to participate in performing music ensembles. The researcher also wished to discover if there was a barrier to access for students who identify as ELL and if there was a significant difference in selection for ensembles based on free and reduced lunch (FRL) status. The researcher aimed to detect if retention rates for these ensembles vary by subgroup at the transitional time of course selection for high school. Data from an intervention attempt to increase the number of students in band and orchestra programs through an accelerated summer onboarding program was analyzed to determine its effectiveness. The purpose of the study was to investigate whether music education programs have a cultural and/or poverty barrier that precludes certain students from full participation in coursework that increases academic achievement and positive social and emotional outcomes.

Chapter Two will describe the theoretical framework guiding the study and provide a review of the related literature, categorized according to the central tenets of the framework. The chapter ends with a summary of the central themes established by prior researchers and an assessment of the contribution the current study hopes to make to this body of related literature.

Theoretical Framework

The theoretical framework for the current study is based on both Social Justice Theory of Nancy Fraser (2003) and Cultural Proficiency Framework (Lindsey, Lindsey, Nuri-Robins, and Terrell, 1999). Fraser's work defines a three-dimensional model for social justice in education: economic, cultural, and political justice are matters of equity and schools must examine them in their policymaking and practices to support students who have been a victim of structural injustices which have limited their ability to reach their full potential (Keddie, 2012). Cultural and economic justice in schools is found when there is an equitable distribution of resources and when the status of all learners in the classroom is representative. For students in music courses, redistribution, recognition, and representation might look like additional supports for free or rented instruments, outreach to non-English speaking parents about the opportunities available to their children on an extracurricular level, transportation for before- and after-school rehearsals for performing music ensembles, and advocates for more arts classes instead of remedial academic coursework which is not engaging and does not connect the student to the school community (Lorah et al., 2014). Cultural recognition and concerns about the underperformance of Black and Hispanic students has led to a push to create inclusive and relevant environments that teach specifically to best practices for students from these groups (Keddie, 2002). Cultural equity through representation is also attained through a constantly evolving, culturally relevant pedagogy which makes the traditionally underrepresented student feel part of the ensemble and increases the likelihood of retention for that student. (Palkki, 2009).

The current study explored Fraser's "Justice" framework and its three dimensions *redistribution* (economic), *recognition* (cultural) and *representation* (political), with a larger focus on the first two dimensions. In education and specifically music education, resources are needed to ensure equity of access for all students, not only to materials, but to a rich and full curriculum in the arts (Cadzen, 2012). Recognition is equally as important, where students feel their culture is not only celebrated for a day, but valued as an important part of their identity and their place in the classroom. (Butler, 2007)

In order to ensure access and equity for diverse populations, the Cultural Proficiency Continuum focuses on essential elements that span all disciplines: Curriculum Content (what we teach), Instructional Methods (how we teach) and Assessment (how we use data to make decisions moving forward). (Herczog, 2009). The Cultural Proficiency Framework will guide the current study as a tool for educators and district-level administrators of music programs to use as they create and adapt programs. The Essential Elements of the Framework are Assess Culture, Value Diversity, Manage Dynamics of Difference, Adapt to Diversity, and Institutionalize Cultural Knowledge. Lindsey, Lindsey, Nuri-Robins, and Terrell (2002) seek to close the achievement gap that exists between White and non-White students by defining it as a symptom and not a cause. The current study seeks to align its findings with the elements of the social justice dimensions and the cultural proficiency framework with the following thematic areas: Equity and cultural proficiency in school music programs, race/ethnicity as a barrier to performing music, music participation, and academic achievement, and effects of music on student SEL.

Review of Related Literature

Access to performing music programs such as band, chorus, and orchestra may be limited by several factors in a student's environment. Aprile (2021) uncovers situations where neighborhoods may vary drastically in whether they provide a music program at all and the qualifications of their arts teachers based on the demographic and socioeconomic status of the area.

Lorah (2014) finds systemic barriers for English language learners in regards to the required remedial coursework embedded in their schedule and the lack of parental advocacy to make changes to this practice. The inclusion of students identifying as ELL and with lower SES is addressed in the literature review below.

The Search for Equity in School Music Programs

A quantitative study conducted by Aprile (2021) sought to determine how geographic variables and socio-demographic variables, such as school district, SES, race/ethnicity, disability, ELL status, and school size relate to the presence or absence of early childhood (grades K-3) music instruction in New York City public schools. The study further examined the differences in access between traditional public schools (TPS) and charter schools (CS). No theoretical or conceptual framework was noted as guiding the study.

The Kennedy Center's analysis of the effect of No Child Left Behind showed music teacher layoffs and a declining enrollment in school music programs from 2002 to 2012. Accountability for high stakes testing disciplines such as reading, writing, and math overshadowed the categorization of the arts as a "core" subject. Additionally, there is a lack of accountability from the NYSED regarding the Blueprint for Teaching and

Learning in Music. The Blueprint is recommended and not required, and the "expectation" of 186 hours of instruction divided between music, dance, theater, and visual arts, is often not met - but with no consequences. Austin and Russell (2008) sought similar data from charter schools and found that charter schools were much more likely to have non-certified teachers responsible for the limited music instruction offered, and much less likely to follow any type of formal or sequential music instruction.

Data for this study were taken from the 2014-2015 school year and included information on music programs in traditional public schools from the Annual Arts Schools Report, demographic information about traditional public schools from the NYCDOE Demographic Snapshot Data, and a researcher-created survey constructed to gain similar information from charter schools. Seven hundred and seventy-two traditional public schools and 125 charter schools were used as the sample. The sampling method was that of convenience, as these schools replied to the AASR survey report and their data were available.

The categorical, dependent variable, incidence of music instruction, was collected using archival data from the AASR as published by the NYCDOE for TPS, and by answers to survey questionnaires for CS. These questionnaires were distributed via email to charter school principals and then followed up with phone calls and online research from school websites. Descriptive statistics were presented after quantitative analysis. In addition, schools lacking any music instruction were plotted geographically on a map of New York City to correlate with other demographic variables.

Several significant results were found. The absence of any formal music program in TPS was found in areas with a large concentration of Black and/or Hispanic students

($p<.001$) and neighborhoods with median household income below the poverty level ($p<.001$). CS rate of music instruction offered did not correlate to SES status, while TPS did. However, 85% of TPS offered some type of music instruction while only 70% of CS offered music courses. It should be noted that while "music" may have been offered, no determination was made if the instructor was certified or qualified to provide a meaningful experience in music. School size for both TPS and CS meant less music offered. The researcher notes that charter schools are intended to enhance instruction for students and provide equity, and that in the area of music education, this claim is questionable.

A limitation of the study was the low response rate of charter schools to the survey regarding arts in their schools. Further, the non-standardized definition of what constitutes a "music program" in elementary schools made some responses unclear and the researcher was forced to interpret some answers based on hours of instruction and whether or not the teacher was certified and school-based. In the future, a more accurate survey instrument which clearly defines the information the researcher is looking for would improve the validity of results.

The purpose of the mixed methods research study conducted by Hartley and Porter (2009) was to explore three variables and their effect on the starting grade for beginning instrumental string programs in public schools: initial participation in the string program, retention rate after one year and after seventh grade, difficulty level of performance in the seventh grade.

Smith (1997) reported that while in 1962 approximately 67% of high schools offered orchestra as a class, in 1989 that number had decreased to just 17% and has

remained consistently low. Hamann et al reported that 84% of public schools across the country utilized the recommendation by nationally recognized string teachers such as Klotman and Giddings, to begin string education in the upper elementary grades (4, 5, or 6), while band instruction begins later, in middle school, where there is more weekly instructional time and improved dexterity. Performance achievement level based on the age of starting instruction has been studied by Cramer, Hartley, Kuhn, and Pence, and no statistically significant differences in achievement level in high school were found based on an earlier start by string students.

The sample of string orchestra educators surveyed was taken from the 556 string educators at the elementary, middle, and high school levels in the state of Ohio, chosen because its rate of string program enrollment closely mirrors that of the country. One hundred and sixty-six teachers responded to the survey and became the sample. The qualitative aspect of the study was completed by visiting 22 middle schools, chosen due to proximity to the researcher, willingness of the teacher to participate, and similar starting ages of string instruction.

The 12-question survey gathered data about starting level of instruction, schedule of instruction, school demographics, enrollment, and retention. The independent variable was the starting grade level of beginning string instruction. The three dependent variables were initial enrollment rate, initial retention of students rate, and enrollment rate after seventh grade. For the final research question regarding quality of performance, the researchers conducted a live performance evaluation and assessed the quality of the musical performance using a I to V rating scale. The statistical analysis used for these variables was the chi-square test.

Retention rates were highest when students started at an older age, which contrasted with the majority of schools beginning string instruction at a young age. Percentage of initial enrollment was not statistically significant, $p < .07$. Retention rate at the end of year 1 was significant, $p=.001$, with a higher retention rate for students starting in a later grade. Retention rate at the end of seventh grade was also significant, $p=.001$, also in favor of later starting grades. There were no statistically significant differences in performance ratings among string orchestra ensembles based on starting age of instruction, $p=.407$.

There was a low survey return rate for this study (30%) and teachers self-reported numbers of enrollment and retention without district level corroboration. As the study only included teachers in Ohio, further studies are needed to determine the validity of both the findings and the researcher-created survey instrument.

The purpose of the quantitative study conducted by Lorah, Sanders, and Morrison (2014) was to determine if the previously reported research regarding low rates of participation in music ensembles for secondary ELL students was due solely to ELL status or determined by other demographic variables, namely socioeconomic status and level of academic achievement. The study sought to answer specific research questions: "Does student ELL status significantly predict music participation in the 10th grade, after accounting for school membership," and "Is student ELL status uniquely predictive of music participation after controlling for student SES and academic achievement?" No theoretical or conceptual framework was noted as guiding the study.

The data used for the study was the nationally representative sample of 15,362 10th grade students from 751 schools, contained in the Educational Longitudinal Study

(ELS) of 2004. Schools in this study were selected according to probability proportional to size, and students were selected at random. For the purposes of the study conducted by Lorah, it should be noted that students whose limited English proficiency did not allow them to comprehend the questions asked were not included in the ELS and are therefore not represented in Lorah's analysis.

The data was analyzed using multi-level logistic regressions with the Generalized Linear Latent and Mixed Model statistical program, StataCorp. A binary "yes/no" for music ensemble participation was the outcome (dependent) variable. Three independent variables were used as predictors in the analysis: ELL status, SES status, and academic achievement. Model 1 provided a baseline for the data, Model 2 incorporated ELL status as a covariate, and Model 3 tested if ELL status was a significant predictor after controlling for academic achievement and SES status.

Results indicated that while 21% of 10th graders participate in music ensembles, ELL 10th grade participation rate was 13%, with non-ELL at 23%. Model 1 also indicated that 95% of schools had 7% to 39% ensemble participation rate, based on availability of programs.

Significant results were found in the Model. With ELL status as the sole covariate, $p < .05$. However, results in Model 3 were also significant ($p<.001$) and therefore the covariates were positive predictors. In this model, which controlled for student SES status and academic achievement, ELL status was no longer significant, indicating that an ELL student with the same SES and academic achievement as a non-ELL student would not be less likely to participate in a music ensemble.

Limitations of this study are the non-inclusiveness of the original sample. Students with the least English proficiency were not included in the ELS and may have altered results in the 2nd and 3rd Models. This study did not include non-traditional music ensembles in its data; mariachi class, steel-pan ensemble, and world-drumming, for example, may have higher participation rates for ELL students due to their multicultural appeal.

The purpose of the quantitative study conducted by Spiess and Cooper (2020) was to determine the importance of mind-set and beliefs about knowledge as predictors of cultural proficiency. The researchers hoped to identify areas of improvement for professional development of educators and hiring of teachers by schools. Cultural proficiency, as defined by Nuri-Robins, was the theoretical framework guiding the study. The four major components of this model are guiding principles of cultural proficiency: barriers to cultural proficiency, the essential elements of cultural proficiency, and the cultural proficiency continuum. The continuum was used heavily both in the development of the study and as the dependent variable (level of cultural proficiency achieved by each participant in the study).

High school graduation rates vary widely among demographic groups, while high school graduates are much less likely to live in poverty and, in 2021, made an average of 51% more in salary than those who did not complete high school (Breslow, 2012). The National Center for Education Statistics reports that while White students graduate high school within four years at a rate of 87.6 percent, Black students do so at 74.6 percent and Latino students at 77.8 percent. However, the number of students of color continues to increase in K-12 public schools, and researchers such as Nuri-Robins, Lindsey, Lindsey,

and Terrell point out that students learn better when their cultural background is understood and valued in the school community and when educators are prepared to work with students of all backgrounds.

Eight hundred and fifty-three teachers from K-12 public schools from various school districts all within one state from the central United States made up the sample. These participants were a representative sample from the districts participating in the study; they were the respondents who voluntarily completed the online survey that was sent via email to all educators in the district. Notably, 95% of the sample identified as White/Caucasian, with less than 3% reporting as Black or Hispanic/Latino combined. 60% completed a master's degree.

The researchers sought to answer the following research questions: To what extent is there a statistically significant difference in cultural proficiency development based on gender, ethnicity, living environment, and working environment, and to what extent do gender, age, ethnicity, beliefs about knowledge, and beliefs about mind-set predict cultural proficiency development? Data were collected from an online survey containing 61 questions compiled by the researchers and arranged into the four categories of demographics, beliefs about mind-set, beliefs about knowledge, and cultural proficiency development. Questions were answered according to a Likert scale. The three independent variables were demographics (factors gender, age, ethnicity, highest degree completed, years of teaching experience, living environment, working environment, and family income), beliefs about mind-set, and beliefs about knowledge. The dependent variable was level of Cultural Proficiency according to the six levels of the Cultural

Proficiency Continuum. The researchers weighted the responses to a second survey to determine the value of cultural proficiency for each respondent.

