The Status of High School Girls' Sport Participation:

A Report Compiled for the State of Michigan Women in Sports Task Force

Submitted by:

Jill Kochanek, MS & Daniel Gould, PhD
Institute for the Study of Youth Sports
Michigan State University
East Lansing, Michigan
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Executive Report: The Status of High School Girls' Sport Participation in Michigan

Part 1: Introduction and Key Findings

Introduction

The Michigan Task Force on Women in Sports was enacted by order of Governor Gretchen Whitmer to develop policies, programs, and recommended investments to support and promote opportunities for girls and women in sports in Michigan. This initiative also aims to serve as a potential model for other states and the federal government to follow suit. In the current fact finding and project phase, the Task Force wants to understand the current status of sport participation for girls in Michigan. In this report, researchers from the Institute for the Study of Youth Sports (ISYS) used data provided by the Michigan High School Athletic Association (MHSAA) from the 2017-2018 school year and supplemental information from the National Center for Educational Statistics (NCES) database to examine girls high school sport participation in Michigan. Data analyses shed light on how, if at all, girls' scholastic sport participation varied relative to several contextual factors: school class size, socioeconomic status, and geographic setting. In order to assess girls' sport participation, researchers primarily examined the number of female sport participants (not individual athletes) relative to female student enrollment. We also considered the average number of girls per sport team, total girl sport participants, and number of girls' teams. Key findings are highlighted below along with possible future considerations and a brief description of the research approach. We outline additional background on data items and analyses in the appendix.

Key Findings

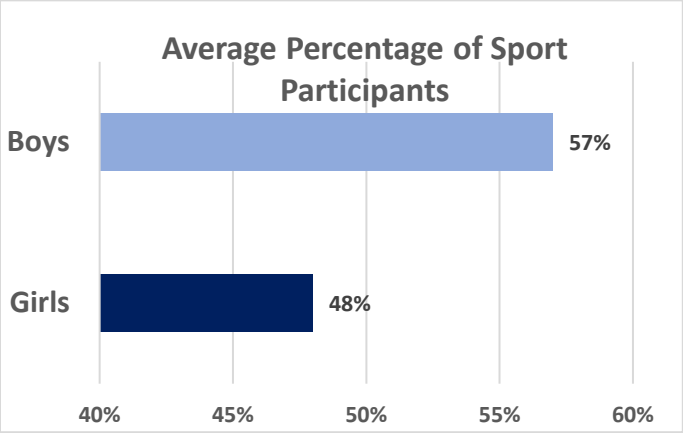
Overview

School sport participation data from **523 senior high schools** in Michigan was used in this analysis. The data included the name of the school, specific boys' and girls' sports offered, and the number of participants in each boys and girls sport. Using other sources, researchers identified the total number of males and females in each school, the school class (i.e., Class A schools with 881 students or more, Class B schools with 406-880 students, Class C schools with 204-405 students, and Class D schools with less than 203 students), 4 levels of socioeconomic status estimate (SES) ranging from low to high in quarters, and geographic locations (i.e., city, town, suburban, and rural). Overall, our findings suggest that **where a girl lives and the SES of her school have much to do with the likelihood that she will participate in high school sports**. **Girls living in suburban areas and cities and who attend schools with more students who qualify for a higher percentage of free and reduced lunch (low SES) are <u>less</u> likely to participate in high school sports. In contrast, girls from town and rural areas and who attend higher SES schools are more likely to participate.**

Descriptive Trends

General Comparisons of Girls' and Boys' Sport Participation

Looking across all the data, several data points can offer *general* comparison of girls' and boys' sport participation:

