

Unlevel Playing Fields

Disparities in Access and Investment in Pennsylvania High School Athletics

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July 2026

EXECUTIVE SUMMARY

Access to high school athletics in Pennsylvania varies substantially by district. For many students, particularly those in large, urban districts, opportunities to participate in school-based sports remain limited or out of reach. This has meaningful implications as sports participation is linked to positive academic, social, emotional, and health outcomes. As a result, the well-documented benefits of athletic participation are not equitably distributed across the state.

Drawing on newly analyzed statewide data from the Pennsylvania Department of Education's Interscholastic Athletic Opportunities Disclosure Form, this brief provides a comprehensive examination of access to and investment in high school athletics across Pennsylvania.

Although these data files have been publicly available for more than a decade, they have rarely been used to systematically assess patterns of opportunity, participation, and resource allocation and inform efforts to improve access to school sports across the state.

A few key findings emerged:

- **Access to athletic opportunities varies widely across districts.** Average sports participation rates for districts range from as low as 5% to more than 60% of students per athletic season, with similarly large differences in the number and range of sports teams available to students across districts.
- **Disparities in participation are linked to certain district characteristics.** Lower participation rates are concentrated in larger, urban districts serving higher proportions of students of color.
- **Investment in athletics is highly uneven and associated with access.** District spending on athletics ranges from \$11 to nearly \$7,000 per student. Districts with higher levels of investment tend to offer more opportunities and report higher rates of student participation.
- **Gender disparities persist across districts.** Boys are participating at higher rates than girls in school sports, a pattern that holds across districts with both high and low overall participation.

Taken together, these findings indicate that **access to high school athletics in Pennsylvania is shaped less by student interest than by structural factors**, including district resources, demographic composition, and capacity to provide and sustain athletic programming. At the same time, limitations in the available data—such as inconsistent reporting, the absence of publicly available student-level demographic information, and incomplete financial data—suggest that the extent of these inequities may be understated. Further understanding the drivers of these disparities will require more complete and consistent data than are currently available.

This brief highlights key patterns in athletic access and investment, identifies critical gaps in available data, and underscores the need for state and local leaders to both strengthen data systems and take steps to ensure more equitable access to high-quality athletic opportunities for all students. The brief concludes with considerations for district decision makers that can serve as a starting point for action and provides areas for future research learning.

Introduction

The benefits of youth sports have been widely documented, from the physical benefits of being active to the social, emotional, and cognitive benefits of being engaged in structured activity. Participation in youth sports has been linked to higher levels of academic achievement; improved mental health outcomes; and enhanced life skills such as resilience, self-regulation, and conflict resolution.¹ Additionally, there is evidence that the benefits associated with youth sports participation can be sustained over time, supporting improved life outcomes well into adulthood.²

Unfortunately, **access to youth sports is not equitably distributed**, as ballooning costs preclude many young people from participating in organized, pay-to-play sports teams.³ And while one might expect school-based sports to be more accessible as compared to club-based sports, there is an increasing gap in national school-based sports participation by socioeconomic status, as well as fewer sports opportunities at schools where the majority of students are students of color.⁴ Though narrowing, a gender gap persists as well, with girls—and particularly girls of color—participating in school sports at lower rates.⁵ These gaps are concerning, especially given that research has shown there are enhanced benefits to participating in sports based in schools, both for individual students and for school communities at large.⁶

To better understand the landscape of school-based sports in Pennsylvania, Research for Action's (RFA) Pennsylvania Clearinghouse for Education Research project (PACER) prepared this brief reviewing state data on high school sports participation in the state's public schools. We aim to provide a snapshot of access issues in high school athletics to inform state policymakers, district leaders, and broader school communities and encourage leaders to improve access to high-quality sports opportunities in the state of Pennsylvania.

Available Data and Limitations

Pennsylvania is one of the few states that require schools to collect athletics data at the secondary (grades 7-12) level. The collected data is shared publicly through the Pennsylvania Department of Education's (PDE) Interscholastic Athletic Opportunities Disclosure Form.⁷ RFA's analysis builds upon previous reporting of sports participation by offering a comprehensive, statewide analysis using the most recent year of available data, 2024-25.⁸

While data reported in the Interscholastic Athletic Opportunities Disclosure Form provides critical insight into student access to school-based sports statewide, there are a few important limitations of the data readers should consider:

- Data is collected at the team level per athletic season rather than at the student level. This allowed us to determine the percentage of students who participated in sports each season (i.e., fall, winter, spring), but not the percentage of students who played at least one sport at any point during the school year. It also means that students could be counted more than once per season if they participated in more than one sport at a time.
- Our analysis is limited to students in 9th-12th grade because not all Local Education Agencies (LEAs) reported on 7th and 8th grade sports participation.
- While data on student race/ethnicity is collected through the Interscholastic Athletic Opportunities Disclosure Form, that data is not included in the publicly available datasets. As a result, any findings related to race/ethnicity are based on district-level demographics rather than student-level participation data.
- If schools have students participating in sports at other schools, the school hosting that sport is expected to count those students in their reporting. This means that students at schools with limited or no athletics may have opportunities to participate in sports at other schools and would be counted in the hosting school's reporting.
- Facilities spending is not complete. It can be difficult for LEAs to parse out facilities spending on athletics, and so many reported zero facilities dollars. We examined expenditures data both with and without this category.
- No data is collected on funds generated from sports, such as activity fees or pay-to-play fees. This means that additional funding streams for some LEAs are not reflected.