Independent samples t-tests showed females mean cultural proficiency scores were significantly higher than males, $t(851)=-3.67$, $p < .001$. One-way ANOVA results indicated that ethnicity and highest degree completed was not significant, while living environment was, $F(2,850)=30.195$, $p <.001$. Post-hoc testing also indicated significant differences between rural, urban, and suburban working environments. A regression analysis accounted for 39.9% of the variance in cultural proficiency development when using the predictors of gender, age, mind-set of self, and mind-set of others as indicators.

The sample chosen for this study provided little demographic variety and the ability to transfer these results to other populations is not certain. As the researchers also sought to determine the effectiveness of current professional development models, more research related to differences in professional development offered to the sample would be more meaningful.

Race/Ethnicity as a Barrier

The purpose of the study conducted by Winsler and Gara, et al (2020) was to identify a potential causal connection between students' exposure to the arts and academic outcomes in the areas of overall GPA, math and reading scores, and non-academic outcomes in the areas of school involvement, including attendance and suspension rates. The research questions guiding the study were (1) what proportion of the sample enrolls in arts-related elective courses during middle school, and what proportion of those students remain enrolled through their middle school years; (2) what pre-existing selection factors predict enrollment in middle school arts courses, and (3)

after controlling for those selection factors (demographic and kindergarten readiness) is exposure to arts classes connected to higher academic achievement for middle school students?

A thorough review of literature guided the study. A unique perspective on the middle school years was provided by Dahl (2004). Students in grades 6, 7, and 8 often have their first opportunity to choose an arts course at the middle school level, and they are able to do so without the requisite experience often necessary to succeed at the upper levels in high school. The factors that influence this selection in grade 6 may have significant long-term effects and trajectories on the career of the student in the arts. A study by Catterall, Dumais, and Hampden-Thompson (2012) utilized data from four longitudinal studies by categorizing low-income students into high and low arts engagement. The study found that those with high exposure to the arts watched less tv and reported being less bored in school. They also scored higher in science, writing, had overall higher GPAs, and were more likely to attend college post graduation. This study also found that in several instances, students from low socioeconomic households but high arts engagement achieved more positive outcomes than students from high socioeconomic household with low arts engagement.

Data used for Winsler and Gara's study was taken from the Miami School Readiness Project which consisted of a longitudinal design which followed five cohorts of 4 year old children, identified as low-income and ethnically diverse; criterion for participation was limited to children who received childcare subsidies or attended public school when they were age 4, which excluded children who did not attend school at all or paid for private childcare. The data was collected as part of a university and community

partnership program. Eighty-one percent of the sample were in poverty. Data were completed for 31,332 students by the time they reached middle school.

Research question one was answered descriptively. The statistical analysis for research question two was chi-square for categorical predictors, and independent samples t-tests for continuous predictors. Question three was answered with multiple regression models which controlled for selection factors that were highly correlated (by entering as covariates). As the study was longitudinal, the researchers were able to explore the relationship between variable at student age four and students of middle school age. Predictor variables used in the study were ELL status in kindergarten, English proficiency at the conclusion of elementary school, poverty status in 6th grade, GPA in 5th grade, standardized test scores in math and reading from the 5th grade year, social and behavioral skills at entry into PreK, and cognitive, language, and motor skills at the preK level. The final predictor variable was exposure to the arts in middle school, measured by the number of years of exposure to the elective music course the student chose. Outcome variables were middle school GPA, standardized math and reading scores, school attendance, and school suspension.

Key findings of the study were that among the targeted sample, which were middle school students identified as low income and ethnically diverse, 40 % participated in some type of elective arts course (mostly music but the data set also accounted for visual arts). Relevant to the current study, Black students and students with limited English proficiency had significantly reduced odds of enrolling in an arts-related elective course. Students who were classified at age 4 with “strong” school readiness skills and who then tested with higher academic scores in 5th grade were more likely to enroll in

arts-related courses, indicating a bi-directional relationship between academic achievement and selection into music and art classes. There was also an increase in academic achievement beyond this initial finding, as after controlling for prior academic performance, students who did participate in an arts elective in middle school had higher GPAs, math, and reading scores and decreased rates of suspension from school as compared to students who did not choose to participate in the arts.

A limitation of the study was that the study did not control for the school offerings in the arts; while Black students were underrepresented in arts classes, it is possible that the schools they attended did not offer arts courses that were appealing to students. Additionally, the "arts" used in the study included drama, dance, visual arts, and music, and therefore findings are less specific to a formal and continuous program in one discipline.

Costa-Giomi (2008) conducted a study to explore possible inequalities, based on race and socio-economic characteristics of students, in access to music education in elementary schools in a large urban school district in Texas. In referencing the NAEP 1997 Arts Report Card, only 3% of eighth grade students participate in orchestra, 18% in band, and 22% in choir. This lack of participation past the elementary school level, once music ensembles become elective, also illuminates the differences in availability and quality of music education programs available to students, particularly students who are Black and Hispanic (Fowler, 1996). Costa-Giomi's study attempted to determine if schools were able to follow the recommendation of the National Endowment of the Arts, which suggests that more time be allocated for music at the elementary level, as many schools were not providing the suggested time or any time at all (Leonhard, 1991).

The sample consisted of elementary school music teachers (n = 75) from a single district in Texas, described as large, urban, and diverse. The district serves approximately 80,000 students with 71% of the population described as minority and 53% of students economically disadvantaged, based on their free/reduced lunch status.

Data was collected by means of a researcher constructed survey. The survey gathered background information of the teacher, including their education, experience, and professional musical activities. It gathered information about the school's music programs, including number of teachers, schedule, number of students enrolled in the program, resources and facilities, and budget. The survey instrument also obtained teacher's perceptions of parental and administrative support and about the level of equality among music resource distribution among schools in the district.

Two separate ANOVAs were run to analyze data collected in ratio and intervals, one based on economic classification of the responding schools and one based on the race/ethnicity classification. Chi squares were used to analyze ordinal data. IN both the economic and race/ethnicity ANOVAs, the only significant difference among teacher characteristics was in regard to the number of student teachers they trained and the number of teachers who presented at professional conferences and/or participated in statewide professional development. In both ANOVAs in regard to the musical program, schools with larger populations of minority students had higher student-music teacher ratios, went on less music related field trips, and were three times more likely to report inadequate facilities and resources as compared to schools with higher socioeconomic classification and low minority student representation. Teacher perception of support for the music program had significant differences: 70% of high economic status schools

perceived very supportive parents; schools in lower socioeconomic levels were less than 25%. Lack of fundraising, parent volunteering, and funding from outside sources were also lacking in low economic schools.

The findings support the theory that schools with lower socioeconomic status, due to their traditional status of academic underperformance, allot financial resources to the hiring of more math and language teachers rather than music teachers. Higher performing schools, according to the teachers surveyed, are able to fund and maintain more music teachers and the resources needed to support a full music program.

While the study did not assess the quality of each school's music program, the large number of student teachers sent to music programs at low minority/high ses schools suggest that those programs are of a higher quality; most universities prefer to send their students to observe and gain practical experience in a good, established program. Another limitation of the study is the fact that all data is from teacher perception and not necessarily verifiable. Future studies should address both the quality of the programs from varying socioeconomic and minority school buildings and the actual enrollment, financials, and specific supports allotted to each.

The purpose of the study conducted by Elpus and Abril (2019) was to describe the profile of high school performing music ensemble students using data that was representative, at the national level, of the graduating class of 2013. The research questions to be answered were (1) What proportion of U.S. high school students enrolled in their school's band, choir, and/or orchestra? What proportion of U.S. high school students enrolled in non-ensemble music courses? (2) What are the demographic characteristics of high school music ensemble students? (3) What is the relationship

between student demographic characteristics and the likelihood of music ensemble enrollment?

The study was guided by a literature review which discussed many of the predictor variables used in the study. The elective nature of music at the high school level leads to the question of who may have barriers to participation. While Elpus (2013) previously noted that 36% of the senior class of 2004 participated in at least one credit of music, the rate for participation in performing music ensembles of band, chorus, and orchestra is more consistently at 21% (Elpus and Abril, 2011, Lorah, Sanders, and Morrison, 2014). Klinedist (1991) reported that socioeconomic status, heavily connected to race and ethnicity in many areas of the United States, is a strong predictor of involvement in instrumental music in school. ELL students, who stand to benefit most from the connection between music perception and language development, are underrepresented in these ensembles, with native English-speakers twice as likely to participate in music classes (Lorah et al., 2014)

The data source for the study came from the High School Longitudinal Study of 2009, which followed a cohort of students (N = 25,210) who were ninth graders in the 2008-2009 school year, representing 940 high schools from across the country. The National Center for Education Statistics ensured that the samples obtained were representative of the population of ninth graders across the nation based on the sampling weights they created.

Descriptive results were used to illustrate the bivariate relationships between music enrollment status and demographic characteristics. The Rao-Scott adjusted x2 was used. This is a non-parametric test of association, used for categorical variables and

adjusted for complex sampling and weighting, present in this large sample. Due to the large number of bivariate comparisons examined, a conservative alpha of .001 was used. Logistic regressions were used to predict enrollment in music courses based on the characteristics found to be significant in the bivariate analyses.

Findings overall showed that only 24% of the graduating class of 2013 enrolled in band, chorus, or orchestra for credit in high school. Thirteen percent took chorus, 11% took band, and only 2% took orchestra. Characteristics found to be significantly associated with enrolling in a music course at the $p < .001$ level included race/ethnicity, socioeconomic status, native language, standardized math test scores, and eighth grade math scores. Band and orchestra students were significantly different than non-music students in every result, while choir students much more closely resembled the general population in all areas. The researcher suggests that while the findings suggest choral students do not reflect the same academic achievement level, it is possible that results are skewed due to otherwise non-music students joining choir for one year to fulfill their arts requirement, as it is not possible to participate in a sequential instrumental program at the end of one's high school years.

The logistic regression showed a significant interaction effect between prior academic achievement, race/ethnicity, and music course enrollment. The likelihood that a student will enroll in music increases along with an increase in academic achievement in all race/ethnic subgroups except for Black, in which the opposite relationship is true. Coefficients from the average marginal effects give the baseline of students with the lowest SES had a .20 probability of enrolling in a musical ensemble, and students with

the highest SES had a .34 probability of enrollment. Another notable specific finding was the overrepresentation of Asian/Pacific Islander students in orchestra.

A limitation of this study was the combination of certain characteristics which may have skewed results; results for Black students were not consistent with other race/ethnicities, but while Black students made up 14% of the population, "Two or more races" represented 8% of the population and could include Black students in the sample. Similarly, students who participated in more than one musical ensemble were excluded from the sample, but often those students who maintain participation in two musical ensembles at the high school level are also high-achieving academic students.

Music Participation and Academic Achievement

The purpose of the study conducted by Miksza (2010) was to determine possible relationships between participation in high school music ensembles and outcomes in the areas of math achievement, sense of community, and commitment to school. The effects of student SES and minority status along with school music program offerings, number of certified music teachers, and urbanicity of the school building were all controlled in the model. The theoretical framework guiding the study was Bronfenbrenner's bioecological development model; predictor variables for the study were chosen based on this framework as well.

As the study sought to explore outcomes in two general areas: academic achievement and community and civic engagement, Miksza's review of related literature explored both. Woodford (2005) stresses that music education should be a vehicle for students to develop good decision-making skills and that participation in music ensembles encourages connection between students working toward a larger goal, which

increases student empathy. Gardner (2007) draws a connection from the empathetic mind to a need for a respectful and ethical mind as well. Students learn to avoid conflict within and between groups of people and helps advance society toward group goals. Similarly, Feldman and Matjasko (2005) revealed that positive outcomes are numerous when students participate in extracurricular or curricular group activities, such as music. Students are more likely to experience success in academics, have a lower school dropout rate, lower rate of substance abuse, and have increased self-esteem and less feelings of worry and social isolation.

Notably, an earlier study conducted by Miksza (2007) found that, regardless of socioeconomic status, there was a significant difference in music students' academic achievement, supported by Johnson and Memmott (2006) who found that the higher quality the music program was, the higher achievement scores were. This indicated that the quality of a program or lack of music program all together did have a significant effect on achievement. However, other researchers (Harrison, 1990, Klinedinst, 1991) have conducted studies using high academic achievement as a predictor of enrollment in music ensembles and found a high correlation, indicating a bi-directional relationship between academic achievement and music participation.

The sample and data for Miksza's study were taken from the National Center for Education Statistics, Education Longitudinal Study of 2002, which included demographic information about 12,160 high school sophomores from 603 high schools. The students were equally divided by male and female and represented a variety of urbanicity, minority status, and geographic region, supporting the generalization of findings from the study.

Several variables were manipulated by the researcher for the purpose of the study. For example, race/ethnicity was recoded into White and nonWhite to be a binary variable. The "community ethic" variable was an amalgamation of several questions regarding social engagement in the longitudinal data set. Three series of multi-level models were calculated to evaluate selected predators and the three outcome variables: math achievement, sense of community, and commitment to school. Due to the large sample size, the level of significance was set at .01.

Results for the first model show that music participation was a significant ($p<.001$) positive predictor for math achievement. Race/ethnicity and SES status were also significant at the .001 level, as students who were White with high SES had higher scores in math. While analysis of sense of community was also significant, SES was not significant in this model. Finally, commitment to school was found to be higher among students in music with higher socioeconomic level.

Effects of Music Participation on Student SEL and Engagement

The purpose of the study conducted by Kinney (2019) was to explore urban students' decisions to enroll and remain in performing music ensembles using predictors including academic achievement, socioeconomic status, parents in household, and ethnicity. In prior studies of Kinney (2010) he found that academic achievement was a significant predictor of both the initial enrollment in instrumental music programs and the rate of retention in the same programs. Elpus (2013) adds to that body of research with his findings that differences between music ensemble participants and non-participants are mitigated when controlling for other variables that are known to affect academic performance, including demographics, attitudes towards school, and time spent watching

tv or playing video games. The research in this area dates back approximately 40 years, with Stewart (1991) noting that high school music students in the mid 1980's were most likely to be female, White, and from an economically advantaged background. Echoing these findings is McCarthy (1980) who added that students from higher socioeconomic levels also participated for longer than other students in music programs, and SES was a significant predictor of retention.