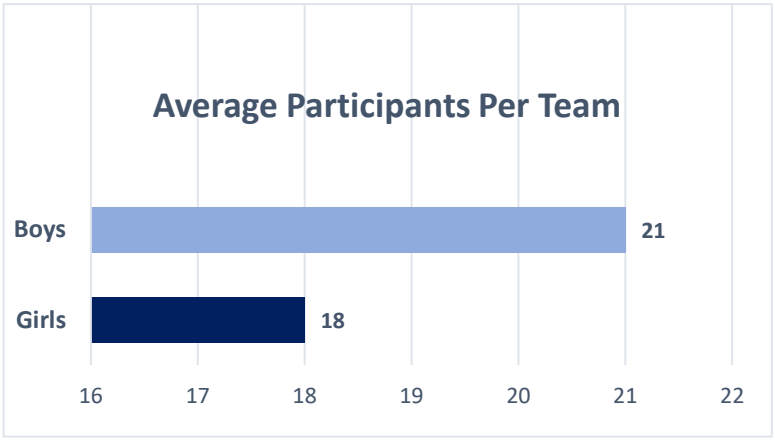


- Average percentage of female athletes relative to female students was **48%,** ranging from 4%-95%.
- Average percentage of male athletes relative to male students was **57%,** ranging from 5%-99%.

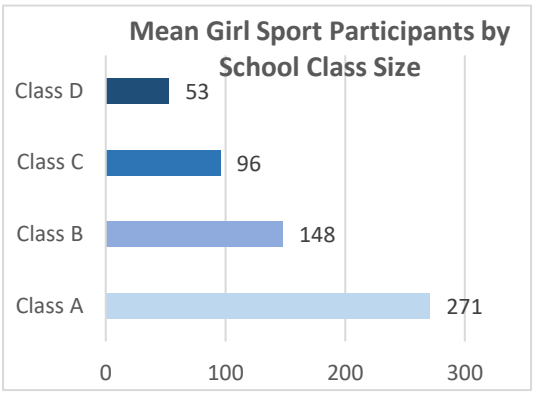
- Mean number of female athletes was approximately **169**, ranging from 7 to 507.
- Mean number of male athletes was approximately **216,** ranging from 5 to 801.

- Mean number of girls' sports offered at a single high school was approximately **9**, ranging from 1 to 21.
- Mean number of boys' sports offered at a single high school was also approximately **9**, but ranged from 2 to 18.

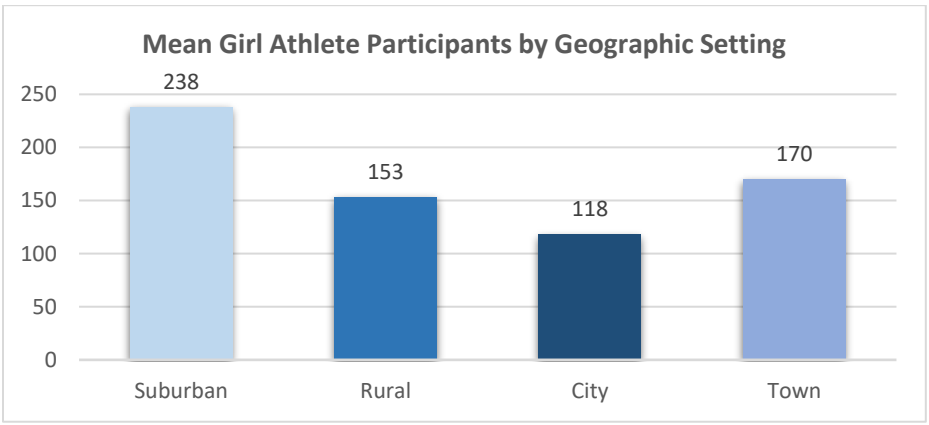
- Mean average number of girls per sports team was **18**, ranging from 1 to 39.
- Mean average number of boys per sports team was **21**, ranging from 2 to 57.



