

Public High School Music Education in Maryland: Issues of Equity in Access and Uptake

David S. Miller
Ph.D. Candidate in Music Education, UMD College Park
Research Branch, MLDS Center

MLDS RESEARCH
SERIES
PRESENTATION

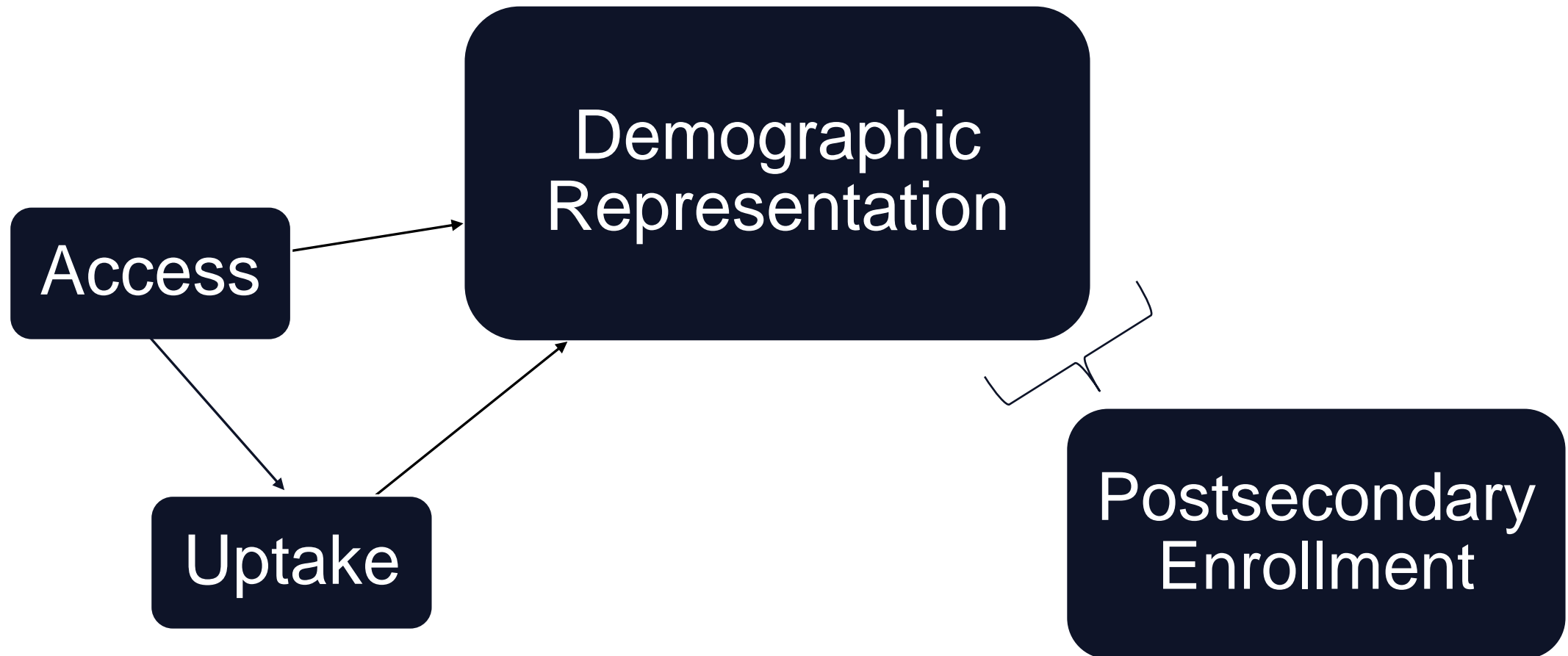
9/16/2022

Background

COMAR 13A.04.16.01

requires Local School Systems (LSS) to provide an instructional program allowing all 9th-12th grade students to meet graduation requirements by choosing among fine arts courses, including music, a core subject under Federal law (Every Students Succeeds Act, 2015).

Music Education Equity in MD High Schools – four angles



Equity – Demographics

Inequitable representation

for both student and teacher
demographics

(Elpus, 2019; Elpus & Abril, 2019)

Equity – Demographics

High school music teachers

are disproportionately male, particularly
band teachers

(Elpus, 2019; Miller et al., 2021, Shaw & Aulleto, 2022;
Smith et al., 2018)

Equity – Access

~91%

of public secondary schools nationally
offered music in some capacity

(Elpus, 2017; 2022; Parsad & Spiegelman, 2012)

Equity – Uptake

Demographics & family income

are associated with enrollment in high school music classes nationally, among other factors.