Findings

High School Sports Opportunity as Measured by Participation Levels & Sport Team Offerings

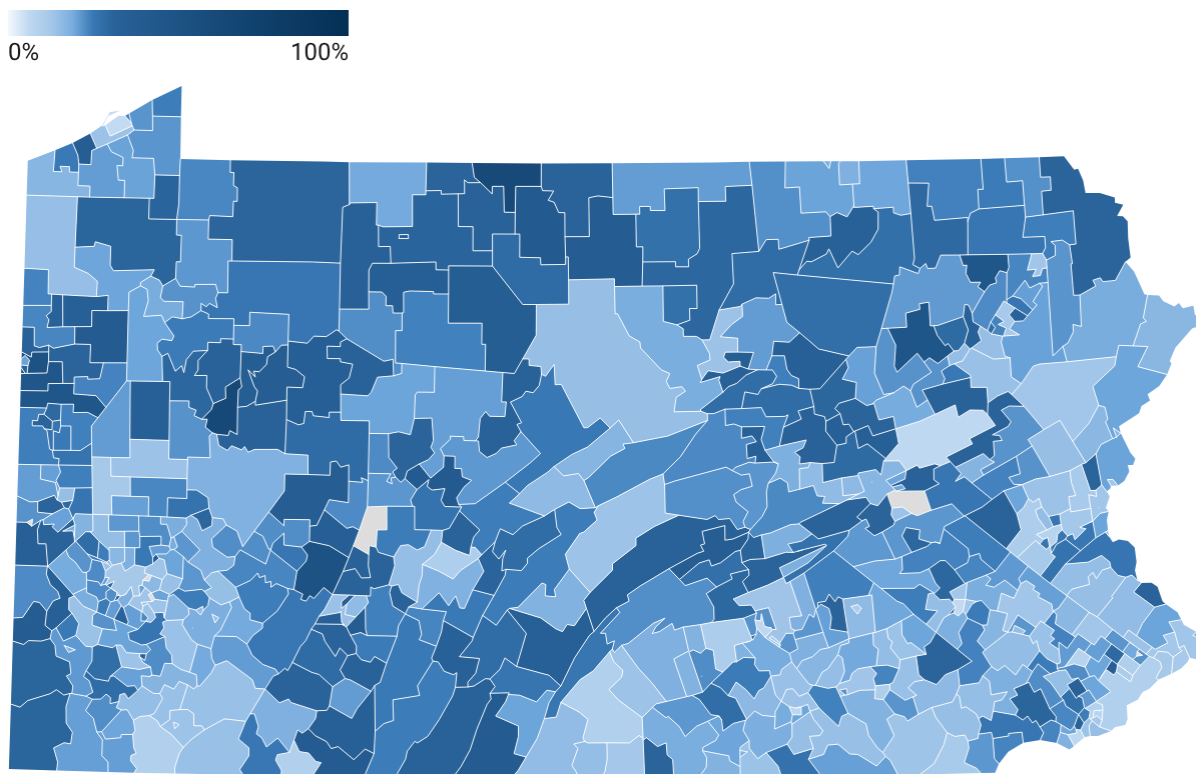
This section examines student access to high school athletic opportunities by focusing on sports participation rates and the availability of sports teams across Pennsylvania districts.⁹ Together, these findings show that student access to high school athletics is highly variable and dependent on which school district students are enrolled in.

Access to high school athletics varies widely across school districts

For the Pennsylvania school districts that provided athletic opportunities in the 2024-25 school year, average participation rates each athletic season range from 5% to 62%.¹⁰ As shown in Figure 1, while there are some regions of the state that tend to have higher or lower levels of participation, **participation rates overall vary across the state, sometimes starkly between neighboring districts.**

The average **sports participation rate** for each district was calculated by dividing the average number of students participating in sports per athletic season by the total number of students enrolled at the high school level.

Figure 1. High School Sports Participation Rates per Athletic Season in Pennsylvania Districts, 2024-25



Source: PDE Interscholastic Athletic Opportunities Disclosure Form • Created with Datawrapper



A detailed, **interactive map** with each district's school sports participation rate can be viewed on [RFA's website](#).

Approach to Comparing Districts by Athletic Participation Rates. To examine characteristics of districts with varying high school sports participation rates, we divided the 494 Pennsylvania school districts that provided high school athletic opportunities in the 2024-25 school year into five equal-size groups (quintiles) based on their average seasonal participation rates:

Table 5. Pennsylvania High School Athletic Participation Groupings

School District Groupings	Average Sports Participation Rate	Range	Total Enrollment by Grouping
Very Low Participation (99 districts)	12.1%	5.0% - 17.0%	211,833
Low Participation (99 districts)	18.7%	17.1% - 20.3%	100,479
Moderate Participation (99 districts)	21.7%	20.3% - 23.4%	73,394
High Participation (99 districts)	25.4%	23.4% - 28.1%	51,670
Very High Participation (98 districts)	32.5%	28.2% - 61.6%	39,682
State Average	18.1%		

Sources: PDE Interscholastic Athletic Opportunities Disclosure Form and Future Ready Data.