Total Girl Sport Participants

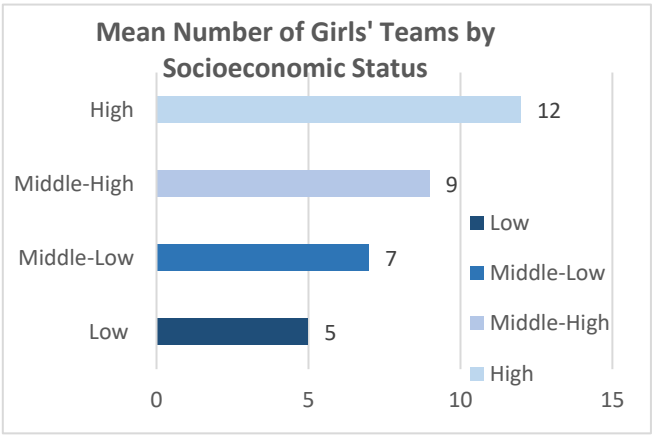


- Number of girl athlete participants increased with school class size
- Number of girl athlete participants increased with socioeconomic status (ranging from 297 to 69 participants for highest to lowest SES quartile respectively)
- Suburban schools had the largest number of girl athlete participants (238), followed by town (170), city (118), and rural (153) schools



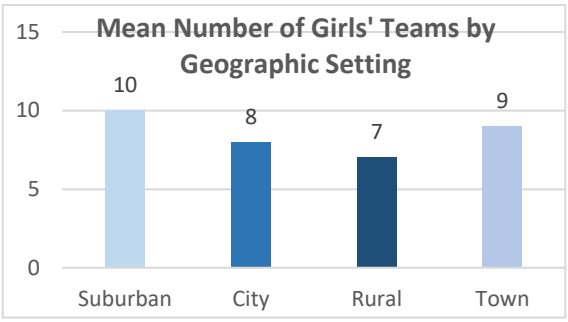
Number of Girls' Teams

- Number of girls' teams increased with school class size
- Number of girls' teams relative to boys' teams was similar across specific categories within all groups: school class size, socioeconomic status, and geographic setting.



•Number of girls' teams declined with socioeconomic status (ranging from 12 to 5 teams for highest to lowest SES quarter respectively)

- Suburban schools had the largest mean number of girls' teams (10) followed by town (9), city (8), and rural (7) schools

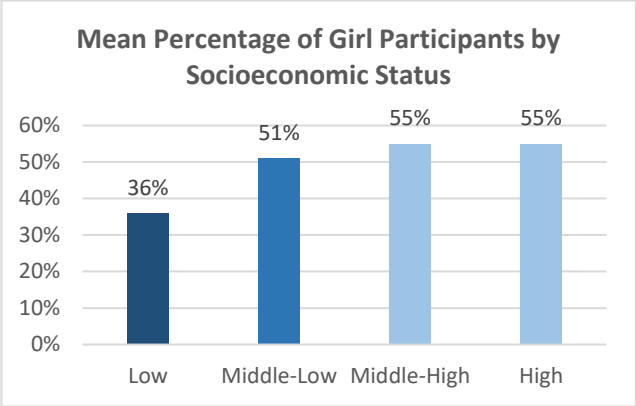


Average Girls Per Sport Team

- Average number of girls per sport team declined with socioeconomic status ranging from 25 to 5 participants for highest to lowest SES quarter respectively
- Suburban schools had a higher average number of girls per sport team (21) followed by town (19), city (17), and rural (15) schools
- Average number of girl per sport team increased with school class size

Percentage of Girl Participants (relative to female student enrollment in each school)

- Percentage of girl participants increased with socioeconomic status (SES) as inferred via the number of students in a school qualifying for free and reduced lunch.
  - High and middle-high SES schools both had a 55% participation rate, followed by middle-low SES schools (51%) and low SES schools (36%).