(Elpus and Abril, 2011; 2019)

Equity – PS Enrollment

No disadvantage

In postsecondary enrollment for music students compared to non-music students

(Elpus, 2022)

Need for study

Most empirical work is on a national scale. National studies obscure the potential variation between states

State-level analyses provide pertinent, policy-relevant results

Need for study — Policy Implications for MD

Maryland regulations require LSS to provide quality music education that prepares all students for postsecondary education and careers.

We should then evaluate the extent to which students from various socioeconomic and demographic backgrounds within each LSS have access to and enroll in music education courses, and the extent to which music courses prepare students for postsecondary enrollment.

Identification of inequity would then illuminate potential policy areas, such as funding for music programs, to facilitate equity and compliance with state regulations.

Research Questions

1. What are the demographic compositions of public high school music students and teachers, and how do they compare to non-music students and teachers?
2. What factors are associated with schools offering a music course? (Access)
3. What factors are associated with student enrollment in music courses? (Uptake)
4. Do music students enroll in postsecondary institutions at comparable rates to non-music students?

Descriptive Statistics - Overview

- Student sample consisted of public high school students belonging to the 2015-2016 9th grade cohort ($N = 55,500$)
 - About 22% ($n = 12,210$) of students enrolled in music their 9th grade year
- Teacher sample consisted of public high school teachers employed in the 2015-2016 school year
 - Public high school music teachers ($n = 500$) and non-music teachers ($n = 16,750$)

Purpose and Method:

Investigate issues of equity in access and uptake for music education in MD public high schools



DEMOGRAPHICS: Descriptive Statistics, Chi-Square



ACCESS: Descriptive Statistics, Logistic Regression (Design-based correction)



UPTAKE: Logistic Regression (Multilevel Modeling and Fixed Effects Analyses)



POSTSECONDARY: Logistic Regression (Design-based correction)

Demographic Comparison – Students

($N = 55,500$)

CHARACTERISTICS	ALL (%)	BAND(%)	CHR(%)	ORCH(%)	GTR(%)	PNO(%)
Race/Ethnicity		***	***	***	***	***
White/Caucasian	38	51	49	42	47	31
Black	34	27	31	21	18	36
Asian	6	9	5	21	9	8
Hispanic	17	7	10	9	22	21
Other/Multiracial	4	4	5	6	3	4
Gender		***	***	***	***	***
Male	53	56	28	29	68	44
Female	47	44	72	71	32	55

Cells shown are column percentages within race/ethnicity and gender, compared using chi-squared tests

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Demographic Comparison – Teachers

($N = 17,250$)

CHARACTERISTICS	Non-music teachers (%)	Music Teachers (%)
Race/Ethnicity*		
White/Caucasian	73	76
Black	18	19
Asian	4	2
Hispanic	3	2
Other/Multiracial	2	1
Gender***		
Male	36	58
Female	64	42

Cells shown are column percentages within race/ ethnicity and gender, compared using chi-squared tests

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Demographic Comparison – Teachers

($N = 17,250$)

Characteristics	Non-music teachers	Music Teachers
Average Years Exp	12.2	12.3
Median Years Exp	10.0	10.0
Advanced Degree***	72	65
New to School	14	14
Out of State College*	16	20

Cells shown for advanced degree, new to school, and out-of-state college are percentages. Teacher comparisons were made with chi-squared tests of independence

* $p < .05$

** $p < .01$

*** $p < .001$

<u>Music Course</u>	National Average^	All MD LSS	Rural MD LSS	Suburban MD LSS	Urban MD LSS
Band	93	82	94	86	32
Chorus	89	80	93	82	26
Orchestra	36	61	65	76	3
Guitar	16	48	46	67	3
Piano	No Data	55	56	71	10

Access – Music Courses by LSS

Percentage of high schools offering each music course in the 2015-2016 school year

^ National Averages pulled from 2017 report *Status of Music Education in the US* (Elpus, 2017)