While the number of districts per grouping is equal, district enrollment sizes vary substantially, with larger districts—most significantly the School District of Philadelphia with over 35,000 high school students—concentrated in the *Very Low* participation grouping. Enrollment in the 99 *Very Low* participation districts together accounts for 44% of high school students throughout the state, signaling that **almost half of Pennsylvania high school students are enrolled in districts where the likelihood of participating in a school athletics team is relatively low**. To account for these enrollment size differences, the rates for subsequent indicators are weighted by student enrollment.

There are large gaps in the range of athletic opportunities offered

There are substantial differences between districts in the number of sports teams offered to students, both in terms of sports type (e.g., basketball, football, soccer) and level (e.g., freshman, junior varsity, varsity).¹¹ For example, in *Very Low* participation districts, high schools offer an average of 20 different sports teams for every 1,000 students, much fewer than the 58 options offered on average per 1,000 students in *Very High* participation districts. **Districts with fewer team sport options throughout the year tend to have lower rates of student participation.**

There is also wide variation in the number of competitions played by teams throughout the school year, ranging from zero to 42, although differences in number of competitions were not related to the sports participation rate. More information on sports teams and competitions by participation groupings is included in the Appendix on page 14.

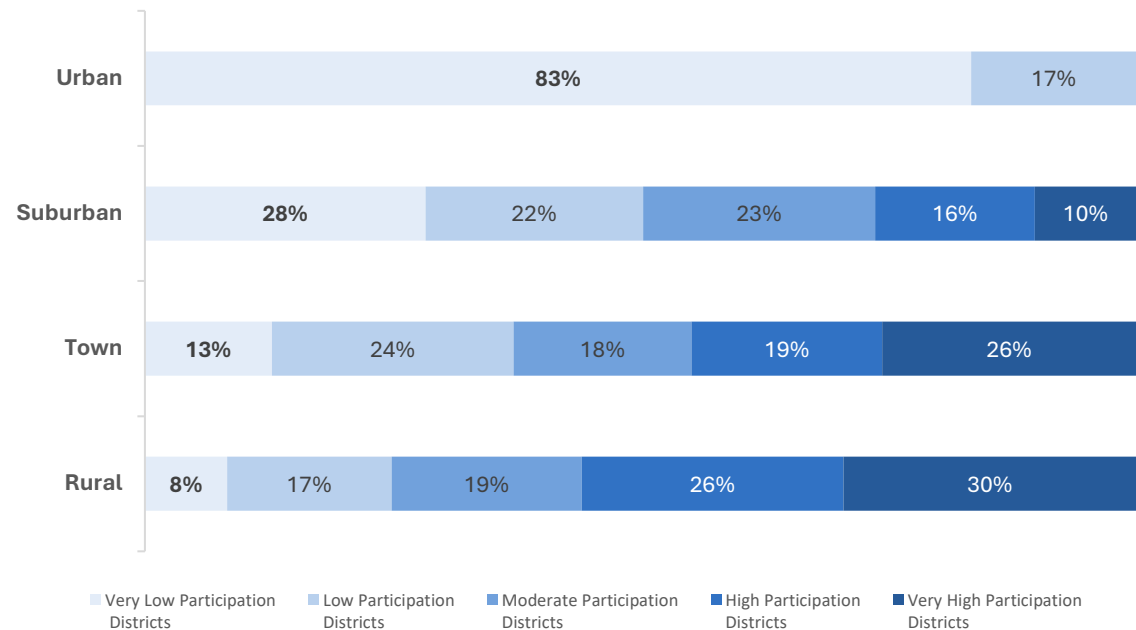
Characteristics of Districts with Similar Sports Participation Rates

When examining the characteristics of districts based on levels of sports participation, clear patterns emerge: high school athletic participation tends to be lowest in urban districts that operate large high schools, serve higher proportions of students of color, and face large funding gaps.

Urban districts are considerably less likely to provide high levels of access to sports than their counterparts

Over 80 percent of urban districts fall into the **Very Low participation grouping**, and none are classified as *Very High*, *High*, or even *Moderate* (as shown in Figure 2). While there are only 18 urban districts represented in the data, together they enroll about 20% of high school students in Pennsylvania districts. In contrast, sports participation varies much more widely within suburban, town, and rural districts, where all five participation groupings are represented.

Figure 2. Sports Participation Groupings by Locale Type for Pennsylvania Districts, 2024-25