The sample was taken from a midwestern metropolitan area with a population of 787,000 as per the 2010 census. Median household income was $43,000.78.5% of students qualified for free/reduced lunch programs, and 26% of students were White. Data was collected at three grade levels: 6th (n = 12,104), 8th (n = 11,679) and 10th (n = 13,581). The sample size was considered large enough to distribute effects outside of individual teachers in each subject area.

The predictor variables used in the polytomous logistic regressions were categorical: SES, number of parents in household, ethnicity, sex, and district mobility and continuous (math and reading achievement scores). The outcome variable was music ensemble membership, with the categories of band, chorus, orchestra, or none.

Significant results were found within the 6th grade sample for band: for each 10-point increase in math scores, the odds of enrolling in band increased by 11%, students from higher socioeconomic status were 42% more likely to enroll in band, and Hispanic students were 48% less likely to enroll in band than White students. For orchestra, each 10-point increase in math and reading scores increased the odds of orchestra enrollment by 11%, and Asian students were 49% more likely than White students to enroll in orchestra. Results for choir were not consistent with instrumental program findings: SES

was not a significant predictor of enrollment, and all non-White students were significantly less likely to take chorus. The 8th grade model reflected similar results with the same predictors finding significance; for band students reading scores gained significance. By 10th grade, changes were noted in that Black and Hisapnic students were less likely to enroll in band and SES was no longer a predictor. Black students were also 29.4% less likely to participate in orchestra in 10th grade. Inverse relationships formed for choir students by 10th grade. For each 10-point increase in math scores, enrollment in choir decreased by 2%, and students of higher SES were 10% less likely to be in choir. Black and White students in 10th grade enrolled in choir at equal rates.

Results imply that students attracted to instrumental music are already more advanced academically, especially in math, and come from more economically advantaged backgrounds at the time of their initial enrollment in band and orchestra. Choral students had significantly higher test scores in reading only as compared to non-music students. Mean math scores remained the same as the general population. SES seemed to predict enrollment in band but not orchestra. Many researchers (Elpus and Abril, 2011, Kinney, 2008, Lorah et al., 2014) have noted that the cost of instruments is often prohibitive. However, due to the small number of students enrolled, it is possible that each school in the study had enough school-owned instruments to loan, which is not an uncommon practice. Notable also were the SES results in chorus and the connection with academic achievement. As SES is a significant predictor of lower academic achievement, the larger number of SES students enrolled in chorus may account for the lack of increased academic achievement found in choral students as compared to band and orchestra students. An encouraging finding of this study was that reading scores

seemed to move away from this trend; though a greater proportion of lower income students were present in chorus, reading scores were significantly higher at each grade level in the study.

Limitations of the study are noted by the researcher; Hispanic students were underrepresented in the data set and therefore caution should be taken when generalizing the findings. Attrition of students from 6th to 10th grade could also make some of the findings in later grades a bit skewed due to the smaller sample size which may have directly affected some variables. The confidence intervals for several predictors, especially among choral students, was very close to 1.00 and therefore in this particular study, choral students and general population students were highly correlated.

The purpose of the qualitative study conducted by Sheltzer and Consoli (2019), was to understand the benefits to underserved youth by their involvement in an after-school program in music. As reported by Catalyst (2006), after school programs (ASPs) serve a need for the hours between 3pm and 6pm when many students are at home and their parents or guardians are not. Activities that focus on athletics, arts, and youth development can have a positive impact for these students. Specifically, Vandal, Reisner, and Pierce (2007) reported higher scores on standardized tests, higher attendance rates, and lower incidences of misbehavior among students who participated in ASPs. Underserved populations and students in at-risk communities have used ASPs focused on music to decrease stress, alleviate mental health issues, and build stronger identities in their communities. (Rowe and Guerin, 2018). Sheltzer and Consoli viewed their data analysis through the lens of social constructivism, which recognizes that knowledge is subjective and results should be examined with socially constructed understanding.

Through this framework, themes were developed, and only established after consultation and feedback from staff members in the program.

The sample for the study was taken from participants from the Notes for Notes after-school program, which provides free music lessons, workshops, and performance space in partnership with the Boys and Girls Club organization. A purposeful sample of successful alumni who had participated regularly for at least two years and staff who were currently employed by the program yielded a group of 11 alumni and 5 staff. The alumni consisted of 2 females and 9 males, with a median age of 20. The median age of staff participants was 29.

Data were gathered by interviews guided by the interviewer in order to reflect on participants' involvement with the program. Alumni were compensated $20 each for the interview; staff volunteered. The interviews were recorded and then transcribed, coded, and analyzed using thematic analysis. Once initial thematic maps were produced, the researchers met with staff members for feedback as themes for the study were solidified.

Two main themes emerged through analysis of alumni interviews, namely the impact of the program and the program characteristics deemed as positive. Alumni of this targeted ASP described the dependability of staff and a safe space to participate in a positive environment in their own neighborhood as main positives. They also identified improved academic performance, confidence and growth in social skills, and a more meaningful way to express emotions as positive benefits of the program. Community building and a sense of 'giving-back' was also identified by alumni. Staff themes included personal growth in their relationship with music, feeling a sense of pride in outcome of students, and more community engagement.

While findings from the study support the positive benefits of the specific ASP, the purposeful sample included only those who were found to have consistent and successful involvement in the ASP, indicating their answers would focus purely on positive effects of the program. Demographic data and interviews with a larger cross section of participants would be helpful in exploring the areas for growth of such a program.

In their qualitative study, Shaw and Bernard (2022) sought to understand the value and benefits to all stakeholders as they implement a school improvement model with an arts focus, based on the national Turnaround Arts program. No theoretical or conceptual framework was defined as guiding the study.

The authors guided their study with the following literature review. Goff and Ludwig (2013) validate the arts integration model as explained by the infusion of arts into the classroom. This allows students to utilize skills across core subject areas and enhance learning in these subjects through use of the arts. Robinson (2013) also indicated that metacognitive skills are enhanced through arts integration frameworks, and students increase in the areas of critical thinking, motivation, socialization, perseverance, and self-efficacy. However, not all arts-integration programs are effective, and Bresler (1995) cautions against such programs that are more accurately labeled as arts enhancement or affective integration, which only serve on a superficial level and do not achieve the same aims.

Three sites were used for the multiple case study: two urban school districts in the geographical locations of Midwest and Northeast, and the Kennedy Center, which is the source of the Turnaround Arts program being studied. The schools were chosen based on

a long experience with the arts integration program and because they had an equally large number of students and schools in the district.

The research questions focused on how the Turnaround program was implemented at a local level, how stakeholders are made aware of the importance and implementation of the program, and how the arts are used to accomplish the program's goals. A multiple case study design was used and completed during the years of 2019-2020. Participants were interviewed and included representatives from such stakeholder groups as teachers, principals. District personnel, and national level representatives from the Kennedy Center with innate knowledge of the program. Documents from the TA program and Kennedy Center website were also collected and reviewed. Analysis and eclectic coding were completed after data were collected.

The study's most relevant findings supported that stakeholders felt the arts integration strategies aligned with overall school improvement goals which ensured long term sustainability. Professional development, attention to resource distribution, and strategies for classroom teachers lead to the most effective implementation of the Turnaround Arts Program. All stakeholders agreed that changing of school culture was the measure of success, rather than a focus on numbers and test scores.

While key themes that emerged from the study show a positive impact of the program, some stakeholders interviewed may have had a bias toward success of the program. Additionally, districts studied were both urban, indicating access to arts partnerships such as symphony orchestras, museums, and theaters may be limited for schools in suburban and rural areas.

Conclusion

Themes of equity of access, positive social benefits, and issues of understanding how to recruit and retain students from traditionally underrepresented groups are documented by previous researchers. (Sheltzer (2019), Shaw (2022), Escalante (2019), and Broh (2002)). Sheltzer and Shaw agree that participation in performing music ensembles, beyond the basic and required coursework, has been shown to increase student academic achievement, foster leadership and collaborative skills, and improve student's social and emotional health. However, Aprile and Lorah document that even in communities with thriving and comprehensive music programs, students in traditionally underrepresented groups are not enjoying those same benefits. There is a lack of meaningful outreach for ELL, low-income, and marginalized groups to participate in these programs. Lorah provides evidence that there are systemic barriers in place regarding entry to highly sequential performance-based music courses at the secondary levels. Similarly, Aprile illustrates that schools serving low-income populations and a majority of students of color traditionally have less access to arts education. Shaw and Sheltzer both point out that intentional and thoughtful arts education can support students' social and emotional health and that enrollment and engagement in school music programs is contingent on interest of the student. As an exploration of possible ways to increase this interest to attract and recruit students from traditionally underrepresented populations, Spiess and Cooper further explore the role of the teacher, their mindset, background, and level of cultural proficiency as indicators in how welcome and successful students will feel in their classrooms.

The current study aimed to extend the prior research by further delineating participation rates for the three traditional performing music ensembles in an effort to identify gaps for specific ensembles. The researcher explored if lack of access to instrumental instruction in early elementary school due to language barriers or later entry into the country or lack of outreach for enrollment in elective music courses contributes to lower rates of participation in band and orchestra. While choral ensembles may be less exclusive because of their lack of prerequisite training for enrollment, the various languages and skills required to perform may also present as a barrier to students in ELL programs. Limited access to music education has been extensively researched, but the current study wishes to explore the reasons why students from traditionally underrepresented groups choose not to participate when there is an established and thriving music program in their public schools.

The current study hoped to explore school improvement models, which include arts integration, cultural proficiency training for teachers, and equity of access for all students to help underrepresented students become more integrated into established music ensemble programs. The New York State Education Department (NYSED) has tasked all schools to examine their teaching and responsiveness via the 2021 Policy on Diversity, Equity, and Inclusion. Districts have been encouraged to adopt the Culturally-Responsive-Sustaining (CR-S) Framework; among its most relevant tenets are to "elevate historically marginalized voices" and "ensure that coursework, programs, and activities are accessible to all students, regardless of their disability status, native language, income level, or any other basis." Effective recruitment and retention of underrepresented populations in public school music programs is necessary to provide all students with a

high-quality arts education. Research that identifies gaps that exist in enrollment in performing arts courses can assist in future outreach and curriculum design to increase access to performing music ensembles.

CHAPTER 3 METHODOLOGY

This chapter will explain the methods of data collection and procedures for analysis of the current study. It will identify variables used in each analysis, explain the rationale for the statistical analysis chosen for each reason question, and clarify the validity of the study design. The independent variables have been chosen based on the review of literature as they support the hypotheses.

Research Questions

Research Question 1

Is there a difference in music course choice when comparing students of different race/ethnicities?

Hypothesis 1

H_0: There will be no significant association between participation percentages in performing music ensembles when comparing student groups by race/ethnicity (White, Black, Asian, Hispanic).

H_1: There will be a significant association between participation percentages in performing music ensembles when comparing student groups by race/ethnicity (White, Black, Asian, Hispanic).

Research Question 2

How does free and reduced lunch status (FRL) and ELL status affect participation in (a) performing music ensembles, and specifically in (b) band, (c) chorus, (d) orchestra?

Hypothesis 2(a)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in performing music ensembles.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in performing music ensembles.

Hypothesis 2(b)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in band.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in band.

Hypothesis 2(c)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in chorus.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in chorus.

Hypothesis 2(d)

H_0: ELL status and free and reduced lunch status (FRL) do not influence a student's choice to participate in orchestra.

H_1: ELL status and free and reduced lunch status (FRL) do influence a student's choice to participate in orchestra.

Research Question 3

To what extent is the academic achievement of eighth grade students, indicated by final GPA, influenced by their race/ethnicity and participation in musical ensembles?

Hypothesis 3

H_0: There will be no significant difference in academic achievement (measured by final GPA in 8th grade) based upon student race/ethnicity (White, Black, Asian, Hispanic, More than One Race)

H_1: There will be a significant difference in academic achievement (measured by final GPA in 8th grade) based upon student race/ethnicity.

H_0: There will be no significant difference in academic achievement (measured by final GPA in 8th grade) based upon student participation in musical ensembles.

H_1: There will be a significant difference in academic achievement (measured by final GPA in 8th grade) based upon student participation in musical ensembles.

H_0: There will be no interaction effect between student race/ethnicity and participation in musical ensembles.

H_1: There will be an interaction effect between student race/ethnicity and participation in musical ensembles.

Research Question 4

How does 8th grade student race/ethnicity affect the decision to enroll in Band, Chorus, and Orchestra in 9th grade?

Hypothesis 4

H_0: Student race/ethnicity does not affect a student's choice to participate in performing music ensembles in 9th grade.

H_1: Student race/ethnicity does affect a student's choice to participate in performing music ensembles in 9th grade.

Research Question 5

How does implementation of a specialized summer program affect enrollment in band and orchestra for subgroups identified by race/ethnicity, ELL status, and free and reduced lunch status (FRL)?

Research Design and Data Analysis

The current study was ex-post facto as it used archived data. There was no active independent variable and no random assignment of subjects. The data were screened for missing values or miscoded items. As there are no continuous dependent variables, outliers was not a concern.

Research question one to be answered is: *Is there a difference in music course choice when comparing students of different race/ethnicities?*

The data were analyzed using Chi Squares. The chi-square test for independence is used to discover if there is an association, or significant difference, between two categorical variables. The first categorical variable is the race/ethnicity of the student, defined by the levels White, Black, Asian, or Hispanic. The second variable is a dichotomous categorical variable of participation in a performing music ensemble (band, chorus, or orchestra) or non-participation. The first Chi square included all four race/ethnicities of the total sample and whether they participated in a performing ensemble or not. The remaining three Chi squares included all four race/ethnicities of the total sample as the first variable; the second variable was the specific performing ensemble: band-yes/band-no, chorus-yes/chorus-no, orchestra-yes/orchestra-no.

The level of significance is alpha = .05.

Research question two to be answered is: *How does free and reduced lunch status and ELL status affect participation in performing music ensembles?*

The data were analyzed using a binary logistic regression. The binary logistic regression was chosen because a logistic regression describes the relationship between multiple independent variables and a categorical dependent variable. As the dependent variable is measured in two categories, "yes" to performing music or "no" to performing music, the logistical regression is also considered binary. A binary logistic regression attempts to understand how changes in the independent variables are associated with the probability of an event occurring or not.