Predictor	Music Program				
	Chorus	Band	Orchestra	Guitar	Piano
Median Income	0.99	1.00	1.01	1.02**	1.00
(\$1000s)	(0.009)	(0.011)	(0.009)	(0.007)	(0.006)
Enrollment	1.38***	1.53***	1.55***	1.31***	1.27***
(100s)	(0.054)	(0.091)	(0.103)	(0.059)	(0.044)
Female Prop	1.39*	1.16	1.65	1.21	1.51*
(10%s)	(0.219)	(0.175)	(0.456)	(0.473)	(0.248)
White/Caucasian Prop	1.44***	1.57***	1.22	1.25	0.91
(10%s)	(0.136)	(0.156)	(0.126)	(0.149)	(0.069)
ELL Prop	0.77*	0.90	0.75	2.05*	0.68
(10%s)	(0.089)	(0.231)	(0.479)	(0.735)	(0.288)
Special Ed Prop	1.49	0.86	0.61	1.88	0.74
(10%s)	(0.584)	(0.349)	(0.490)	(1.242)	(0.374)
Baltimore City	0.25	1.28	0.03***	0.36	0.11***
	(0.188)	(0.853)	(0.037)	(0.313)	(0.056)

(ELL: English Language Learner)

Access – Factors associated with a school offering a music program

Coefficients are reported as exponentiated odds ratios, clustered standard errors in parentheses

* $p < .05$

** $p < .01$

*** $p < .001$

Equity of Uptake – Student Factors

Demographics	Chorus	Band	Orchestra
Female	2.91***	0.61***	2.40***
Race/Ethnicity (White as Reference Group)			
Asian	0.72***	1.04	3.01***
Black	1.07	0.77***	1.03
Hispanic	0.82*	0.67***	1.18
Other/Multiracial	1.04	1.00	1.41***

Multilevel Modeling
Coefficients are
reported as
exponentiated odds
ratios

* $p < .05$

** $p < .01$

*** $p < .001$

Equity of Uptake – Student Factors

Student-level Characteristics	Chorus	Band	Orchestra
Middle School Music Experience	3.28***	10.61***	14.78***
Advanced 8th grade Math	0.84	1.60**	2.14***
Advanced 8th grade English	1.30	1.47***	0.72***
English Language Learner	0.77	0.47***	0.27***
Special Education Services Eligibility	1.10	0.76***	0.54***
Free/Reduced Lunch Eligibility	1.09	0.58***	0.52***

Multilevel Modeling

Coefficients are reported as exponentiated odds ratios * $p < .05$ ** $p < .01$ *** $p < .001$

Equity of Uptake – School Factors

School-level Variables	Chorus	Band	Orchestra
Median Household Income (\$1000s)	1.00	0.99**	1.00
Student Enrollment (100s)	1.00	1.01	1.05*
Years of Music Teacher Experience	1.03***	1.02*	1.05***
Music Teacher Advanced Degree	1.73**	1.67**	3.30***

Multilevel Modeling

Coefficients are reported as exponentiated odds ratios * $p < .05$ ** $p < .01$ *** $p < .001$

Postsecondary Enrollment

Single regression analyses without covariates indicated ensemble music students were more likely to enroll in college than non-music students (OR = 2.53, $p < .001$)

After controlling for student-level demographics, socioeconomic status, academic achievement, and school factors, there was parity between music students and non-music students for postsecondary enrollment (OR = 1.02, $p > .05$). Results were consistent when examining music enrollment as a binary indicator (took HS music) and quantity (how many HS music courses)

There was no ‘postsecondary penalty’ for enrolling in ensemble music courses in lieu of additional honors/AP classes

Key Takeaways

Access to music education is not uniform across all MD public high schools.

MLM demonstrated inequity of uptake based on student, teacher, and school factors

Areas in which MD excels – additional opportunities for orchestra, guitar, and piano compared to national averages

Students that enroll in music courses are just as likely to enroll in a postsecondary institution

Need for further study for access at different school levels, nuance in student/parent decision making for uptake, and pathways to music teaching

Limitations

1. I examined only a single cohort – results may or may not be indicative of broader trends over time.
2. While highlighting correlates of uptake in music education courses can identify potential barriers, these analyses cannot capture the nuance of student and family decision making regarding enrollment.
3. The pathway from music student to music teacher is not necessarily a linear path. The relationship between music teacher demographics, music student demographics, and potential influences on music teacher career pathways need further examination.
4. I examined postsecondary enrollment as a binary (did or did not enroll upon graduation), but did not examine degree choice, institutional profiles, or persistence through postsecondary.

Discussion and Questions?

Thank
you!

This research was supported by the Maryland Longitudinal Data System (MLDS) Center. We appreciate the feedback received from the MLDS Center and its stakeholder partners. All opinions are the authors' and do not represent the opinion of the MLDS Center or its partner agencies.

**Contact
Information**

David Miller
dmille20@umd.edu