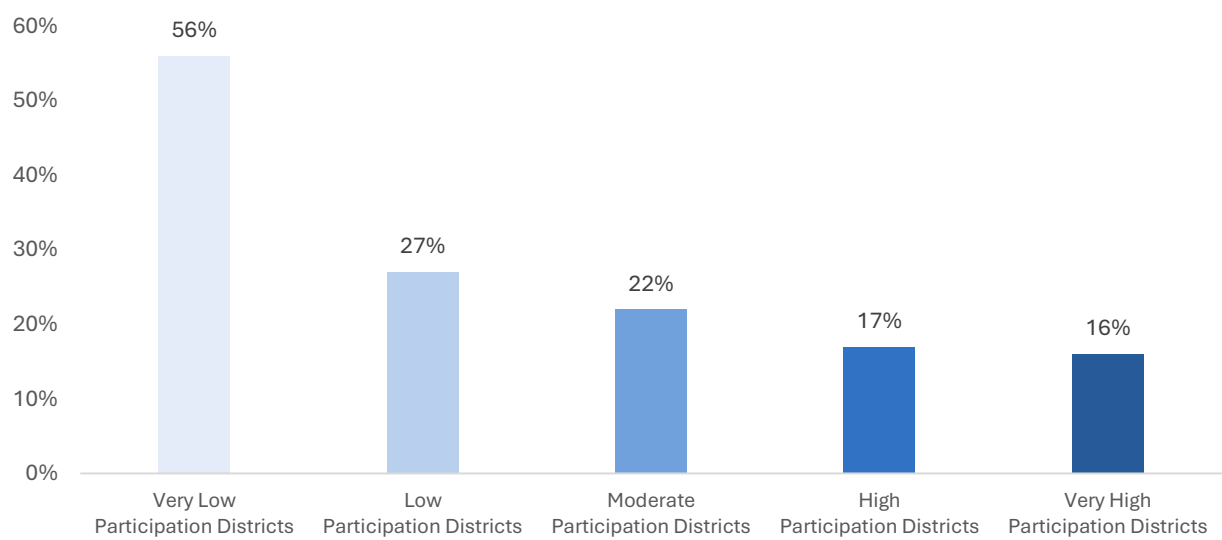
Sources: PDE Interscholastic Athletic Opportunities Disclosure Form and NCES Data.
Note: Urban: 18 districts (119,077 students); Suburban: 205 (271,876); Town: 78 (49,973); Rural: 193 (101,451). Percentages reflect the distribution of districts within each locale category.

Districts with fewer sports opportunities are more likely to have a greater percentage of students of color

On average, **Very Low participation districts enroll the highest percentage of students of color (56%)**, more than twice as many as any other participation grouping (as shown in Figure 3). Additional analyses show that among districts that have enrollments where the majority of students are students of color, more than half fall into the *Very Low* participation grouping.

Further, districts with lower participation rates are also more likely to have high schools with larger enrollment sizes and slightly more likely to enroll a greater percentage of students facing economic disadvantage, as detailed in the Appendix on page 14.

Figure 3. Percentage of Students of Color by Sports Participation Grouping in Pennsylvania Districts, 2024-25



Sources: PDE Interscholastic Athletic Opportunities Disclosure Form and Future Ready Data.

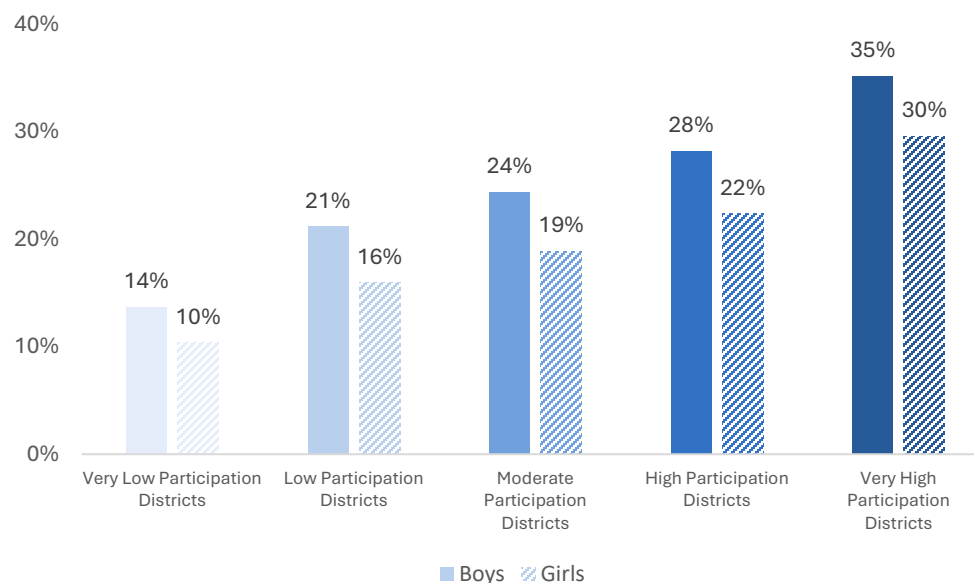
Districts with the fewest sports opportunities are more likely to be severely underfunded

Since 2024, PDE has been calculating district “adequacy gaps,” the difference between actual funding levels and adequate funding levels, in response to a Commonwealth Court finding that educational funding across the state is falling short of what is needed.¹² **Of districts with the highest adequacy gaps (top 10 percent), more than half are classified as *Very Low* participation districts and more than two thirds fall into either the *Very Low* or *Low* participation groupings.**¹³ Additional details on adequacy gaps by participation groupings can be found in the Appendix on page 14.

A Look Within Districts: Persistent Gender Gap in Sports Participation

The Interscholastic Athletic Opportunities Disclosure Form requires schools to report athletic participation by gender, offering a powerful tool to monitor Title IX compliance. In examining participation rates by gender, we found **a significant difference in sports participation between boys and girls.**¹⁴ In the 2024-25 school year, boys participated in sports each season at an average rate of 20.3% compared to 15.8% for girls.¹⁵ As shown in Figure 4, the gender difference persists across participation groupings. This indicates that inequitable access is present within districts, not just across them, and that expanding access to sports overall does not necessarily lead to equal opportunities for boys and girls.

