2023-24 32N OST References and Methodology

County-level Students Eligible for Free/Reduce Priced Lunch: Data is from the Michigan League for Public Policy (2024) for 2023.

County-level OST Providers: Data is from the Michigan Afterschool Partnership's (2023) Number of providers per county map.

County-level K12 Population: Data is from the Michigan League for Public Policy (2023a, 2023b) for 2022. To find the population of youth ages from five to 17, data from Michigan League for Public Policy (2023b) was subtracted from 2023a. Because of the variation of the data, it cannot be categorized by standard deviation. Instead, it is categorized as "Very Low" to "Very High" through five equal percentiles based on the sample size. Counties without any youth from the ages of five to 17 are excluded and marked as "No Youth."

Sample Size	83	Minimum	. 249	Maximum	279150
Mean	17582.8674		**Standard Deviation**	39558.2996	
Skewness Statistic	4.789		**Skewness Std. Error**	0.264	
Kurtosis Statistic	26.384		**Kurtosis Std. Error**	0.523	

Label	Minimum	Maximum
Very Low	249	2177
Low	2178	4088
Moderate	4089	7757
High	7758	21130
Very High	21131	279150

County-level Level of Students Eligible for Free/Reduce-Priced Lunch: Data is from the Michigan League for Public Policy (2024) for 2023. The following labels were given to counties based on their percentage of K12 students receiving free or reduced-price lunch and its relation to the mean and standard deviation. Counties without any youth from the ages of five to 17 are excluded and marked as "No Youth."

Sample Size	82	Minimum	.2440	Maximum	.9790
Mean	.574817		**Standard Deviation**	.1122796	
Skewness Statistic	-.080		**Skewness Std. Error**	.266	
Kurtosis Statistic	1.668		**Kurtosis Std. Error**	.526	

Label	Description	Minimum	Maximum
Very Low	0 to -1 Std. Deviation from Mean	.2440	0.46254
Low	-0.5 to -1 Std. Deviation from Mean	0.46255	0.51868
Moderate	-0.5 to 0.5 Std. Deviation from Mean	0.51869	0.63096
High	0.5 to 1.0 Std. Deviation from Mean	0.63097	0.68710
Very High	1.0 Std. Deviation from Mean to 1	0.68710	.9790

County-level Ratio of OST Providers to K12 Youth: K12 population data is from the Michigan League for Public Policy (2023a, 2023b) for 2022. To find the population of youth ages from five to 17, data from Michigan League for Public Policy (2023b) was subtracted from 2023a. Additionally, OST provider counts per county are from the Michigan League for Public Policy (2023a, 2023b) for 2023. The following labels were given to counties based on the number of providers divided by their population of K12 students and its relation to the mean and standard deviation. Counties without any youth from the ages of five to 17 are excluded and marked as "No Youth."

Sample Size	83		Minimum	. 0.0000000	Maximum		0.0110865
Mean		0.003634607	**Standard Deviation**		0.0020930440		
Skewness Statistic		1.632	**Skewness Std. Error**		0.264		
Kurtosis Statistic		3.737	**Kurtosis Std. Error**		0.523		

Label	Description	Minimum	Maximum
Very Low	0 to -1 Std. Deviation from Mean	.00	0.00154
Low	-0.5 to -1 Std. Deviation from Mean	0.00155	0.00259
Moderate	-0.5 to 0.5 Std. Deviation from Mean	0.00260	0.00468
High	0.5 to 1.0 Std. Deviation from Mean	0.00469	0.00573
Very High	1.0 Std. Deviation from Mean to 1	0.00574	0.01109

ZIP Code-Level Child Opportunity Level: Data is from DiversityDataKids.org's Child Opportunity Index 3.0 and its Overall Index ZIP Code score normed for Michigan. The year of observation is 2021.

ZIP Code-Level Geographic Type: Data is from the Education Demographic and Geographic Estimates Program (EDGE): Locale Boundaries for Michigan in 2021.

ZIP Code-Level K12 Majority Youth Racial Composition: Majority Youth Racial Composition lists what, if any, racial/ethnic identity makes up 51% or greater of a ZIP code's youth population after dividing the racial population by the total. ZIP codes without any youth between the ages of five and 17 are excluded and marked as "No Youth." Using Manson et al. (2023), youth population ages five to 17 was calculated by summing NHGIS code fields in racial/ethnic categories.