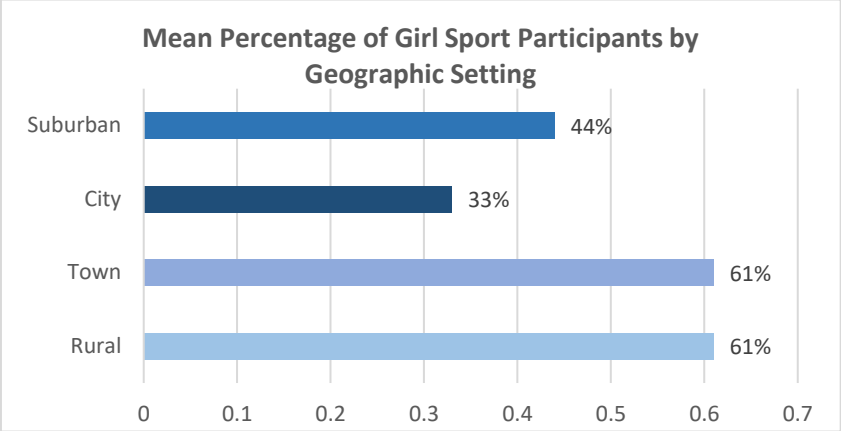
- Schools located in towns had the largest percentage of girl participants (65%) followed by rural (61%), suburban (44%), and city (33%) schools.
- Class D schools had the highest percentage of girl participants followed by class C, class B, and class A schools.
  - *Note:* Disparities may be due to multi-sport participation and duplicate counts

Group Differences for Percentage of Girl Sport Participants

- Geographic region contributed most to differences in the percentage of girl sports participants
  - Town and rural schools did not differ significantly from one another with 65% and 61% of girl sport participants respectively
  - Cities and suburban area schools differed significantly from all other groups at 33% and 44% of girl sport participants respectively.
- Socioeconomic status also contributed to differences in the percentage of girl sport participants

- Only **low SES schools** significantly differed from other SES groups with a participation rate of 36% (relative to high and middle-high SES schools, which both had a 55% and middle-low SES schools which had 51% rates).

- Geographic region contributed to differences in the percentage of girl sport participants when also accounting for varying socioeconomic status along with socioeconomic status and school class category.



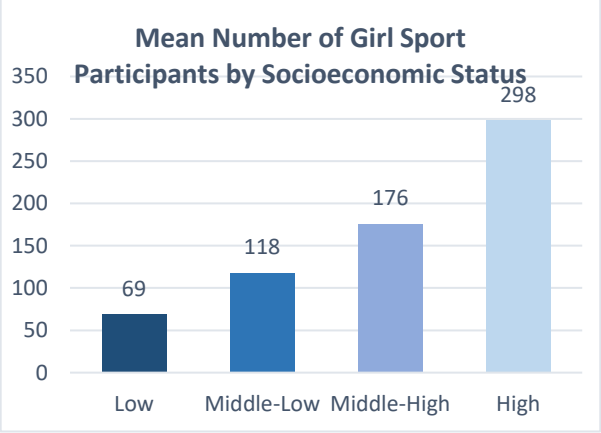
- Class had a significant, but slight, contribution to differences in the percentage of girl sport participants
  - Class B and C schools did not significantly differ (50% and 57% respectively)
  - Class A schools (at 41%) significantly different from B, C, and D schools
  - Class D schools significantly differed from other schools (73%)

Group Differences for Number of Girl Sport Participants

- Total girl sport participant varied by geographic setting
  - Only rural (118 participants) and suburban (238 participants) count significantly differed
  - City and town did not differ significantly in number of girl sport participants

- Number of girl sport participants varied significantly by socioeconomic status
  - All SES groups significantly differed ranging from 68 to 298 girl sport participants from low to high SES respectively

- Number of girl sport participants differed significantly by school class size ranging from 53 to 271 from D to A class size.