Figure 4. Sports Participation Rates by Gender in Pennsylvania Districts, 2024-25



Sources: PDE Interscholastic Athletic Opportunities Disclosure Form and Future Ready Data

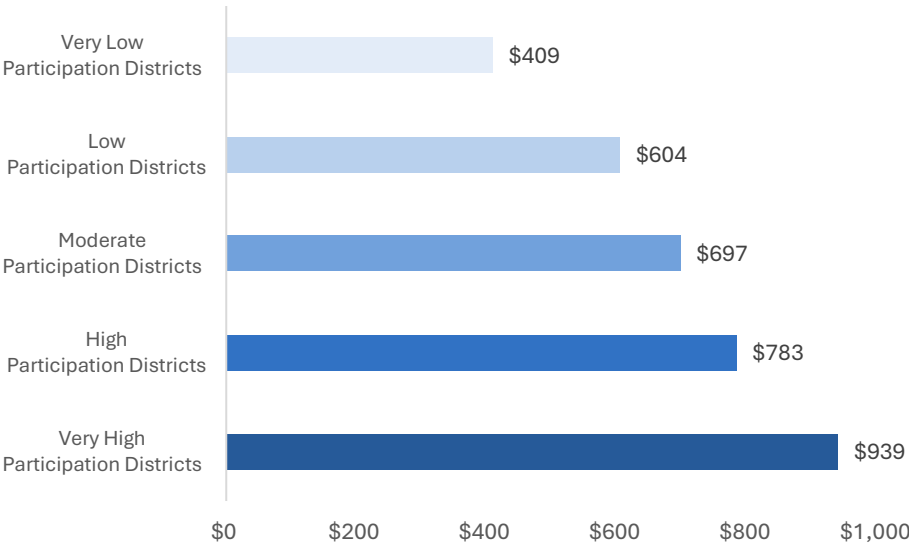
Funding Trends

This section examines district spending on high school athletics and reveals continued inequities across districts. The findings show investment in athletics is highly uneven across Pennsylvania districts and is linked to sports participation rates.

There is wide variation in district expenditures on high school athletics

In the 2024-25 school year, per student district expenditures ranged from just \$11 up to \$6,731.¹⁶ While there is a wide range of spending even within participation groupings, **districts with higher levels of athletic participation on average report higher spending on high school athletics.**¹⁷ As shown in Figure 5, on average, *Very High* participation districts spent more than twice as much per student as *Very Low* participation districts. Additional analyses showed that most of the districts spending the greatest amounts on athletics (top 10 percent) fall into either *High* or *Very High* participation groupings.

Figure 5. Average Per Pupil Sports Expenditures by Participation Groupings, Pennsylvania Districts, 2024-25



Sources: PDE Interscholastic Athletic Opportunities Disclosure Form

Districts also reported a wide range of spending using non-school funds, such as donations to athletic programs, which were categorized separately. Districts that utilize non-school funds spent from as little as \$1 per student to over \$2,000 per student from those funds, although the majority of districts reported zero non-school expenditures. No consistent relationship is observed between non-school spending and sports participation levels. It is unclear from the data how burdensome it is for districts to raise non-school funds and how, if at all, such funding contributes to inequities in athletic access. More information on non-school funds by participation grouping can be found in the Appendix on page 14.

Athletics in Charter High Schools

To examine athletic participation in charter high schools, we considered both the type of charter school and their geographic distribution.¹⁸ There are two kinds of charter schools in Pennsylvania:

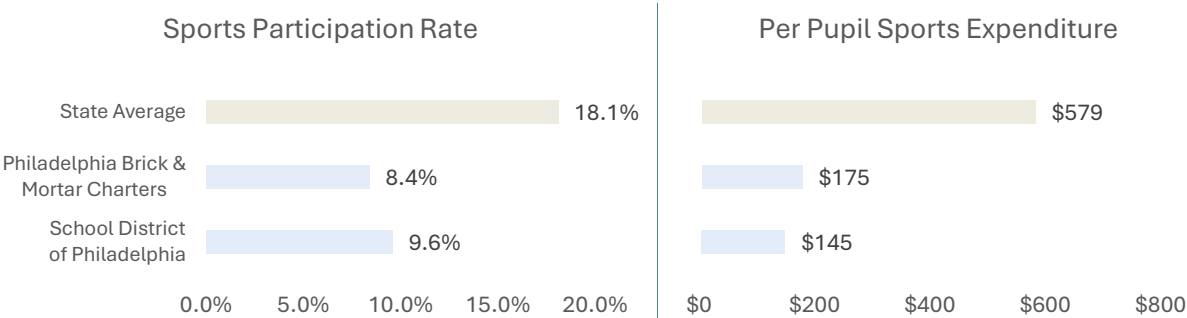
- 1. **Cyber charter schools.** The state’s 14 cyber charter schools, which enroll over 33,000 high school students, collectively reported zero student participation in or spending on high school athletics in the 2024-25 school year.
- 2. **Brick and mortar charter schools.** Pennsylvania’s brick and mortar charter schools, which enroll over 22,000 high school students, have lower high school athletic participation rates (8.4%) compared to Pennsylvania’s school districts (18.1%) as a whole and lower expenditures (\$175 vs. \$579 per student).