There are two qualitative independent variables which are attributes of the student subjects, free and reduced lunch status, and ELL status, both with two levels: those who do not qualify for free and reduced lunch and those who do, and ELL-yes/ELL-no. There is one dependent variable for each of the four logistic regressions to be analyzed: participation in band, chorus, orchestra, or general music as a curricular course during the school day, measured in the two categories of "yes" or "no."

The level of significance is alpha = .05.

Research question three to be answered is: *To what extent is the academic achievement of eighth grade students, indicated by final GPA, influenced by their race/ethnicity and participation in musical ensembles?*

The data were analyzed using a Two-Way ANOVA. The Two-Way between-subjects ANOVA is used to compare mean differences between groups that have been split on two factors, and to understand if there is an interaction effect between the two independent variables on the dependent variable.

The independent variables for the ANOVA are race/ethnicity, split into five levels (White, Hispanic, Asian, Black, More Than One) and music course choice, split into two levels (yes or no). The dependent variable is the final 8th grade GPA of each student.

The level of significance is alpha = .05.

Research question four to be answered is: *How does 8th grade student race/ethnicity affect the decision to enroll in Band, Chorus, and Orchestra in 9th grade?*

The data were analyzed using a binary logistic regression. The binary logistic regression was chosen because a logistic regression describes the relationship between multiple independent variables and a categorical dependent variable. As the dependent variable is measured in two categories, "yes" to performing music or "no" to performing music, the logistical regression is also considered binary. A binary logistic regression attempts to understand how changes in the independent variables are associated with the probability of an event occurring or not.

The independent variable for each analysis is the race/ethnicity of the 8th grade students in band, then chorus, then orchestra. The dependent variable for each of the three logistic regressions is continued participation in band, then chorus, then orchestra in the 9th grade. This is measured in the binary categories of "yes" or "no."

The level of significance is alpha = .05.

Research question five to be answered is: *How does implementation of a specialized summer program affect enrollment in band and orchestra for subgroups identified by race/ethnicity, ELL status, and free and reduced lunch status?*

Descriptive and inferential statistics were used to analyze the data. The race/ethnicity, free and reduced lunch status, and ELL status of the students choosing to participate in the summer music intervention were discussed.

Reliability and Validity of the Research Design

There is a known threat to the validity of the ex-post facto design, which is to the internal validity: the researcher cannot control for confounding variables when concluding if the effects of the independent variables are the cause of the results on the dependent variable. In order to minimize the possible threat in the current study, the researcher included independent variables that have been shown by past research to be associated with participation in music ensembles at the secondary level. A possible threat to statistical conclusion validity in the current study could be random irrelevancies in the experimental setting, as the subjects came from five different elementary schools with different procedures and precedents for enrolling students in band, chorus, and orchestra programs initially in 4th grade. However, these elementary schools are all from the same school district with the same district musical leadership. A possible threat to external validity in the current study is the interaction of history and treatment, as the closing and subsequent adaptation of school programming and schedules due to the COVID-19 pandemic is assumed to have influenced enrollment in music courses while the safety of such was not known. Most suburban school districts in this area and surrounding counties all experienced the same school closings and similar modifications to their music programs, minimizing the effects on generalization of the results. While there are unique characteristics about both the summer music program and the quality of the year-round

music program utilized in the current study, the participants and program are described very specifically so that another researcher may replicate the study on their own.

The Sample and Population

Setting

The participants in the study included 338 8th grade students from a suburban middle school in the northeast United States, located near a major metropolitan city. This sample is the entire 8th grade class of this school building. The district enrollment data for the year 2021-2022 indicates 7,398 students in grades K-12, distributed between nine school buildings: five elementary, two middle, and two high. White students are 43% of the population, Asian 28%, Hispanic 23%, and Black or African American 4%. Thirteen percent of the population are classified as students with disabilities, 4% are English Language Learners, and 22% are considered economically disadvantaged, as per their eligibility for free/reduced lunch.

Sample

The sample for this non-experimental study is a purposive sample, as the individuals have specific qualifications, namely that they have self-selected their music course for their 8th-grade year. This type of sampling was chosen due to the need for all participants to be enrolled in a music course. All 8th-grade students who attend one of the district's two middle schools are included in the sample. All students in the sample enroll in a choice of four music classes as one of their required curricular courses during the school day: band, chorus, orchestra, (which are classified as performing music ensembles) or music experience (a class with no required lessons or performance component). A disadvantage to purposive sampling is that it may encourage researcher

bias. In this study, the nature of data collection makes researcher bias unlikely since it is archival in nature.

Population

This sample closely represents the population of the district, for which the results will be informative. Percentages of student enrollment by race/ethnicity for all independent variables closely mirror those of the school district population. The study will be useful to other suburban school districts with similar demographic characteristics to the sample population.

Instruments

As this study utilized data available to the researcher via student demographics and course enrollment lists, an instrument was not distributed to study participants. Demographic information regarding student race/ethnicity, student ELL status, and student socioeconomic status were collected from official district records using the district data management system, eSchool. Data regarding course enrollment in performing ensembles (band, chorus, orchestra) or non-performing music (music experience) was linked to student by course enrollment lists.

Data for the independent variables had different numbers of factors. The data set identified four factors of race/ethnicity: White, Black or African American, Asian or Pacific Islander, and Hispanic/Latino. Student ELL status is identified as yes/no, and student FRL is identified as yes or no, based on eligibility for free or reduced lunch. Student GPA at the end of 8th grade was also collected from eSchool and matched to student enrollment lists. The dependent variable, participation in performing music, is

identified as two large factors (yes/no) in which the “yes” group can be further broken down into three subgroups: band, chorus, and orchestra for further analysis.

Intervention

This study included an intervention for Research Question 5. The Second Chance Instrumental program was an existing intervention by the school district, started in the summer of 2022 as a way to address the loss of instruction due to the effects of the COVID-19 pandemic on music enrollment. The Summer Music Program is equally available to all students in the district, and it is student and parent choice to enroll and attend the Second Chance Instrumental program in order to be allowed to audition into the courses of Band and Orchestra at the secondary level. Student enrollment in this intervention was not able to be manipulated by the researcher.

Procedures for Collecting Data

The researcher gained IRB approval from St. John’s. The researcher obtained permission in the form of a signed informed consent letter from the superintendent of the school district where the archived data were obtained. The data collected was coded to so the researcher could match their demographic information, and GPA to their music course choice. This information came from the district’s online data maintenance system, eSchool.

Research Ethics

After permission to access the records for the current study was granted and the informed consent letter was signed by the superintendent, the researcher accessed and downloaded the data onto a password protected laptop, which was stored in a locked file cabinet in a locked office. Student numbers were used instead of names after matching

the data, so there was no risk of harm to the students. The name of the school was kept confidential. The researcher was the only one with access to the data, and the data was labeled only by student number, maintaining student anonymity. It was downloaded onto an Excel file which was input into SPSS for analysis.

Conclusion

Data collected was analyzed using chi square, binary logistic regression, two-way ANOVA, and descriptive statistics to determine rates of participation in performing music versus classroom music. Further, the performing ensembles of band, chorus, and orchestra were used as separate dependent variables to determine if these different courses were affected at different rates by the race/ethnicity of the students studied. Additionally, student free and reduced lunch status and ELL status were incorporated into the discussion.

CHAPTER 4 RESULTS

The purpose of the study was to determine the effects of race/ethnicity, free and reduced lunch status, and ELL status on middle school student participation in the traditional performing music ensembles of band, chorus, and orchestra. Additionally, the study compared the academic achievement of performing music students and the retention of students in performing ensembles as they transitioned to high school. The sample of 383 eighth grade students was 44.9% White, 21.7% Hispanic, 26.6% Asian, and 6.8% Black. These percentages align with the district's K-12 race/ethnicity breakdown.

Results/Findings

Research Question 1

Is there a difference in music course choice when comparing students of different race/ethnicities?

Hypothesis 1

H_0: There will be no significant association between participation percentages in performing music ensembles when comparing student groups by race/ethnicity (White, Black, Asian, Hispanic).

H_1: There will be a significant association between participation percentages in performing music ensembles when comparing student groups by race/ethnicity (White, Black, Asian, Hispanic).

Based on the review of literature, the researcher sought to determine if White students are more likely to enroll in performing music courses of Band, Chorus, and Orchestra. Previous studies had shown that Black and Hispanic students are

underrepresented in performing music and are disproportionately enrolled in a general music experience class which fulfills an arts requirement at the basic level. The Chi Square Test of Independence was used to determine if there are significant relationships between categorical variables. The Chi Square Test was the appropriate test to use for this research question to determine whether student race/ethnicity (White, Black, Asian, Hispanic) and music course enrollment (Band, Chorus, Orchestra, General Music) were independent among 8th grade students. The level of significance for this test was set to .05. The sample consisted of 383 students. Before beginning the statistical analysis for the hypothesis, the data were screened. There were no missing data values, coding errors or outliers.

Prior to running the analysis, three assumption tests for the chi square test for independence were conducted. The tests showed that both variables (race/ethnicity and music course choice) were measured at a nominal level. Each of the two variables included two or more categorical independent groups. In addition, each categorical data cell had a count (n) of greater than five per cell minimum. Therefore, the required assumptions were met. The strength of association between the variables was small, with Cramer's V measuring at .191.

The first analysis to determine the association between race/ethnicity and the choice of Performing Music or No Performing Music indicated that 68.1% (n = 261) of students were enrolled in performing music ensembles (132 White students, 51 Hispanic students, 66 Asian students, and 12 Black students) and 31.9% , (n = 122) chose the non-performing music course of General Music Experience (40 White students, 32 Hispanic students, 36 Asian students, and 14 Black students). The χ^2 test of independence was

significant, $\chi^2(3) = 13.924, p = .003$, as is shown in Table 1. The null hypothesis was rejected. It was concluded that student race/ethnicity is not independent of middle school music course choice. There is a significant difference in music class preferences based on student race/ethnicity. Black students and Hispanic students are overrepresented in general music, while White students prefer performing music classes. Notable findings were that while White students are 44.9% (*n* = 172) of the sample, they are only 32.8% (*n* = 40) of students enrolled in General Music. Results show that 53.8% (*n* =14) of Black students do not enroll in Band, Chorus, or Orchestra, while White students choose to participate in performing music (Band, Chorus, Orchestra) at a rate of 76.7% (*n* = 132). Asian students participate at a rate of 64.7% (*n* = 66), and Hispanic students at 61.4% (*n* = 51).

Table 1

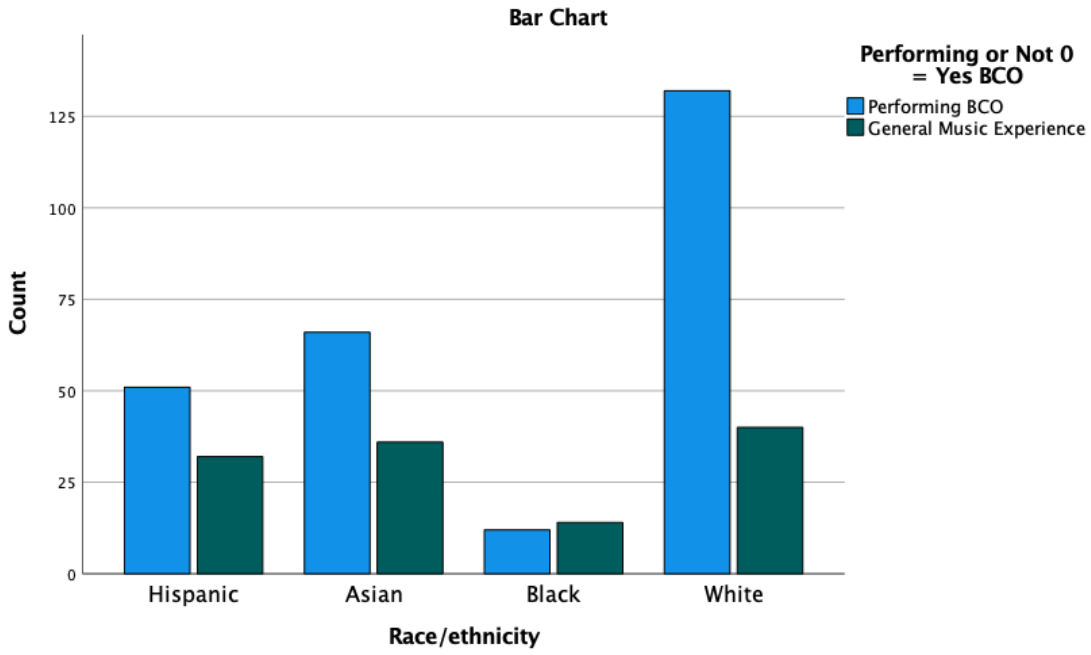
Chi-Square Analysis of Student Race/Ethnicity and Music Course Choice

Race/ethnicity	Overall Sample	Performing Music (BCO)	General Music Exp.	Chi-square Test of Independence
White	172 (44.9)	132 (34.5)	40 (10.4)	$\chi^2(3) = 13.924$
Hispanic	83 (21.7)	51 (13.3)	32 (8.4)	$p = .003$
Asian	102 (26.6)	66 (17.2)	36 (9.4)	$N = 383$
Black	26 (6.8)	12 (3.1)	14 (3.7)	
Total	383 (100)	261 (68.1)	122 (31.9)	

Note. No cells had an expected frequency less than 5. Numbers in parentheses are percentages of the total sample.

Figure 2

Bar Chart of Student Race/Ethnicity and Music Course Choice



Note. B = Band, C = Chorus, O = Orchestra in 8th Grade

To explore the relationships further, the researcher conducted χ^2tests of independence for each of the performing music choices to determine if the specific courses of Band, Chorus, or Orchestra also had a significant association with student race/ethnicity.