- White (including Hispanic): AQYHE003, AQYHE004, AQYHE005, AQYHE006, AQYHE018, AQYHE019, AQYHE020, and AQYHE021.
- Black/African American: AQYIE004, AQYIE005, AQYIE006, AQYIE019, AQYIE020, and AQYIE021.
- AIAN: AQYJE004, AQYJE005, AQYJE006, AQYJE019, AQYJE020, and AQYJE021.
- Asian: AQYKE004, AQYKE005, AQYKE006, AQYKE019, AQYKE020, and AQYKE021.
- NHPI: AQYLE004, AQYLE005, AQYLE006, AQYLE019, AQYLE020, and AQYLE021.
- Some Other Race: AQYME004, AQYME005, AQYME006, AQYME019, AQYME020, and AQYME021.
- Two or More Races: AQYNE004, AQYNE005, AQYNE006, AQYNE019, AQYNE020, and AQYNE021.
- White (not Hispanic): AQYOE004, AQYOE005, AQYOE006, AQYOE019, AQYOE020, and AQYOE021.
- Hispanic: (AQYHE004, AQYHE005, AQYHE006, AQYHE019, AQYHE020, and AQYHE021) – (AQYOE004, AQYOE005, AQYOE006, AQYOE019, AQYOE020, AQYOE021).

ZIP Code-Level K12 Youth Diversity Level: Once the population from five to 17 years old is broken down into the categories of Hispanic alone, White alone, Black alone, American Indian or Alaska Native alone, Native Hawaiian or Pacific Islander alone, Asian alone, some other race alone, or identifying as two or more races, percentages of each youth population can be determined. The U.S. Census Bureau (2023) provides the following formula to determine the likelihood that two random children will have a different racial/ethnic identity: $1 - [(\% \text{ of Population who are Hispanic alone}^2) + (\% \text{ of Population who are White alone}^2) + (\% \text{ of Population Black}^2) + (\% \text{ of Population who are American Indian and Alaska Native alone}^2) + (\% \text{ of Population who are Asian alone}^2) + (\% \text{ of Population who are NHPI alone}^2) + (\% \text{ of Population who are Some Other Race alone}^2) + (\% \text{ of Population who are Two or More Races}^2)]$. This calculation is a ZIP code's Youth Diversity Score. ZIP codes without any youth from the ages of five to 17 are excluded and marked as "No Youth." To determine Youth Diversity Level, the mean and standard deviation is calculated for Youth Diversity Score of all Michigan ZIP codes WITH YOUTH. The following labels were given to ZIP Codes based on their Youth Diversity Score and its relation to the mean and standard deviation. Using Manson et al. (2023), youth population ages five to 17 was calculated by summing NHGIS code fields in racial/ethnic categories.

- White (including Hispanic): AQYHE003, AQYHE004, AQYHE005, AQYHE006, AQYHE018, AQYHE019, AQYHE020, and AQYHE021.
- Black/African American: AQYIE004, AQYIE005, AQYIE006, AQYIE019, AQYIE020, and AQYIE021.
- AIAN: AQYJE004, AQYJE005, AQYJE006, AQYJE019, AQYJE020, and AQYJE021.
- Asian: AQYKE004, AQYKE005, AQYKE006, AQYKE019, AQYKE020, and AQYKE021.
- NHPI: AQYLE004, AQYLE005, AQYLE006, AQYLE019, AQYLE020, and AQYLE021.
- Some Other Race: AQYME004, AQYME005, AQYME006, AQYME019, AQYME020, and AQYME021.
- Two or More Races: AQYNE004, AQYNE005, AQYNE006, AQYNE019, AQYNE020, and AQYNE021.
- White (not Hispanic): AQYOE004, AQYOE005, AQYOE006, AQYOE019, AQYOE020, and AQYOE021.
- Hispanic: (AQYHE004, AQYHE005, AQYHE006, AQYHE019, AQYHE020, and AQYHE021) – (AQYOE004, AQYOE005, AQYOE006, AQYOE019, AQYOE020, AQYOE021).

Sample Size	964		Minimum		.00	Maximum		.80
Mean		.2843		**Standard Deviation**		.19697		
Skewness Statistic		.511		**Skewness Std. Error**		.079		
Kurtosis Statistic		-.571		**Kurtosis Std. Error**		.157		

Label	Description	Minimum	Maximum
Very Low	0 to -1 Std. Deviation from Mean	.00	.0874
Low	-0.5 to -1 Std. Deviation from Mean	.0875	.1859
Moderate	-0.5 to 0.5 Std. Deviation from Mean	.1860	.3828
High	0.5 to 1.0 Std. Deviation from Mean	.3829	.4813
Very High	1.0 Std. Deviation from Mean to 1	.4814	.80

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