A Look at Philadelphia

Brick and mortar charter schools are heavily concentrated in the state’s urban school districts, which have much lower sports participation rates than the rest of the state. And half (31 of 62) of all brick and mortar charter high schools in Pennsylvania are located in Philadelphia. For this reason, we compared athletic participation data between the School District of Philadelphia and Philadelphia’s brick and mortar charter schools to better understand differences between district and charter school sectors within the same county.

Findings are highly similar across Philadelphia’s district and brick and mortar charter schools, with closely matched levels of athletic participation rates and offerings, school and student characteristics, and athletic expenditure rates between the two LEA types. Full findings can be found in the Appendix on page 14. Notably, **both the Philadelphia district and brick and mortar charter schools have much lower levels of sports participation and spending compared to state district averages**, suggesting that charter status alone does not explain discrepancies in high school athletic offerings.

Figure 6. Sports Participation and Per Pupil Spending in Philadelphia Compared to Statewide District Averages, 2024-25



Implications

Opportunities to participate in school athletics and access to the many benefits they provide should not depend on where a student lives. Yet across Pennsylvania, access to high school sports varies widely by district, mirroring broader, longstanding inequities in educational resources and opportunities documented in RFA's [State of Inequity](#) report, [Educational Opportunity Dashboard](#) and accompanying [Pennsylvania report](#), and in the research and litigation led by [Pennsylvania Schools Work](#).

This analysis shows that **access to high school athletics in Pennsylvania is not evenly distributed and is strongly shaped by structural conditions**. Districts with fewer athletic opportunities are more likely to be urban districts with large high schools and more students of color, and they tend to offer a narrower range of teams and spend less per student on athletics, limiting the extent to which students can engage. At the same time, disparities exist within districts. Girls participate at lower rates than boys, and the gap persists in districts with more robust athletic offerings, suggesting that expanding opportunities alone does not guarantee equitable access.

Taken together, these findings point to systemic barriers to school sports access such that:

- Where a student lives shapes their opportunities to participate
- How much a district spends on athletics influences the number and type of sports offered
- Who participates reflects persistent inequities by race, gender, and funding

Importantly, these patterns of inequity are evident despite known limitations in the data, indicating that greater disparities may emerge as data collection, analysis, and use improves. Considerations for decision makers and areas for continued research follow on pages 12-13.

Considerations for Decision Makers: Applying Learnings to Policy and Practice

This analysis highlights key decisions facing state and local leaders:

- 1. Access is uneven—what would it take to make it universal?** Expanding access may require targeted investments, regional partnerships, or new models for sharing athletic opportunities across schools.
- 2. Funding is inconsistent—should there be a baseline expectation?** Lower funding levels in districts with fewer athletic opportunities raise questions about whether Pennsylvania should define a minimum standard for more equitable athletic funding.
- 3. Gender gaps persist—how can these gaps be closed even where opportunities exist?** Gender disparities remain across all district types, suggesting a need for intentional monitoring and enforcement of equitable access, including stronger use of Title IX data.
- 4. School sports may be a critical access point in some communities—how can school communities increase access within current systems and funding structures?** In areas where club or private sports are cost-prohibitive, school-based athletics may be the primary opportunity for participation, making inequities in school offerings especially consequential.
- 5. Better data is essential for better decisions—how can state level data systems be improved to support equity analysis?** Current data limitations, particularly around student demographics, funding sources, and participation across the full school year, constrain the ability to fully understand and address inequities. Improving data quality and transparency is a necessary step toward more equitable access.

Continued Research and Learning

To support decision-making, further analysis of the Interscholastic Athletic Opportunities Disclosure Form dataset is needed, as are improvements to the data collection and reporting process. In addition, filling knowledge gaps to more deeply examine and resolve systemic and structural issues within the youth sports sector requires different methods and approaches.

For continued analysis and use of the existing data set, there are several potential next steps:

- **Deeper analysis.** This could include, for example, a detailed look into the types of sports teams offered, both in terms of which sports (e.g., soccer, baseball, basketball) and at which levels (e.g., freshman, junior varsity, varsity). This could provide insight into the range of sports students are exposed to and the pipeline of opportunities available to them. Additionally, analysis at the school level could shed light on potential inequities within large districts with multiple high schools and identify schools for future case studies (e.g. analyzing the conditions that support some schools in providing more opportunities).
- **Technical assistance.** Supporting all districts in accurately completing the form (e.g., including data on 7th-8th grade participation and athletic facilities spending) and requesting additional data on revenue would allow the data to act as a more reliable and valid source on secondary sports participation that could be examined over time.

- **Improving demographic data collection.** Though the athletics disclosure form asks for information on the racial background of participants, that data is not included in the publicly available datasets. Collecting and releasing this demographic information is crucial to understanding any racial inequities that may exist in athletic participation at the student level.

Beyond improvements to data collection and reporting, below are three areas of inquiry that would best be explored through different mechanisms, including:

- **Role in the Out-of-School Time Ecosystem.** It is unclear how school athletics fit into the larger out-of-school time (OST) ecosystem and how that may vary across the state. Further study could explore the wider OST options available to students, with a focus on how schools and OST sports providers can collaborate to increase access and remove barriers so that interested students can participate. Additionally, investigation into young people's entry points to sports could help provide greater insight into the opportunities to develop their interest and skills over time.
- **Pipeline to Postsecondary Athletic Opportunities.** For some students, engagement in athletics expands their postsecondary and career options. Further research could examine which districts are most successful in sending students on to postsecondary athletics and examine the factors that facilitate that success.
- **Quality of Athletic Opportunities.** We are missing information on the quality of athletic opportunities being offered in schools and student perceptions of their experiences. For example, how are school sports teams cultivating students' leadership and socio-emotional skills? How welcome do students feel on teams and how might this vary based on student characteristics? What facilitates or impedes schools and districts in providing high-quality athletics?