Exemplar Schools and Schools in Need

Exemplar Schools

- **Class C schools** ranked highest for percentage of girl sport participants were all rural communities with 95%. However, this figure is most likely inflated due to multi-sport participants being duplicate counts.
- **Class B and A schools** ranked highest for percentage of girl sport participants were in the high or middle-high SES categories.
- Among **city schools** ranked highest for percentage of girl sport participants ranged from 90% to 68%. The top ranked school was middle-high in SES with other notable schools categorized as low-middle and low in SES.
- Only one school ranked among those highest for percentage of girl sport participants was located in a city. All others were located in towns or rural areas.
- **Suburban schools** ranked highest for percentage of girl sport participants were also high or middle-high in SES
- **Town schools** ranked highest for percentage of girl sport participants were all middle-high in SES.
- **High SES schools** ranked highest for percentage of girl sport participants were located in rural areas.

Schools in Need

- **Low SES schools** ranked lowest for percentage of girl sport participants were all located in city geographic settings and mostly Class A in size. These schools range from 5-13% of girl sport participants relative to the mean of 36% among low SES schools and compared to the mean of approximately 55% for middle SES schools and high SES schools.
- **Middle-low SES schools** ranked among the lowest for percentage of girl sport participants were mostly in city or rural geographic settings, except one suburban school that was suburban. Schools ranged from 11 to 13% of girl sport participants.
- **Middle-high SES schools** ranked among the lowest for percentage of girl sport participants are mostly in rural or city geographic settings.
- **High SES schools** ranked lowest for percentage of girl sport participants are largely suburban and class A in school size and range from 28-32%.

Part 2: Possible Future Considerations

1. Conduct observations and individual and/or group interviews with key stakeholders (e.g., athletic directors, coaches, administrators, and community members) of "exemplar" schools with highest percentages of girls' sport participation to better understand what factors are associated with maximizing girls involvement.

2. Conduct observations and individual and/or group interviews with key stakeholders (e.g., athletic directors, coaches, administrators, and community members) of schools in need, with lowest percentages of girls' sport participation to better understand factors inhibiting participation and barriers to involvement.

3. Engage in more targeted, in-depth research efforts to better understand the needs of under-resourced high school communities situated in rural relative to city geographic settings.

4. Engage in context-specific, culturally-sensitive research efforts to better understand potential social and/or cultural considerations (e.g., cultural values and religious practices) that need to be made in order to support girls' sport participation within specific high school communities in need.

5. Explore multi-sport and sport specialization trends across schools of varying geographic settings and class sizes to glean information on whether the smaller percentage of girls participating in larger, suburban areas is due to sport specialization and/or competing activities of interest.

6. Consider targeting a campaign to increase participation once the specific reasons for the lower girls' participation in cities and suburban areas and in lower SES schools are examined.

Part 3: Research Approach

This report summarizes results from an analysis of high school sport participation among girls in Michigan. Data on participation across the state was provided by the Michigan High School Athletic Association (MHSAA) from the 2017-2018 school year. It is important to remember that data represent participation in each sport and not a count of each individual athlete: multi-sport athletes are duplicated and counted for each sport played. Hence, data may overestimate total participation.

To offer a richer analysis of the status of high school girls' sport participation in Michigan, researchers used the National Center for Educational Statistics (NCES) database to supplement the data set that the MHSAA generously provided. The NCES is the primary federal entity for collecting and analyzing data related to education. This database provides information on public and private schools and districts in the United States. Researchers searched each school individually to obtain information on total student enrollment, female student enrollment, geographic setting, and socioeconomic status. Socioeconomic status (SES) was estimated based on the percentage of students receiving free or reduced lunch, which is a common proxy measure for SES in social scientific research.

Appendix: Additional Information on Data Items and Analyses

Description of Data Items

Geographic Setting Criteria

Geographic setting was determined using the NCES locale framework. This framework is composed of four basic types (i.e., city, suburban, town, and rural). It relies on standard urban and rural definitions developed by the U.S. Census Bureau. The NCES locales can be fully collapsed into a basic urban–rural dichotomy, or expanded into a more detailed collection of 12 distinct categories with three subtypes for each basic geographic main type.