A Chi square test of independence was run to determine the association between student race/ethnicity and the choice of Band, specifically. While this test was not significant, ($\chi^2(3) = 6.836, p = 077$), it is worth noting that Black students made up only 4.8% (n = 5) of all the students enrolling in Band, while Hispanic students were

21.9% (*n* = 23), Asian students were 19% (n = 20), and White students were 54.3% (*n* = 57).

A chi square test of independence was run to determine the association between student race/ethnicity and student enrollment in Orchestra. The result was significant, $\chi^2(3) = 18.887, p < .001$. While total Orchestra enrollment is the smallest of all performing ensembles, with just 15.9% (*n* = 61) of the 8th grade class choosing it, Asian students, at only 26.6% (*n* = 102) of the total sample, make up 49.2% (*n* = 30) of the Orchestra. White students (44.9% (*n* = 102) of the sample) and Hispanic students (21.7% (*n* = 83) of the sample) are underrepresented in Orchestra, as only 11% (*n* = 19) of White students and 10.8% (*n* = 9) of Hispanic students choose Orchestra. 11.5% (*n* = 3) of Black students choose Orchestra, indicating they make up only 4.9% (*n* = 3) of the Orchestra but are 6.8% (*n* = 26) of the sample.

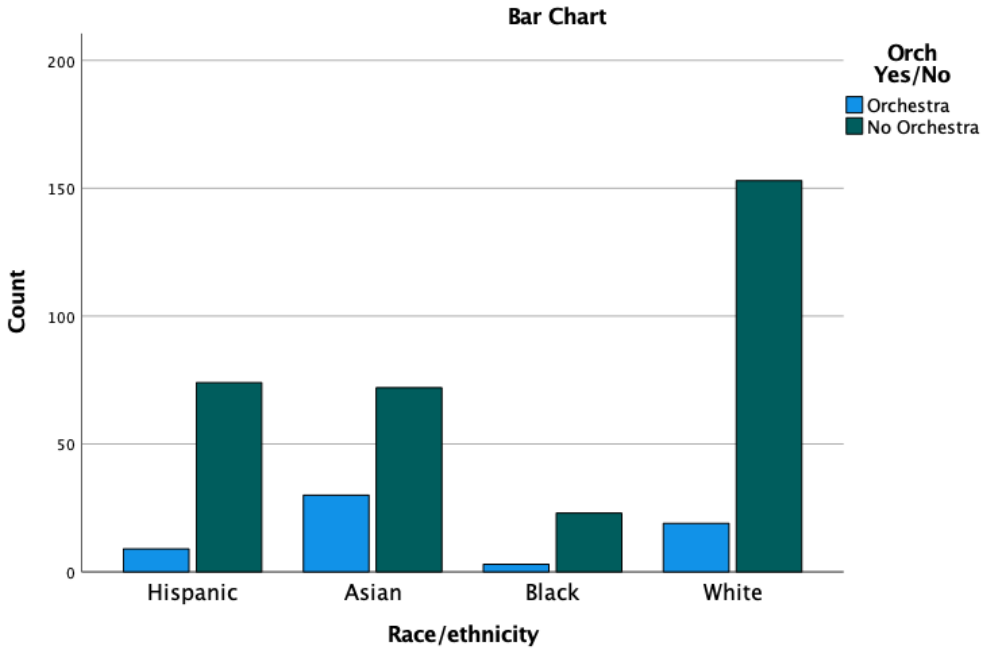
Table 2

Chi-Square Analysis of Student Race/Ethnicity and Choice of Orchestra

Race/ethnicity	Overall Sample	Enrolled in Orchestra	Not Enrolled in Orchestra	Chi-square Test of Independence
White	172 (44.9)	19 (5.0)	153 (39.9)	$\chi^2(3) = 18.887$
Hispanic	83 (21.7)	9 (2.3)	74 (19.3)	$p < .001$
Asian	102 (26.6)	30 (7.8)	72 (18.8)	$N = 383$
Black	26 (6.8)	3 (0.8)	23 (6.0)	
Total	383 (100)	61 (15.9)	322 (84.1)	

Figure 3

Bar Chart of Student Race/Ethnicity and Choice of Orchestra



A chi square test of independence was run to determine association between student race/ethnicity and student enrollment in Chorus. This was also significant, $\chi^2(3) = 11.491, p = .009$. Total enrollment in Chorus is 95 students, or 24.8% of the sample. White students are overenrolled in chorus. They are only 44.9% (*n* = 172) of the total sample, but make up 58.9% (*n* = 56) of the chorus class, with 32.6% of White students choosing Chorus. Hispanic student enrollment in Chorus is aligned with expected percentages, as 22.9% (*n* = 19) of Hispanic students choose Chorus, making up 20% of the Chorus class, while Hispanic students are 21.7% of the entire sample. Asian

students are underrepresented in Chorus: at 26.6% (*n* = 102) of the sample, they make up only 16.8% (*n* = 16) percent of the chorus, with only 15.7% of Asian students choosing Chorus. Black students (6.8% (*n* = 26) of the sample) are underrepresented in Chorus, as only 15.4% of Black students choose Chorus, for a total of 4.2% of the ensemble.

Table 3

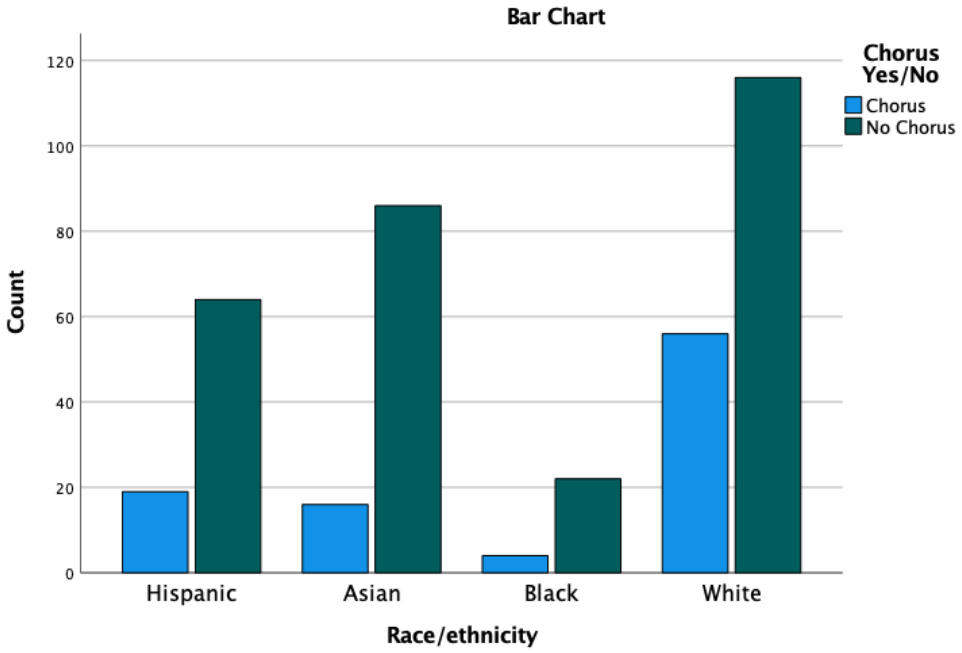
Chi-Square Analysis of Student Race/Ethnicity and Choice of Chorus

Race/ethnicity	Overall Sample	Enrolled in Chorus	Not Enrolled in Chorus	Chi-square Test of Independence
White	172 (44.9)	56 (14.6)	116 (30.3)	$\chi^2(3) = 11.491$
Hispanic	83 (21.7)	19 (5.0)	64 (16.7)	$p = .009$
Asian	102 (26.6)	16 (4.2)	86 (22.5)	$N = 383$
Black	26 (6.8)	4 (1.0)	22 (5.7)	
Total	383 (100)	95 (24.8)	288 (75.2)	

Note. No cells had an expected frequency less than 5. Numbers in parentheses are percentages of the total sample.

Figure 4

Bar Chart of Student Race/Ethnicity and Choice of Chorus



Research Question 2

How does free and reduced lunch status (FRL) and ELL status affect participation in (a) performing music ensembles, and specifically in (b) band, (c) chorus, (d) orchestra?

Hypothesis 2(a)

H_0: ELL status and free and reduced lunch status do not influence a student's choice to participate in performing music ensembles.

H_1: ELL status and free and reduced lunch status do influence a student's choice to participate in performing music ensembles.

Hypothesis 2(b)

H_0: ELL status and free and reduced lunch status do not influence a student's choice to participate in band.

H_1: ELL status and free and reduced lunch status do influence a student's choice to participate in band.

Hypothesis 2(c)

H_0: ELL status and free and reduced lunch status do not influence a student's choice to participate in chorus.

H_1: ELL status and free and reduced lunch status do influence a student's choice to participate in chorus.

Hypothesis 2(d)

H_0: ELL status and free and reduced lunch status do not influence a student's choice to participate in orchestra.

H_1: ELL status and free and reduced lunch status do influence a student's choice to participate in orchestra.

A binomial logistic regression was run to predict if ELL status and free and reduced lunch status (FRL) influenced student participation in elective performing music courses. For the purpose of this study, elective performing music courses are defined as band, chorus, and orchestra. A binomial logistic regression was the appropriate statistical test to use because a binomial logistic regression can accommodate categorical predictor variables and a dichotomous outcome variable. The outcome dependent variable, which was participation in performing music, was coded as 0 = Yes and 1 = No. The predictor independent variable of free and reduced lunch status was coded as 0 = No FRL

identification and 1 = Free or reduced lunch. The predictor independent variable of ELL status was coded as 0 = No ELL status and 1 = Student ELL status or home language other than English.

To determine that the data were acceptable to use with a binomial logistic regression, assumption tests were run. The dependent variable was measured on a dichotomous scale (0, 1). There were two independent variables which were both categorical. There was independence of observations since the participants could only belong to one group in each of the independent variable categories. The dependent variable had mutually exclusive and exhaustive categories (0 = yes - participation, 1 = no – no participation). The assumption of linearity with Log Odds did not apply since there were no continuous independent variables. The sample size was 389 students, which was more than required based on the *n* quota of 50. As there were no continuous predictor variables, multicollinearity was not assessed.

A binary logistic regression was performed to determine the effect of ELL status and FRL status on student participation in performing music courses. Using an alpha of .05, the results indicated that the model was statistically significant, $x^2(2) = 25.777$, $p < .001$. The model explained 9% (Nagelkerke R^2) of the variance in participation, with all independent variables meeting the threshold for significance. As compared to students not qualifying for free and reduced lunch, students on free and reduced lunch are 2.470 times more likely not to participate in performing music, $p < .001$. Students who are classified as ELL are 2.108 times more likely to participate in general music (not performing music) than non-ELL students, $p = .009$, as is shown in Table 4. These results indicate that students who qualified for free and reduced lunch and those who speak a

language other than English at home are less likely to sign up for Band, Chorus, or Orchestra and more likely to be placed in non-performing classroom music courses. The null hypothesis was rejected.

Table 4

Binary Logistic Regression Results by Factor Predicting Participation in Performing Music

Model	*b*	*SE B*	*Wald* X^2	*df*	*Exp (B)*	*95% CI Exp (B)*
ELL	.746	.284	6.901	1	2.108**	{1.208 – 3.676}
FRL	.904	.251	12.962	1	2.470***	{1.510 – 4.040}

Note: * < .05, ** < .01, *** < .001

To expand upon the study, the researcher further broke down the categories of performing music into three separate courses and ran three individual binary logistic regressions using the same independent variables with new binary dependent outcomes: yes or no to performance in band, yes or no to performance in chorus, and yes or no to performance in orchestra. The regression for Chorus showed an Omnibus of $p = .635$, indicating non-significance. The regression for Orchestra was also non-significant, Omnibus of $p = .750$. Table 5 shows the regression for participation in band was significant, $x^2(2) = 33.719$, $p < .001$with a Nagelkerke R^2 of .120. Significant predictors in this regression were: as compared to students not on free and reduced lunch, students qualifying for free and reduced lunch were 4.227 times more likely not to participate in band, $p < .001$. ELL students and students with a home language other than English were 3.000 times more likely not to participate in band, $p = .010$.

Table 5

Binary Logistic Regression Results Predicting Participation in Band

Model	*b*	*SE B*	*Wald* X^2	*df*	*Exp (B)*	*95% CI Exp (B)*
ELL	1.099	.427	6.610	1	3.000**	{1.298 – 6.932}
FRL	1.442	.376	14.659	1	4.227***	{2.021 – 8.841}

Note: * < .05, ** < .01, *** < .001

Research Question 3

To what extent is the academic achievement of eighth grade students, as indicated by final GPA, influenced by their race/ethnicity and participation in musical ensembles?

Hypothesis 3

H_0: There will be no significant difference in academic achievement (measured by final GPA in 8th grade) based upon student race/ethnicity (White, Black, Asian, Hispanic, More than One Race)

H_1: There will be a significant difference in academic achievement (measured by final GPA in 8th grade) based upon student race/ethnicity.

H_0: There will be no significant difference in academic achievement (measured by final GPA in 8th grade) based upon student participation in musical ensembles.

H_1: There will be a significant difference in academic achievement (measured by final GPA in 8th grade) based upon student participation in musical ensembles.

H_0: There will be no interaction effect between student race/ethnicity and participation in musical ensembles.

H_1: There will be an interaction effect between student race/ethnicity and participation in musical ensembles.

The race/ethnicity of each student and their choice to participate in Band/Chorus/Orchestra, or not to participate in any music were the two categorical independent variables with five and two levels, respectively. Performing music students (Band, Chorus, Orchestra) were coded as 0 and those who chose not to participate in performing music courses were coded as 1. White students were coded as 0, Hispanic students as 1, Asian students as 3, and Black students as 4. These codes match the federal codes used when families register with the district; White is normally coded as 6 but the researcher wished for it to be the reference category (0) for the purposes of these analyses.

A two-way between-subjects ANOVA was chosen to analyze the data and answer the research question. This was an appropriate statistical analysis to use since there were two independent variables with categorical levels and a continuous dependent variable. The rationale for choosing the two-way between-subjects ANOVA was to compare the mean differences between groups that have been split on two factors, and to understand if there was an interaction effect between the two independent variables on the dependent variable. An alpha level of .05 was chosen to test for significance. The data were screened for outliers through the test for normality.