Research consistently shows that participation in school sports supports student wellbeing, academic success, and long-term outcomes, making unequal access to athletics a meaningful educational equity issue. Without more intentional policy, investment, and oversight, a student's **zip code, gender, and school resources will continue to shape whether they can access these opportunities.** State and district level decisionmakers, supporting organizations, and broader educational community members have great potential to work together to remove barriers and identify solutions to this issue.

APPENDIX

Table 1A provides additional descriptive details on district athletic offerings, characteristics, and spending by sports participation grouping. As in the main report, values for each participation grouping are weighted by student enrollment.

Table 1A. Athletic Offerings, Characteristics, and Spending by Sports Participation Grouping in Pennsylvania Districts, 2024-25

School District Grouping	Teams offered (per 1,000 students)	Competitions played (per team)	Average school enrollment	Percentage of students with economic disadvantage	Per pupil adequacy gap	Sports expenditure rate w/o facilities spending	Non-school purchases rate
Very Low Participation	20	13.7	1,653	57%	\$3,907	\$372	\$94
Low Participation	33	15.0	1,090	41%	\$1,681	\$564	\$213
Moderate Participation	38	14.8	993	36%	\$1,336	\$657	\$249
High Participation	46	15.2	681	41%	\$1,576	\$719	\$262
Very High Participation	58	14.4	561	41%	\$1,793	\$870	\$268
State Average	31	14.3	1,237	47%	\$2,614	\$535	\$175

Note: Findings reflect averages of each district grouping weighted by student enrollment.

Table 2A shows Spearman rank correlation coefficients describing the strength and direction of monotonic relationships between district-level sports participation rates and selected measures of athletic access, district characteristics, and funding. Spearman correlations are used due to non-normal distributions and skewness in several variables and reflect associations.

Table 2A. Spearman Rank Correlations Between District Sports Participation Rates and Selected Measures of Access, Demographics, and Funding

	Sports Participation Rate
Teams offered per 1,000 students	0.7811***
Competitions played (per team)	0.0551
Average school enrollment size	-0.6088***
Percent of students of color	-0.5327***
Percent of students with economic disadvantage	-0.1472**
Per pupil adequacy gap	-0.1237**
Sports expenditure rate	0.4964***
Non-school purchases rate	0.0741

Notes: Table reports Spearman rank correlation coefficients based on district-level data. All variables are measured at the district level. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3A displays additional details on athletic participation, team offerings, demographics, and spending for the School District of Philadelphia and Philadelphia brick and mortar charter schools. As discussed in the main report, patterns are similar across LEA types, reflecting that athletic offerings and spending are much more limited in Philadelphia public schools compared to statewide averages. Notably, The Pennsylvania Department of Education has reported that Philadelphia public schools (district and charter combined) have an annual school funding adequacy gap of \$6,386 per pupil compared to the statewide district average of \$2,614.

Table 3A. Philadelphia Athletic Offerings, Characteristics, and Spending Compared to Statewide District Averages, 2024-25

	Sports Participation Rate	Teams offered (per 1,000 students)	Competitions played (per team)	Average School Enrollment	Percent of students of color	Percent of students with economic disadvantage	Sports expenditure rate	Non-school purchases rate
School District of Philadelphia	9.6% 8.9% (girls) 10.3% (boys)	19	9.2	644	85%	75%	\$145	\$5
Philadelphia B&M charters	8.4% 8.0% (girls) 8.6% (boys)	18	9.7	595	87%	81%	\$175	\$3
State Average	18.1%	31	14.3	1,237	47%	37%	\$579	\$175

ENDNOTES

¹ Richard Bailey, “Physical Education and Sport in Schools: A Review of Benefits and Outcomes,” *Journal of School Health* 76, no. 8 (2006): 397–401, <https://doi.org/10.1111/j.1746-1561.2006.00132.x>.

² Office of Disease Prevention and Health Promotion. (2020, August 31). *National Youth Sports Strategy: One-pager*. U.S. Department of Health and Human Services. https://odphp.health.gov/sites/default/files/2020-09/YSS_Report_OnePager_2020-08-31_web.pdf

³ Juliet Macur Drape and Ken Belson, “Youth Sports Are a \$40 Billion Business. Private Equity Is Taking Notice,” *New York Times*, 2025, <https://www.nytimes.com/2025/07/09/business/youth-sports-private-equity.html>.

⁴ Kelsey Hextrum, Chris Knoester, and Jennifer Tompsett, “Who Plays, Persists, and Stands Out in Interscholastic Athletics? Habitus, Parenting, Social Class, and the Institutionalized Cultural Capital of School Sports,” *Journal for the Study of Sports and Athletes in Education* 19, no. 3 (2025): 290–328, <https://doi.org/10.1080/19357397.2025.2470116>.

