

How to Calculate Equity Gaps

Research shows that athletes in a positive youth sports environment, guided by a caring and supportive coach, can fully experience the many benefits that sports offer. Unfortunately, not all youth, especially those living in underserved communities or belonging to marginalized groups, have access to this positive youth sports experience.

The sports equity gap refers to disparities in access, opportunities, resources, and outcomes in youth sports between marginalized groups—such as those defined by socioeconomic status, race, gender identity, disability, etc.—and their more privileged counterparts. These disparities are often driven by systemic barriers and unequal resource distribution.

The first step a sports leader can take towards closing the sports equity gap is to identify what gaps exist and then think about the barriers that contribute to those disparities. This guide outlines the framework for how we calculate sports equity gaps.

WHY DISAGGREGATE DATA BY RACE AND ETHNICITY?

To calculate sports equity gaps, we use disaggregated data - data that is broken down into smaller, more specific categories. Using disaggregated data allows sports leaders to identify racialized outcome patterns and shine a light on equity gaps. Data disaggregated by race and ethnicity sets the stage for critical inquiry into policies and practices that may be contributing to inequities in outcomes.

We lead with race because racial inequities persist in every system across the country — housing, health, education, criminal justice, employment, and parks and recreation, including youth sports. And when we examine other dimensions of identity — income, gender, sexuality, education, ability, age, citizenship and geography — there are inequities based on race. Knowing this helps us take an intersectional approach, while always understanding the role that race plays in people's experiences and outcomes.

Disaggregated data are critical for revealing inequities in outcomes or equity gaps; in contrast, aggregated data, such as average participation rates, can mask these gaps. For example, an overall increase in participation rates might suggest progress, but only through disaggregated data can organizations see if certain groups—such as girls or Black and Latino youth—are being left behind.

For the example and steps below, we are focusing on racial equity - however, you can plug in any dimension of identity when using this tool.



CALCULATING EQUITY GAPS - FOLLOWING THE EXAMPLE

With an understanding of disaggregated data and its utility in identifying areas of need, follow the explanations and steps below to gather key data and calculate equity gaps in your organization.

Steps Involved:

- ✓ Gather key data to examine: Focus on access, retention, or experience quality.
- ✓ Collect disaggregated data: Break down data by race, ethnicity, gender, or income to reveal who is most affected.
- ✓ Calculate the percentage gap: Measure how underserved groups compare to those with the highest participation.
- ✓ Analyze results: Use these insights to target specific disparities in your organization.

Step 1: Gathering Key Data

Three areas we'll use to calculate equity gaps are:

- Access
- Retention
- Quality of Experience

Gathering data based on these areas, disaggregated by race, ethnicity, or any identity indicator you choose, is the first step toward identifying indicators of the “state of equity” in youth sports.

The table below illustrates the baseline data indicators you'll need to calculate the state of equity in your organization.

Key Areas	Access	Retention	Experience
Indicators (Example)	• % of youth participating • the total number of coaches • % of girls participating	• Year-to-year persistence • Program drops, withdrawals	• % participants reporting that sport has positive impacts on themselves, family and/or community • % of coaches trained in sports-based youth development

You are ready to move to step 2 when you have identified the area you want to focus on (access, retention, or experience) and have data disaggregated by your identity indicator.

Ex: If we're calculating the racial equity gap based on access, we'll want to have data on the % of youth participating broken down by race/ethnicity, or your chosen identity indicator.



Step 2: Calculate The Percentage Point Gap

After gathering data on the specific area you want to analyze, the next step is to identify the percentage point gap - the difference in outcomes between a disaggregated subgroup and the reference group. This method is useful for measuring outcome equity or inequity.

Percentage Point Gaps are calculated using the following equation:

$$\text{Percentage Point Gap (+/-)} = \frac{\text{Outcome Attainment Rate for Disaggregated Subgroup}}{\text{Outcome Attainment Rate for Reference Group (RG)}}$$

The resulting “Percentage Point Gap” will have a +/- designation that signals whether the disaggregated subgroup is experiencing the outcome at a rate that is higher (+) or lower (-) than the rate for the reference group. Typically, the Reference Group (RG) is the Highest-Performing Group (HPG). The reference group rate is subtracted from the disaggregated subgroup.