The assumption tests for a two-way between-subjects ANOVA were conducted prior to running the statistical analysis. The dependent variable, student GPA, was measured on a continuous scale. The two independent variables race/ethnicity (White, Black, Hispanic, Asian, More than One), and music course status (Performing music:

Band/Chorus/Orchestra or no music), were categorical with five and two levels respectively. There was independence of observations as there were different participants in each level of each group. The initial test for normality indicated that there was one outlier each in both the Asian and Hispanic groups of students in GPA. There were a small number of outliers in this study; these outliers were deleted for this analysis. The Kolmogorov-Smirnov test results showed significance for (White, $p = .001$, Asian, $p = .001$, BCO yes, $p = .001$) and non-significant results for (Black, $p = .200$, Hispanic, $p = .200$, more than one race, $p = .200$, and BCO no, $p = .093$). However, the two-way ANOVA is considered to be a robust analysis so that the normality assumption can be violated and still produce valid results (Winer, 1991). The test for homogeneity of variance was significant as evident by the Levene's test result, $F(9,377) = 3.862$, $p < .001$, therefore the assumption was unmet. However, with such a large data set it is not uncommon to violate the Levene's test. Visual inspection of the histograms indicated a slight negative skew of GPA scores for Asian and Hispanic students, with Q-Q plots that were linear with no evidence of homoscedasticity. A separate Welch's ANOVA was run for each of the main categorical variables: student race/ethnicity; student enrollment in music/no music. The Welch's ANOVA is conducted when the homogeneity of variance assumption is violated.

Results for the two-way analysis indicated that there was not a significant interaction effect between race/ethnicity and music choice, $F(4,377) = 1.082$, $p < .365$. The null hypothesis for the interaction effect was retained. A Welch's ANOVA was run for each of the main categorical variables. The main effect of race/ethnicity of students did show a significant difference in GPA scores, $F(4,386) = 15.012$, $p < .001$, as is shown in Table

6. Race/ethnicity had an effect size of $\eta^2 = .10$, which is large. The null hypothesis for Factor A was rejected. The main effect of music course choice also showed a significant difference in GPA scores, $F(1,386) = 49.191$, $p < .001$, with an effect size of $\eta^2 = .04$, which is just below the threshold for medium. The null hypothesis for Factor B was rejected.

There was a significant mean difference in 8th grade GPA between students who enrolled in Band/Chorus/Orchestra and those who did not ($MD = 5.532$, $p < .001$). Students who chose to participate in Band, Chorus, or Orchestra had a mean GPA of 90.213, while students who chose non-performing music had a mean GPA of 85.272.

Table 6

Welch's One Way Analysis of Variance of GPA Scores Based on Race/Ethnicity and Music Choice

Source	*SS*	*df*	*MS*	*F*	*p*
Race/ethnicity	2444.504	4	611.126	15.012	< .001
Error	15551.052	382	40.710		
Total	13851.524	386	36.741		
Music Choice	2038.772	1	2038.772	49.191	< .001
Error	15956.784	385	41.446		
Total	17995.556	386			

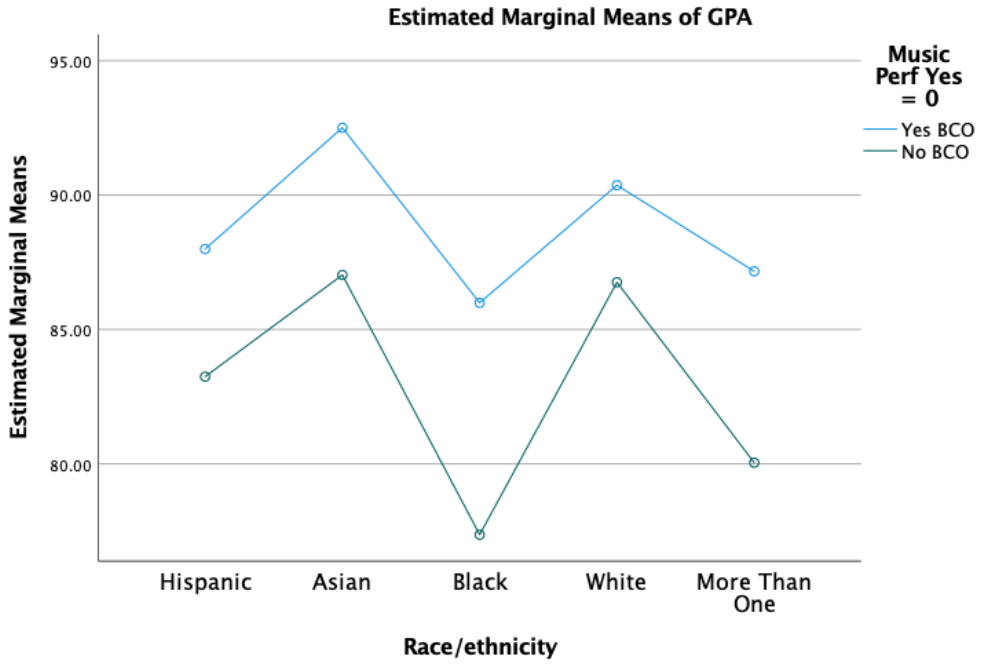
Games-Howell post hoc tests were used to compare the GPA scores of students based on race/ethnicity. The mean difference results indicated that the GPA of White (*M*

= 89.537) and Asian (M = 90.873) students is higher than Hispanic (M = 86.645) and Black (M = 81.349) students. There was a significant mean difference in GPA scores between White students and Hispanic students (MD = 2.891, SE = .859, p = .009), White students and Black students (MD = 8.188, SE = 1.842, p < .001), Asian students and Hispanic students (MD = 4.228, SE = .924, p < .001), and Asian students and Black students (MD = 9.524, SE = 1.873, p < .001).

Though the interaction effect was not significant, post-hoc tests indicate the level to which each student subgroup was affected by their choice to take music. Figure 5 demonstrates that while all music students scored higher than their non-music classmates, the GPA of Black students who enrolled in performing music showed the largest significant difference from their Black non-music peers, MD = 8.629, SE = 2.385, p < .001. Asian students enrolled in music also outperformed their Asian non-music counterparts, MD = 4.722 SE = 1.267, p < .001). White and Hispanic students also achieved higher GPAs when enrolled in music, MD = 3.613, SE = 1.093, p = .001), MD = 3.574, SE = 1.380, p = .010), respectively.

Figure 5

Patterns Found in the Interaction Effect between Race/Ethnicity and Music Course Choice



Research Question 4

How does 8th grade student race/ethnicity affect the decision to enroll in Band, Chorus, and Orchestra in 9th grade?

Hypothesis 4

H_0: Student race/ethnicity does not affect a student's choice to continue to participate in performing music ensembles in 9th grade.

H_1: Student race/ethnicity does affect a student's choice to continue to participate in performing music ensembles in 9th grade.

A binomial logistic regression was run to predict if student race/ethnicity influenced the student's choice to continue in performing music courses from middle school (8th grade) to high school (9th grade). A binomial logistic regression was the appropriate statistical test to use because a binomial logistic regression can accommodate categorical predictor variables and a dichotomous outcome variable. The outcome dependent variable, which was participation in Music, then: in Band, in Chorus, and in Orchestra) was coded as 0 = Yes and 1 = No. For each analysis run, the predictor independent variable of race/ethnicity was coded as White = 0 as the reference category, with the other levels being Black, Hispanic, and Asian.

To determine that the data were acceptable to use with a binomial logistic regression, assumption tests were run. The dependent variable was measured on a dichotomous scale (0, 1). There were two independent variables which were all categorical. There was independence of observations since the participants could only belong to one group in each of the independent variable categories. The dependent variable had mutually exclusive and exhaustive categories (0 = participation, 1 = no participation). The assumption of linearity with Log Odds did not apply since there were no continuous independent variables. The sample size was 389 students, which was more than required based on the *n* quota of 50. As there were no continuous predictor variables, multicollinearity was not assessed.

A binary logistic regression was performed to determine the effect of student race/ethnicity on the student's choice to continue to enroll in performing music courses at the high school level, where they are an elective choice and not state mandated. Using an alpha of .05, the results indicated that the model was statistically significant, $x^2(1) =$

35.142, $p < .001$. The model explained 8.6% (Nagelkerke R^2) of the variance in participation. As compared to students of other race/ethnicities, White students are 3.058 times more likely to drop their performing music class as they enter 9th grade, $p < .001$. The null hypothesis was rejected.

Table 7

Binary Logistic Regression Results by Factor Predicting Participation in 9th Grade Music

Model	*b*	*SE B*	*Wald* X^2	*df*	*Exp (B)*	*95% CI Exp (B)*
Race/Ethnicity	-1.118	.280	15.893	1	.327***	{.189 - .567}

Note. Exp (B) converted since less than 1 for ease of interpretation. (1/.327 =3.058)
Note. The dependent variable was enrollment in a performing music course in 9th grade with participation (yes) as the reference category and (no) non-participation as the target category; Nagelkerke $R^2 = .086$.

The researcher ran additional binomial logistic regressions comparing student race/ethnicity's effect on enrollment in band, then chorus, then orchestra. The predictor variable was race/ethnicity, with White = 0 used as the reference category. Other target levels were Hispanic (1), Asian (2), Black (3) and More than one (4). The dependent variable remained binary as enrollment in 9th grade (yes) or enrollment in 9th grade (no). The regression for Band enrollment in 9th grade was significant with an Omnibus of .033, Nagelkerke $R^2 = .132$. While race/ethnicity was significant overall, the individual factors were not strong enough predictors by themselves. It is noteworthy that as compared to Hispanic students, White students are 2.618 times more likely to drop Band (95% CI .124, 1.173). As compared to Asian students, White students are 2.907 times more likely to drop Band (95% CI .102, 1.159).

The regression for Chorus showed an Omnibus of $p = .160$, indicating non-significance. While the model was not significant, it is worth noting that as compared to Hispanic students, White students are 3.497 times more likely to drop Chorus as they enter high school (CI 95%, .084, .971) p = .045. The regression for Orchestra was also non-significant, Omnibus of p = .071.

Research Question 5

How does implementation of a specialized summer program affect enrollment in band and orchestra for subgroups identified by race/ethnicity, ELL status, and free and reduced lunch status (FRL)?

This research question sought to analyze the demographics of the students who chose to take advantage of a district program aimed at onboarding students who had not been able to enroll in band or orchestra previously. The district initiative of the Second Chance Instrumental Summer Music Program was open to all 5th through 12th grade students from the district. The factors studied were ELL status, free and reduced lunch status (FRL) and race/ethnicity (White, Black, Hispanic, and Asian). The sample for Research Question 5 consisted of the 65 students enrolled in the Second Chance program in the same district as the complete study. The elective courses of Band, Chorus, and Orchestra are not mandated at the state level and therefore demonstrate student choice while also indicating accessibility. Conventional, sequential school scheduling makes it exceptionally difficult to enroll in band or orchestra if a student does not start to learn an instrument with their peers in 4th grade when the instrumental music program begins, and therefore provides a barrier to students entering the district later than 4th grade, those whose parents did not understand the enrollment process due to lack of translated

materials, and/or those who did not have the financial ability to rent an instrument. This question sought to explore if providing an opportunity for students who were not involved in Band and Orchestra was successful in closing the gap between various student subgroups. There were sixty-five students enrolled over the course of the two summers studied.

Results in Table 8 below indicate that enrollment in the Second Chance instrumental program did not mirror district enrollment demographics. While Asian students are only 28% of the district, they made up 63.4% and 70.8% of each summer's second chance program. White students made up only 9.8 (2022) and 8.3 (2023) percent of the students in the program, despite being 43% of the district as a whole. Hispanic students did not have a significant showing at the summer music program, but previous research questions indicated that they are enrolled in Chorus at rates similar to district percentages.

Additionally, Table 8 clearly demonstrates that ELL students and students receiving free and reduced lunch sought out this alternative program as a way to onboard into the courses during the school year. ELL students are 4% of the district but 34.1 and 58.3 percent of each summer. Students on free and reduced lunch are 22% of district-wide enrollment during the year, but were 39% and 58.3% of the summer programs, indicating they did want to be enrolled in performing music classes and used this summer program as a pathway to catch-up to their peers.

Table 8

Descriptive Statistics of Summer 2022 and Summer 2023 Enrollment in Second Chance Instrumental Program

Race/ethnicity	Summer 2022 %/*n*	Summer 2023 %/*n*	District %/*n*
White	9.8 (4)	8.3 (2)	43 (3,216)
Hispanic	12.2 (5)	12.5 (3)	23 (1,716)
Asian	63.4 (26)	70.8 (17)	28 (2,040)
Black	9.8 (4)	8.3 (2)	4 (324)
More than one	4.9 (2)	0	1 (97)
Total	41	24	7,398
Free and reduced lunch	39 (16)	58.3 (14)	22 (1,660)
ELL	34.1 (14)	58.3 (14)	4 (315)

Note: Summer percentages are of the total second chance program

CHAPTER 5 DISCUSSION

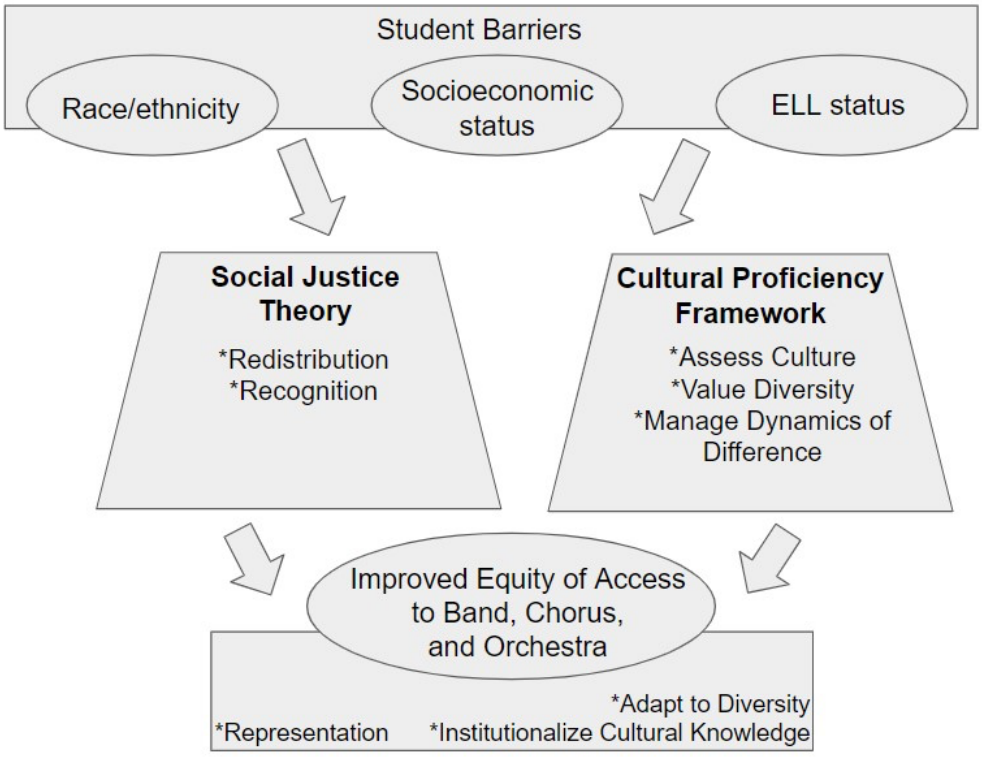
This chapter will include a discussion of the findings of the current study and their relationship to the research found in the reviewed literature and the theoretical frames that guided the study. Suggestions for further research and additional areas not explored in the current study will be addressed.