- *City* refers to a territory inside an Urbanized Area and inside a Principal City with population of 250,000 or more (large), less than 250,000 and greater than or equal to 100,000 (mid-size) with population less than 100,000 (small).
- *Suburban* refers to territory outside a Principal City and inside an Urbanized Area with population of 250,000 or more (large), 250,000 and greater than or equal to 100,000 (mid-size), or with population less than 100,000.
- *Town* refers to territory inside an Urban Cluster that is less than or equal to 10 miles (fringe), more than 10 miles and less than or equal to 35 miles (distant), or more than 35 miles (remote) from an Urbanized Area.
- *Rural* refers to census-defined rural territory that is less than or equal to 5 miles from an Urbanized Area (fringe), more than 5 miles but less than or equal to 25 miles from an Urbanized Area (distant), more than 25 miles from an Urbanized Area and also more than 10 miles (remote) from an Urban Cluster.

Class Criteria

Procedures for determining classification of high schools were taken from the 2017-2018 MHSAA guidelines. The MHSAA classifies schools according to one of four classes based on school enrollment size: A, B, C, and D.

- Class A schools regard those 881 and above;
- Class B schools enroll between 406-880 students;
- Class C schools enroll 204-405 students;
- Class D schools enroll 203 and below

Socioeconomic Status (SES)

Socioeconomic status (SES) was estimated based on the percentage of students receiving free or reduced lunch, a common proxy measure for SES in social scientific research. Socioeconomic status for a given high school was rounded to the nearest percent. Schools were categorized into quartiles for the purposes of data analyses: high SES, middle-high SES, middle-low SES, and low SES categories. Roughly 25 percent of the data was less than the first quartile, 25 percent was between the first and second quartile, 25 percent was between the second and third quartile, and 25 percent was greater than the third quartile.

Data Omitted

In order to conduct analyses that were both accurate and practically meaningful, we had to perform several steps to organize and "clean" the data. Researchers had to omit specific data points given a lack of consistency in schools recorded between the MHSAA and NCES databases. Below is a list of cases when we omitted various data points:

- Several schools with participation statistics within the MHSAA dataset were not listed in the NCES database.
- Several schools were K-12 and did not have data on high school student enrollment.
- In some cases, school data included junior high school statistics (e.g., 6^{th}-12^{th} grades).
- Schools that showed a percentage (of girl sport participants) greater than 100. *Note:* Data on the number of girl sport participants represents a count of participation not individual athlete. Data may overestimate the percentage of girls actually participating in sport relative to the girls in the student body. This is reflected in the percentage of girl sport participants in some communities small in class size.

Data Analysis

Descriptive statistics along with between group comparisons (i.e., three-way analysis of variance) were calculated to explore how, if at all, girls' sport participation varies relative to school class size, geographic setting, and socioeconomic status. Girls' sport participation was defined as the number of girl sport participants out of the total number of girl high school students enrolled. We also considered other measures of girls' sport participation including average number of girls per team, total number of girl sport participants, and number of girls' teams in our descriptive analyses. As a last step we identified exemplar schools and schools in need, those with significant opportunity to improve girls' sport participation, based on descriptive statistics.

Data Considerations and Limitations

- When group sample sizes differ greatly, analyses of variation between groups is less robust and can increase the likelihood of statistic error (e.g., a false positive). That is, certain levels of groups (e.g., class A relative to D) may be more accurate than at other levels. Given the differences in sample size across the selected groups analyzed, we note that our findings should be interpreted with some caution. We have accounted for these limitations, however, by using a more stringent test to indicate significant differences between groups.

- Along with planned group comparisons, we examined all possible differences in girls' sport participation. Doing a large number of tests to look at all possible comparisons can increase error. In order to adjust for this, we have used a more stringent threshold to indicate significant differences between groups.