⁵ Aspen Institute, *Sport for All, Play for Life: A Playbook to Develop Every Student through Sports* (Washington, DC: Aspen Institute, 2022), <https://www.aspeninstitute.org/wp-content/uploads/2022/03/FINAL-Aspen-Institute-Reimagining-School-Sports-playbook-pages.pdf>. Ann Meier, Douglas S. Hartmann, and Reed Larson, “A Quarter Century of Participation in School-Based Extracurricular Activities: Inequalities by Race, Class, Gender, and Age,” *Journal of Youth and Adolescence* 47, no. 6 (2018): 1299–1316, <https://doi.org/10.1007/s10964-018-0838-1>.

⁶ Machteld van Boekel, Olcay Bulut, Laura Stanke, J. R. Palma Zamora, Youngki Jang, Youn Kang, and Kevin Nickodem, “Effects of Participation in School Sports on Academic and Social Functioning,” *Journal of Applied Developmental Psychology* 46 (2016): 31–40, <https://doi.org/10.1016/j.appdev.2016.05.002>.

⁷ According to Pennsylvania law enacted in 2012, all schools receiving federal funds are required to submit data on athletic opportunities for students in grades 7–12. The data provides an in-depth look at sports opportunities by school, including specific sports teams offered by gender and level (e.g., junior varsity, varsity) and the number of participants, competitions played, and coaches per team. The disclosure form also requires schools to submit detailed information on annual expenditures for each team.

⁸ M. Blair Evans, *Exploring Disparities in School Sports Participation in Rural Pennsylvania* (Harrisburg, PA: Center for Rural Pennsylvania, November 2020), <https://www.rural.pa.gov/getfile.cfm?file=resources/pdfs/research-report/disparities-in-sports-participation-2020.pdf&view=true>. Brian J. Foster and James E. Mattern, *Analysis of Expenditures and Participation in Public School Sports* (Harrisburg, PA: Center for Rural Pennsylvania, November 2020), <https://www.rural.pa.gov/getfile.cfm?file=Resources/PDFs/research-report/School-Sports-Foster-2020.pdf&view=true>.

⁹ Data were reported by individual schools and aggregated to the district level for analysis.

¹⁰ Five schools across two districts and one charter school did not submit the Interscholastic Athletic Disclosure Form. All public school entities enrolling students in grades 7 through 12 are required to file the disclosure form regardless of whether they offer athletics.

¹¹ In this analysis, “teams” refers to sport/level/gender-specific team designations as reported by schools (e.g., “JV girls volleyball,” “Varsity boys basketball”). Each distinct combination of sport, level of play, and gender is counted as a separate team.

¹² David Lapp. *State of Inequity: Disparities in Pennsylvania School Districts by Degree of Funding Adequacy*. Philadelphia: Research for Action, 2025. <https://www.researchforaction.org/research-resources/k-12/state-of-inequity-disparities-in-pennsylvania-school-districts-by-degree-of-funding-adequacy/>.

¹³ The state’s adequacy calculations for each district are included in the PDE 2024–2025 Ready to Learn Block Grant. Each district’s total per pupil adequacy gap was calculated by combining the adequacy gap and poverty adjustment and dividing the total by each district’s 2023–24 adjusted ADM (average daily membership) from the 2024–25 Estimated Basic Education Funding (BEF) file.

¹⁴ The Interscholastic Athletic Opportunities Disclosure Form requires schools to report athletic participation using a binary gender framework (girls and boys). The enactment of this reporting requirement in 2012 was celebrated as a positive step for gender equity, as schools must disclose participation numbers by gender, providing valuable insight

into adherence to Title IX. However, this reporting structure does not capture the full range of gender identities and may obscure the experiences and participation of transgender, nonbinary, and gender-diverse students.

¹⁵ A paired t-test comparing district-level boys' and girls' sports participation rates in the 2024–25 school year indicates a statistically significant difference. Averages reflect unweighted district-level means. Among 494 districts, boys' participation rates exceeded girls' participation rates by an average of 5.25 percentage points ($t = 17.52$, $df = 493$, $p < 0.001$).

¹⁶ District athletic expenditure rates were calculated as a district's total athletic expenditures over their total enrollment, not just athletic enrollment.

¹⁷ Because school districts vary in how facilities-related athletic expenditures are recorded, we conducted additional analyses excluding the facilities spending category. The same pattern of increased per-student athletic spending by participation level persisted, indicating that differences across participation groupings are not driven solely by facilities costs. Results from these analyses are presented in the Appendix.

¹⁸ Students who attend charter schools that do not offer a particular sport have the right to participate on the team of their local school district of residence. It is possible that some of these students may participate in sports with their local district of residence, but the public data does not indicate how many.

ABOUT RESEARCH FOR ACTION

Research for Action (RFA) is a Philadelphia-based nonprofit education research organization. We seek to use research to improve equity, opportunity, and outcomes for students and families. Our work is designed to strengthen early education, public schools, and postsecondary institutions; provide research-based recommendations to policymakers, practitioners, and the public; and enrich civic and community dialogue.

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ACKNOWLEDGMENTS

The PACER project is generously funded by The Heinz Endowments and the William Penn Foundation. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the funders. Thank you to additional members of the RFA team who provided valuable contributions to this report, including Mary Eddins, Kim Glassman, Tracey Hartmann, Sean Vannata, and Dae Kim.



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