Implications of Findings

Findings from the study supported that not all students are represented in performing music courses as part of their school day. Figure 6 illustrates the Conceptual Framework, which shows the relationships between Nancy Fraser's Social Justice Theory and the Cultural Proficiency Framework (Lindsey et al., 1999) on enrollment in school performing music programs. Social justice theory urges leaders to evaluate their use of resources and to redistribute them to alleviate financial hardship. It also encourages the equal recognition of different groups in society. In education, it defines barriers as social, cultural, economic, or political. Students may face these obstacles in their educational careers when redistribution and recognition are not addressed.

Figure 6

Conceptual Framework Demonstrating Outcomes of Addressing Inequities in Music Ensembles



The study sought to discover if there were barriers of recognition (cultural barriers) as described by Fraser (2003). An overwhelming majority of White students choose to enroll in performing music, while over half of Black students and almost half of Hispanic students remain in the entry-level "general music" course for the duration of their public school years. English Language Learners (ELLs) are two times more likely to enroll in general music than their non-ELL peers. These findings indicate that there are systemic injustices that allow non-White and ELL students to remain unrecognized as equal members of the school community. ELL students are often new to the district as

older students and frequently in the middle of the academic year. Placing these students into general music is the "easiest" option for master scheduling and erases that student's ability to choose what is best for them. Participation in a performing music ensemble is often the fastest route to establishing friendships, feeling included, and making contributions to the school community. Student groups defined by race/ethnicity that are underrepresented are likely not to see themselves in the performing music ensembles in their school buildings or in the types of music presented to them in music class at a young age.

As the demographics of students continue to change, there is a necessity to adapt the method of recruitment and retention to make all students feel welcome and encouraged to succeed in a performing music ensemble. At the elementary level, a strong general music curriculum built on music literacy, exposure to instrumental music, and a culturally competent and relevant repertoire of songs and folk songs can inspire students to continue their music journey when it is no longer simply a requirement. Often the general music teacher sees every student in the elementary school weekly for the course of their six years in the building. An educator who uses the demographics of their students to develop lessons that speak to the student's experience is on their way to achieving cultural recognition for their students and will be a great asset to their colleagues who teach band, chorus, and orchestra.

In the current study, chorus specifically was the most accessible to Hispanic students and Black students, who enrolled in chorus in similar rates as district enrollment. This indicates these students choose chorus more frequently, implying it is a more inviting and `accessible program than band or orchestra. The potential to sing in varied

languages, the universality of the solfege system for music learning, and the rote learning that can take place by students who do not yet speak the language have been cited as reasons for high levels of chorus enrollment. Chorus is also the easier class to "onboard" in the upper grades. Band and orchestra students must possess a minimum level of proficiency on an instrument to be able to contribute to the ensemble, while chorus students can often get by with repetition and minimal music reading ability in their first days in a new school, new community, or possibly new country.

Cultural justice would be found with outreach and translated materials to non-English speaking parents about the opportunities available to their students. Teachers who advocate for the harmonic scheduling of remedial and ELL coursework so as not to make it mutually exclusive with music participation will also remove that cultural barrier for students. A culturally relevant music curriculum that embraces the diverse cultures of all in the community will maintain cultural justice in the school music program.

Economic barriers, also known as barriers of redistribution, are also described by Fraser. Economic justice is achieved when there is an equitable distribution of resources. Students on free and reduced lunch, considered by the district to be "economically disadvantaged" are two and a half times more likely not to participate in any performing music, and four times more likely not to enroll in band, specifically. As the choice to enroll in band, orchestra, or chorus is made when a student is in 4th grade, parental involvement and the ability to provide transportation, fees for instrumental rental, and support at home are crucial to success in performing music classes. Further, resources available from the district are not being made clear to all students, as it seems that the cost associated with instrumental music participation has discouraged students on free

and reduced lunch to participate. Band was the least accessible to students considered by the district to be "economically disadvantaged." This study indicated that lower-income students who preferred orchestra were able to overcome the financial challenge. This is perhaps indicative of the cultural values of the race/ethnicities of those families and their willingness to sacrifice in another area to ensure their student could take orchestra, despite the financial hardship it may be. Chorus requires no money up front and is a more attractive option for lower income students for this reason. However, beyond the initial enrollment, there are ongoing costs for students in all performing music classes: band and orchestra courses have instrument rental and maintenance fees, instrument repair, reeds, valve oil, rosin, etc. Even chorus students must provide appropriate concert clothes and shoes several times a year, which is a cost many do not anticipate. Economic justice could be achieved with free or reduced rental fees for instruments and necessary equipment and uniforms, transportation to before and after school rehearsals, and assistance from school programs (school-owned instruments, lessons from older students within the program).

The Cultural Proficiency Framework (Appendix B) outlines the next steps after the Elements of the Cultural Proficiency Framework have been addressed: Continuum, Barriers, and Principles. Robins, Lindsey, Lindsey, and Terrell cited the achievement gap between White and non-White students as a symptom of systems that were oppressive, dismissive, and unaware of their need to increase cultural competency. The current study confirmed this achievement gap is still present, with White and Asian students scoring an average of four points higher than Hispanic students and nine points higher than Black students. Additionally, all students in band, chorus, and orchestra, regardless of

race/ethnicity, scored an average of five points higher in their overall grade point average. Black and Hispanic students make up the largest population of general music experience students, and scored lower academically. Their inclusion and participation in performing music courses of Band, Chorus, and Orchestra has shown a significant improvement not just in test scores, but in overall performance. The cultural proficiency continuum would label this stage "blindness," as the obvious benefits of recruiting Black and Hispanic students out of general music and into the school community through performing music has been dismissed.

At the middle school level, a curricular music class is required during the school day. Most often this class choice is a continuation of the students' elementary extracurricular decision made while in 4th grade. As students enter high school, music is no longer required during the school day but is available as an elective. High school instrumental and choral programs are dependent on the continued participation of performing music students for the success of their programs. A student's decision to "drop" their music is often a combination of other, attractive electives available at the high school level, limited scheduling due to remedial/support services, fear of overcommitment while transitioning to a new school, or lack of continued interest.

White students are three times more likely than their non-White classmates to drop their performing music class from their high school course schedule as they enter ninth grade. This speaks favorably to the welcoming and comfortable environment that underrepresented students find in their middle school music classes, as they are more likely to *stay* enrolled as they transition to ninth grade. The work the teachers are doing as they move up the continuum seems to have reached competence; they are responding

effectively to issues that may arise due to cultural differences and are adapting their instruction to support diversity and inclusion. In short, the problem is not retaining underrepresented students, it is getting them "in the door" in the first place.

In order to maintain this high rate of attrition, a connection between the middle school ensemble directors and high school ensemble directors can inform high school teachers about the needs and supports that band, chorus, and orchestra students have found the most essential during their time in these classes in middle school. Outreach from the upper-level teachers to the actual students before they make high school class choices can help make all students feel welcome and that their culture is valued.

It would appear that White students at the high school level may be encouraged to favor electives that are perceived as attractive to college admissions officers, such as Advanced Placement, business, law, and upper-level math and science courses, leaving no room for music. This is an unfortunate mindset, as it does not celebrate the importance of well-rounded students who will add much to the school community by way of extracurricular involvement and the values of teamwork, collaboration, and empathy gained by participation in performing music. The realization that more non-White students do decide to remain in band, chorus, and orchestra is a telling sign that in those classes, they feel the cultural recognition and representation also described by Fraser. It seems that for the students in this study, the school district and its arts leaders and teachers have examined curriculum content and instructional methods in order to increase equity and a sense of belonging in music classes.

One of the intentions of creating the Second Chance Instrumental Program at the already established Summer Music Program was to provide an opportunity for students

who did not begin in the instrumental program in 4th grade. Historically this would be students who moved into the district after 4th grade, whose families could not provide transportation to band and orchestra rehearsals since they occurred before elementary school hours, who had conflicting pull-outs due to required services, or whose families did not understand/could not afford the instrumental rental and enrollment program in third grade. The COVID-19 pandemic added another category of students to this list, those who were entirely remote for those formative years or who stopped/did not begin instrumental music because of health and safety concerns. District teachers were encouraged to outreach to students enrolled in general music at the middle school level, as these students would not be too far behind their peers and would be able to transfer into the appropriate band or orchestra course, which meets during the day at the middle school level. The results show that ELL students, when provided with direct outreach, wanted to participate in this program and were overrepresented during both summers.

White students did not need to participate in the Second Chance program as they are already enrolled in Band and Orchestra. An interesting result was that Hispanic students did not participate in the summer program at a rate equal to or succeeding their district enrollment, however, Hispanic students participate in Chorus during the school year and likely did not wish to leave chorus for band or orchestra if they found chorus enjoyable.

Black and Asian students are disproportionately enrolled in general music classes at the middle school, and recruitment among these students was successful, as they participated in significant numbers in the summer program. Another group overrepresented in general music courses is students on free and reduced lunch. These

students also participated in the summer program in rates well beyond their district percentages. It should be noted that while there is a fee for the five-week summer program, this fee is minimal and less than one would expect to pay for two or three private lessons in this area. Instrument rental, repair, and maintenance may have been an obstacle for families initially, but with teacher outreach and the availability of school-owned instruments to loan, many students were able to participate without having to make a significant financial contribution upfront.

The program addressed several essential elements of the Cultural Proficiency Framework: Value Diversity, Manage the Dynamics of Difference, and Institutionalize Cultural Knowledge. Students in the program were made to feel welcome and supported in their goal of entering the band and orchestra programs as an "older beginner," and teachers and program directors are discussing what additional supports will be needed to incorporate these students into the existing programs for student success. Fraser's dimension of redistribution was addressed through the number of economically disadvantaged students now able to compete with their peers without the expense of private lessons previously needed to onboard past the fourth grade, and recognition is continually addressed as the demographic makeup of the band and orchestra programs starts to more closely resemble that of the entire student population.

Findings suggest that the program did reach the intended population, and that students forced to enroll in general music based on the sequential nature of the instrumental program are interested in participating in band and orchestra when given the opportunity. The first summer of the program's existence saw 41 students participate and the second summer had 24 total students. Over time, as students are transitioned into the

instrumental programs, there may be fewer students needing to take advantage of the program. Additionally, the district can look at ways to implement a similar type of program during the school year for those families that cannot commit to a five-week program because of summer travel, work obligations, or summer school requirements.

Relationship to Prior Research

Students receiving free and reduced lunch and students classified by their district as ELLs do not participate in band, chorus or orchestra accordingly with their peers. This finding supported the research by Lorah et al., (2014) and Escalante (2019), which stated that issues of master scheduling, support services and remedial coursework, and lack of outreach to non-English speaking parents about the availability of music courses prohibits full participation in many schools. School music programs are often designed to be sequential and have few points or grade levels of entry. As Aprile (2021) noted, even neighboring districts in similar demographic and geographic areas vary widely in the type of music instruction offered, making it difficult for students to maintain momentum in their performance-based classes when moving or changing schools.

There is evidence to support that student choices in regard to music participation are influenced by many social factors, including race/ethnicity. As Miksza (2010) found, participation in curricular peer groups such as band, chorus, and orchestra show positive outcomes in the area of academic achievement and higher social satisfaction. Results from the current study support that student group association is one factor that influences student choice to participate in music ensembles. The current study used data from a nationally recognized music program with award and competition winning programs. Miksza's study used national data and supports results of the current study: White

students who do not qualify for free and reduced lunch have higher academic scores, indicated by GPA. Band and orchestra students of all race/ethnicities outscored their non-music classmates. Often students with higher SES also have more parental involvement at home and support of academic success. The cost of instrument rental and private lessons associated with high caliber band and orchestra programs are included in this support. (Southgate and Roscigno, 2009). However, like the findings produced by Thomas (2013), course availability does not guarantee access and participation of all students.

These findings indicated there is work to be done in creating a master schedule that includes both necessary support services for students (ELL students may be required to take certain extra classes which limits their available time during the day for music) and elective coursework that will balance out their day and contribute to their becoming more engaged in the school community (Shaw & Bernard, 2022, Sheltzer & Consoli, 2019).