According to this method, a minus -3 PPG or greater is evidence of outcome inequity. That said, we and/or our partners can decide to set the point for equity or inequity at a higher or lower PPG value.

Step 3: Utilize Tools

Use the percentage point gap on your data to determine which groups of minoritized youth are experiencing inequity for your outcome of interest. Do the calculations for two reference groups: all youth, and the highest-performing group.

To demonstrate how to use the tools, we'll be calculating the sports equity gap in youth sports enrollment rates within a fictional school community sports program.

1. Calculate PPG Using ALL youth as the Reference Group

- a. Write the number of youth for each racial/ethnic group.
- b. Note the number of youth in each group who successfully enrolled in the sports program.
- c. Unless provided in your data, divide column B by column A to get the student group outcome enrollment rate for each population.
- d. Unless provided in your data, calculate the outcome enrollment rate for all youth by adding all of the numbers in Column B, then dividing that number by the number of youth in your school community. In this example, **750** youth enrolled in sports programs out of the **1,500** students in the school community. **750/1500 = .5 or 50%**. Write that percentage in each row of column D.
- e. Subtract column D from column C to get the PPG compared to all youth.



	A	B	C	D	E
Population Group	# of Students in population cohort	# of youth who enrolled in program	Student group enrollment rate (%)	All student enrollment rate (%)	PPG with +/- added
Asian American	225	81	36%	50%	-14
Black	315	91	29%	50%	-21
Latinx	420	155	37%	50%	-13
Native American	23	4	15%	50%	-35
Pacific Islander	1	0	10%	50%	-40
Two or More	66	41	62%	50%	+12
White	450	378	84%	50%	+34
All youth	1,500	750	50%		

Using this data, we now can define White youth as the Highest-Performing Group (HPG) with an enrollment rate of 84% and a PPG of +34 over the all student enrollment rate (50%).

2. Calculate PPG Using HIGHEST-PERFORMING GROUP (HPG) as the Reference Group

- Write the number of youth for each racial/ethnic group.
- Note the number of students in each group who successfully enrolled in a school sports program.
- Use data from column C in the previous table to fill out column C in the table below.
- Write the enrollment rate for the highest-performing group in each row of column D. Based on our findings from the previous table, White students were the highest performing group with an **84%** enrollment rate. Use this number to fill out each row of column D.
- Subtract column D from column C to get the PPG for each student population cohort.



	A	B	C	D	E
Population Group	# of Students in population cohort	# of students who attained the outcome	Student group enrollment rate (%)	HPG enrollment rate (%)	PPG with +/- added
Asian American	225	81	36%	84%	-48
Black	315	91	29%	84%	-55
Latinx	420	155	37%	84%	-47
Native American	23	4	15%	84%	-69
Pacific Islander	1	0	10%	84%	-74
Two or More	66	41	62%	84%	-22
White	450	378	84%	84%	
All youth	1,500	750	50%		

Now that we have the PPGs compared to both all youth enrollment & the highest performing group, we can move forward.

3. Compare the PPG calculations for the two reference groups.

Population Group	PPG if RG is all youth (50%)	PG if RG is White Youth (highest-performing group) (84%)
Asian American	-14	-48
Black	-21	-55
Latinx	-13	-47
Native American	-35	-69
Pacific Islander	-40	-74
Two or More	+12	-22
White	+34	

Looking at these two sets of PPGs, let's use white youth as the reference group due to the large gap in enrollment vs. other student population groups.



4. Calculate the number of additional youth needed to achieve equity in outcomes.

- Write the names of the racially minoritized student groups, beginning with the group that is experiencing the largest equity gap. In this example, the three largest gaps are experienced by students belonging to the Pacific Islander, Native American, and Black student groups.
- In column B, note that we are using the highest-performing group (HPG). Transfer the corresponding information from step 3.
- Convert the PPG in column B to decimals.
- Note the number of youth in each group. This information can be obtained from the tables you completed in step 1, column A.
- Multiply column C and column D to determine the additional number of youth needed to close the equity gap.

	A	B	C	D	E		F
Equity Gap	Student Population Group	PPG in comparison to HPG. expressed as%	% expressed as decimal (25% 0.25)	Multiply	# of youth in group	=	# of youth needed to close equity gap
Largest Gap	Pacific Islander	74%	.74	X	1	=	1
Second Largest Gap	Native American	69%	.69	X	23	=	16
Third Largest Gap	Black	55%	.55	X	315	=	173

Now that all calculations are complete, the next step is to work with PCA's Taskforce/Coalition to identify what "root causes" might be contributing to the gap in participation between Pacific Islander, Native American, and Black athletes compared to their White counterparts.

Note: As a comparative measure, the PPG for a disaggregated subgroup will differ depending on which reference group (RG) is chosen. The magnitude of equity gaps can differ, especially in cases where the reference group used is all youth and the average outcome attainment rate is low, equity gaps can be hidden or minimized. In such cases, sports leaders should consider whether it is "good enough" to set all youth as the reference group, or whether the highest-performing group is a more appropriate comparison.



CALCULATING EQUITY GAPS - USE THIS TEMPLATE

Utilize These Tools

Use the percentage point gap on your data to determine which groups of minoritized youth are experiencing inequity for your outcome of interest. Do the calculations for two reference groups: all youth, and the highest-performing group.

1. Calculate PPG Using ALL youth as the Reference Group

- Write the number of youth for each racial/ethnic group.
- Note the number of youth in each group who successfully attained your chosen outcome.
- Unless provided in your data, divide column B by column A to get the student group outcome enrollment rate for each population.
- Unless provided in your data, calculate the outcome enrollment rate for all youth by adding all of the numbers in Column B, then dividing that number by the number of youth in your community or school. Write that percentage in each row of column D.
- Subtract column D from column C to get the PPG compared to all youth.

	A	B	C	D	E
Population Group	# of Youth in population cohort	# of youth who attained outcome	Youth cohort attainment rate (%)	All youth attainment rate (%)	PPG with +/- added
Asian American					
Black					
Latinx					
Native American					
Pacific Islander					
Two or More					
White					
All youth					

This data will help you define the highest-performing group.



2. Calculate PPG Using HIGHEST-PERFORMING GROUP (HPG) as the Reference Group

- Write the number of youth for each racial/ethnic group.
- Note the number of youth in each group who successfully attained your outcome of choice.
- Use data from column C in the previous table to fill out column C in the table below.
- Write the outcome attainment rate for the highest-performing group in each row of column D. Use column C in the previous table.
- Subtract column D from column C to get the PPG for each youth population cohort.

	A	B	C	D	E
Population Group	# of Youth in population cohort	# of youth who attained the outcome	Youth cohort attainment rate (%)	HPG attainment rate (%)	PPG with +/- added
Asian American					
Black					
Latinx					
Native American					
Pacific Islander					
Two or More					
White					
All youth					

Now that you have the PPGs compared to both all youth attainment & the highest performing group, you can move forward.

3. Compare the PPG calculations for the two reference groups.

Population Group	PPG if RG is all youth (___%)	PPG if RG is _____ (highest-performing group) (_%)
Asian American		
Black		
Latinx		
Native American		
Pacific Islander		
Two or More		
White		

Looking at these two sets of PPGs, determine which reference group you want to use - all youth or the highest-performing group. Why did you choose the reference group you did?



4. Calculate the number of additional youth needed to achieve equity in outcomes.

- Write the names of the racially minoritized student groups, beginning with the group that is experiencing the largest equity gap.
- In column B, note whether you are using All Youth (AVG) or highest-performing group (HPG) as the reference. Transfer the corresponding information from step 3.
- Convert the PPG in column B to decimals.
- Note the number of youth in each group. This information can be obtained from the tables you completed in step 1, column A.
- Multiply column C and column D to determine the additional number of youth needed to close the equity gap.

	A	B	C	D	E		F
Equity Gap	Youth Population Group	PPG in comparison to _____ expressed as %	% expressed as decimal (25% 0.25)	Multiply	# of youth in group	=	# of youth needed to close equity gap
Largest Gap				X		=	
Second Largest Gap				X		=	
Third Largest Gap				X		=	

Now that all calculations are complete, the next step is to work with PCA's Task Force/Coalition to identify what "root causes" might be contributing to equity gaps.

This tool was adapted from materials provided by the Center for Urban Education (CUE) at the University of Southern California, as outlined in their "Measuring Equity Gaps: Data Tools" guide.