Findings in the current study were similar to those found by Smith (1997) in that orchestra participation has gradually decreased and remained very low; orchestra was the smallest sample size of the eighth-grade class. Smith also discussed the ideal starting age for a beginner string student being anywhere from grades 4 through 6, which the summer music program extends. While this district begins students as a group in 4th grade, the ability of students to "catch up" to their peers after only a five-week session speaks to the older students' improved dexterity, focus, and spatial abilities. Unlike Smith's study, where retention rates were highest when students started as older beginners, orchestra saw excellent retention from grades 8 to 9 with students who had been started on their

instrument in 4th grade. Kinney (2019) and the current study both found that race/ethnicity is a factor for orchestra enrollment and among those orchestra students, for academic achievement. The current study also aligns with Kinney's findings for band students, which found Hispanic students less likely than White students to enroll, and students with higher SES much more likely to take Band. Kinney did not find significant results for chorus students in regard to SES and race/ethnicity, while the current study did find race/ethnicity to be a factor in choral enrollment. Kinney's sample was from a state in the Midwest and may not have had similar demographics to those in the sample for the current study.

Lorah's study (2014), which also utilized SES, ELL status, and academic achievement as predictors, found that when controlling for SES and academic achievement, ELL students were not less likely to participate in music. This implies that there is a connection between academic involvement and SES, which was not explored in the current study. However, the current study did corroborate this finding, as there were strong results for students who qualified for free and reduced lunch and students who were ELLs to participate in the summer music "Second Chance" program, indicating that when given an opportunity and extra outreach and encouragement, ELLs wish to be involved in band and orchestra.

Winsler and Gara's (2020) middle school study focused on academic achievement and other positive school and community involvement as a result of music participation. Though their study took place in a high-poverty locale in Miami, they found similar results as reported by the current study: Black students and ELL students do not participate in music at the same high rates as their peers. Students with higher academic

potential were participants in band, chorus, and orchestra, which was also supported by the current study.

Elpus (2009) found a smaller proportion of students participating in music at all at the national level, placing the district rates on the higher side for the current study. He did find that only 24% of high school students enroll in music, and orchestra was again a significantly smaller class. Band and orchestra students performed better academically, as was found in the current study, However, the current study disputes that Black students enrolled in music perform poorly academically; the current study found the distinct opposite to be true, as all student subgroups involved in music performed better, with Black students showing the most increase in overall GPA in eighth grade.

Limitations of the Study

A limitation of this study is that the data used for the study was from eighth grade students in the year 2022-2023. These students experienced the closure of schools due to COVID-19 during the spring of their fifth-grade year, which is when all schools in the district transition to middle school. Instrumental instruction begins in fourth grade, and many students may have not felt connected enough to their instrument yet to maintain enrollment into middle school. The uncertainty of what would happen to school music programs may have also been a factor, along with valid health concerns for some families regarding playing a band instrument or singing, even with the mandated precautions (twelve feet apart, instrumental bell covers, and masks) during this time. Enrollment data may be skewed for this particular year of students, and those who qualify for free and reduced lunch and those with ELL status especially may have been disproportionally

affected by the virtual and then hybrid learning environment. Ideally, data taken over several years might show a more accurate and consistent rate of enrollment for study.

The current study also utilized data from the district's data management system, which uses federal codes for race/ethnicity. The code for "Asian" does not differentiate between Chinese, Japanese, Korean, Indian, etc. The researcher has observed that "Asian" students in orchestra and "Asian" students in chorus are not drawn from the same geographic area, and this could have misrepresented results for these two specific programs.

There are five elementary schools which feed the middle schools in this district; different approaches to recruitment and retention in the younger grades may have affected student choice to participate in Band, Chorus, and Orchestra at the time of initial enrollment. These elementary schools have distinct differences in their numbers of ELL students, and some of the schools have a much higher percentage of students on free and reduced lunch as well. Differences in populations of specific race/ethnicities are also present between these five schools. While these limitations may have affected the study, the district does have one director of music and performing arts, and there is collaboration between processes and policies in regard to the performing music program at all levels, kindergarten through twelfth grade.

Recommendations for Future Practice

Arts administrators and school building leaders can use the knowledge that there are underrepresented groups of students in performing music ensembles when planning recruitment materials and policies, designing curriculum and units of study that are inclusive and reflect the diversity of the student population so that students feel part of

the community, and when creating district-wide course schedules that allow equal opportunity for all students.

The Second Chance program serves as a model for arts administrators who wish to explore the potential barriers that exist in school music programs, many of which are limited by master scheduling requirements, availability, and procedures for recruitment and retention. By providing students an alternative pathway to become involved in worthwhile school programs, inequities can be rectified. The expansion of such a program to include younger students, more teaching staff, translators, and a possible donation program of instruments and materials may also assist more students in onboarding where they have missed their initial opportunity. Ultimately, the need for this program will be less once the previous concerns have been addressed. District administrators should consider adding a Second Chance program as a change in policy in the meantime to help close this gap, and achieve a level of representation noted by Fraser as the third barrier.

Recommendations for Future Research

Future studies in this area would be wise to incorporate disability status as a predictor for participation in performing music ensembles, to establish whether this barrier exists for students with physical limitations and/or emotional needs who would benefit from the socialization that performing music provides.

A look at the institutional structures that exist as barriers, namely the scheduling of music classes in the younger grades, how remedial support for ELL students affects elective ability in the upper grades, and how recruitment is handled for students who do not speak English or may need financial support to participate would identify areas for

arts administrators and school leaders to adjust in their buildings. The master schedule for any secondary school is a complicated endeavor which incorporates staffing concerns, room utilization, state mandates, and the unique needs of that particular community. A sensitivity to making music classes available for all students, regardless of their other required services, shows that music, and its positive effects on students, both academically and socially, is a valued and vital component of the core curriculum.

Additionally, the same archival data from years prior to COVID should be utilized in a similar study, and results of this study should be compared to discover if the pandemic and the many inequities it brought to light have affected music programs at a higher rate.

The researcher did not include gender as part of this study, but there is a noticeable over enrollment of male students in general music (non-performing). A future study might explore this additional difference in subgroups.

As an extension of the current study, a mixed methods study which interviewed students to discover their reasons for choosing performing music or not would help support and further interpret the results from this quantitative study.

Conclusion

Participation in school performing music ensembles shows positive outcomes for all students both academically and socially. As schools adapt to the growing differences in student race/ethnicity, socioeconomic disparities among students in the district, academic support services needed by students as a result of learning loss post-COVID, and challenges to inclusivity faced by the increasing number of ELL students, arts administrators, educators, and policy makers must reflect their values of inclusion,

equity, and access in their broad and day-to-day educational goals in music and building community. The current study presents evidence that there is still growth needed in this area, but the gains for student engagement, academic success, and sense of community are worth these efforts.

APPENDIX A SIGNED INFORMED CONSENT LETTER FROM SUPERINTENDENT OF SCHOOLS

st. john's UNIVERSITY

To: Dr. Kenneth Card, Superintendent of Schools
East Meadow Union Free School District
718 The Plain Road
Westbury, NY 11590

From: Caitlin Hale
106 Carman Road
Dix Hills, NY 11746

Subject: St. John's University Doctoral Study in Instructional Leadership

Dear Dr. Card,

As you know, I am a doctoral candidate in the Department of Administrative and Instructional Leadership at the Graduate School of Education, St. John's University, Queens, NY. I am conducting a quantitative study for my dissertation titled Closing the Gap in Performing Music Ensembles: A Study to Determine Predictors of Participation between Racial and Ethnic Groups. My mentor is Dr. Joan Birringer-Haig, Department of Administrative and Instructional Leadership, St. John's University.

I am writing to request the use of archived data collected by Woodland Middle School between the 2020– 2023 school years. The purpose of my non-experimental study will be to determine if race/ethnicity, ELL status, and/or SES classification has a significant effect on whether students participate in performing music ensembles (band, chorus, or orchestra) or if certain subgroups are disproportionately represented in general music experience. The archived data that I wish to use for my study would consist of the students' demographic information from eSchool, and their course enrollments at the building level. I plan to follow the cohort of current eighth graders by utilizing course enrollment data for their performing ensembles in 6^{th}, 7^{th}, 8^{th}, and 9^{th} grades. Additionally, I would like to explore the increase in student participation in performing music ensembles based on participation in the Second Chance program offered at the Summer Music Program during the summers of 2022 and 2023.

Little research has been done on the participation of students in performing music programs post-COVID. This non-experimental study will seek to examine the factors that may limit some students from fully experiencing the nationally recognized music program in East Meadow in order to understand if there are barriers to equity of access.

The data collected from the archives will be kept secure on a laptop which is password protected. It will also be kept in a locked cabinet for security. The data will remain confidential and no one other than me will have access to it. The names of the students will be coded by only using their school ID numbers so that I can match their demographic information to their music course choice. There will be no risk of harm as no mention will be made of the school's name or location or the names of the students in my doctoral dissertation. The school's and the students' privacy will be maintained.

If you have any questions or concerns about my study, or if you wish to report a research-related problem, you may contact me, Caitlin Hale, at 516-510-8719 or at caitlin.hale21@my.stjohns.edu or my mentor, Dr. Joan Birringer-Haig, at birringj@stjohns.edu. You may also contact the Institutional Review Board at St. John's University, Dr. Raymond DiGiuseppe, at (718)990-1955, or digiuser@stjohns.edu.

On behalf of the East Meadow School District at 718 The Plain Road, Westbury, NY, 11590, I give Caitlin Hale permission to access archived data from students currently enrolled in 8th grade.

Kenneth A. Swan, Jr., Ed.D.
(Printed Name)

2/10/23
(Date)

(Signature)

Caitlin Hale
(Printed Name)

2/15/23
(Date)

Caitlin Hale
(Signature of Doctoral Candidate)

Thank you in advance for your cooperation in allowing me to access the archived data for this study.

Sincerely,

Caitlin Hale
Doctoral Candidate,
Department of Administrative and Instructional Leadership
St. John's University
Queens, NY 11439

APPENDIX B THE CULTURAL PROFICIENCY FRAMEWORK

THE CULTURAL PROFICIENCY FRAMEWORK

Cultural Proficiency is the policies and practices in an organization or the values and behavior of an individual, that enable the person or institution to engage effectively with people and groups who are different from them. Cultural Proficiency is an inside-out approach that influences how people relate to their colleagues, clients and community. Cultural Proficiency is a lens for examining one's work and one's relationships. The four tools of cultural proficiency are the Elements, the Continuum, the Barriers and the Principles.

THE ESSENTIAL ELEMENTS -- *Standards for Planning and Evaluating*

- **Assess Culture:** Identify the cultural groups present in the system
- **Value Diversity:** Develop an appreciation for the differences among and between groups
- **Manage the Dynamics of Difference:** Learn to respond appropriately and effectively to the issues that arise in a diverse environment
- **Adapt to Diversity:** Change and adopt new policies and practices that support diversity and inclusion
- **Institutionalize Cultural Knowledge:** Drive the changes into the systems of the organization

CULTURAL PROFICIENCY CONTINUUM

Change Mandated for Tolerance			*Change Chosen for Transformation*		
DESTRUCTION	**INCAPACITY**	**BLINDNESS**	**PRECOMPETENCE**	**COMPETENCE**	**PROFICIENCY**
Eliminate differences The elimination of other people's cultures	*Demean differences* Belief in the superiority of one's culture and behavior that disempowers another's culture	*Dismiss differences* Acting as if the cultural differences you see do not matter or not recognizing that there are differences among and between cultures	*Respond inadequately to the dynamics of difference* Awareness of the limitations of one's skills or an organization's practices when interacting with other cultural groups	*Engage with differences using the essential elements as standards* Using the five essential elements of cultural proficiency as the standard for individual behavior and organizational practices	*Esteem and learn from differences as a lifelong practice* Knowing how to learn about and from individual and organizational culture; interacting effectively in a variety of cultural environments. Advocating for others.
Reactive Behaviors, Shaped by the **BARRIERS**			*Proactive Behaviors, Shaped by the* **PRINCIPLES**		
• Unawareness of the need to adapt • Resistance to change • Systems of oppression and privilege • A sense of entitlement			• Culture is a predominant force • People are served in varying degrees by the dominant culture • There is diversity within and between cultures • Every group has unique culturally-defined needs • People have personal identities and group identities. • Marginalized populations have to be at least bicultural • Families, as defined by culture, are the primary systems of support • The diverse thought patterns of cultural groups influence how problems are defined and solved. • The absence of cultural competence anywhere is a threat to competent services everywhere		

From: Nuri-Robins, Lindsey, Lindsey, and Terrell. **Culturally Proficient Instruction** Corwin 2012
www.TheRobinsGroup.org

APPENDIX C IRB APPROVAL

From: do-not-reply@cayuse.com <do-not-reply@cayuse.com>
Sent: Friday, June 2, 2023 8:45 AM
To: Dr. Joan I. Birringer-Haig <birringj@stjohns.edu>
Subject: IRB-FY2023-335 - Initial: Initial - Exempt - St. John's

* External Email *

Federal Wide Assurance: FWA00009066

Jun 2, 2023 8:45:57 AM EDT

PI: Caitlin Hale
CO-PI: Joan Birringer-Haig
Dept: The School of Education, Ed Admin & Instruc Leadership

Re: Initial - IRB-FY2023-335 *Closing the Gap in Performing Music Ensembles: A Study to Examine Barriers of Access to Equitable Participation*

Dear Caitlin Hale:

The St John's University Institutional Review Board has rendered the decision below for *Closing the Gap in Performing Music Ensembles: A Study to Examine Barriers of Access to Equitable Participation*.

Decision: Exempt

PLEASE NOTE: If you have collected any data prior to this approval date, the data must be discarded.

Selected Category: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Sincerely,

Raymond DiGiuseppe, PhD, ABPP
Chair, Institutional Review Board
Professor of Psychology

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Vita

Name	*Caitlin Hale*
Baccalaureate Degree	*Bachelor of Music, Peabody Conservatory of Music of the Johns Hopkins University, Baltimore* *Major: Voice Performance, Music Education*
Date Graduated	*May, 2006*
Masters Degree	*Master of Music, Peabody Conservatory of Music of the Johns Hopkins University, Baltimore* *Major: Voice Performance*
Date Graduated	*May, 2007*
Other Degrees and Certificates	*Advanced Certificate in Educational Leadership, Stony Brook University*
Date Graduated	*August, 2020*