

Monitoring Equity

In Disciplinary Outcomes





What you need

- The Monitoring Discipline Disproportionality Handout
- A calculator or phone with calculator app
- Something to write with



At the end of this session, participants will...

- Understand why it is critical to monitor discipline disproportionality
- Understand the strengths and weaknesses of the equity metrics we recommend
- Understand how equity metrics are calculated
- Know how to interpret the equity measures that we recommend for our schools







Critical Race Theory

An academic framework that centers on the idea that American racism is systemic, explores how American racism has shaped public policy, and examines how it continues to impact people of color to this day.

Example:

- FHA regulations and local zoning laws produced segregated neighborhoods.
- States fund school district based on property values as a proxy for race.
- In 1972 the Supreme court ruled that funding schools by property values was constitutional
- 2007 the Supreme Court ruled that school segregation in Louisville, KY was by “private choice”



Discipline Disproportionality: All other things being equal, some students receive harsher consequences for disciplinary infractions based on their membership in a demographic group.



African American Students are more likely than their white peers to...

- Receive an ODR
- Receive corporal punishment
- Be suspended or expelled
- Be suspended for ambiguous, subjectively interpreted behavior
 - Dress
 - Disruption
 - Defiance
 - Disrespect



Bain & McPherson, 1990; Blake, Butler, Lewis, & Darensbourg, 2011; Cooley 1995; Costenbader & Markson 1998; Gordon, Piana & Kelecher 2000; Gregory & Weinstein 2008 ; Losen & Gillespie, 2012; Losen, et al., 2015; Losen & Skiba 2010; McFadden, Marsh, Price & Hwang 1992; Petras, et al., 2011; Raffaele-Mendez, Knoff & Ferron, 2002; Raffaele-Mendez & Knopf 2003; Skiba et al., 1997; Skiba, Nardo, Michael, and Peterson 2002; Skiba, et al., 2011; Skiba, Chung, Trachok, Baker, Sheya & Hughes 2014.

African American girls are more likely to be suspended for violating “*white middle class norms of femininity.*”





LatinX and Native American Students are more likely than their white peers to ...

- Receive harsher punishments for the same offense
- Be suspended or expelled





LGBTQ students are more likely to experience harsh discipline than students who identify as cisgender heterosexual.





Poor students are more likely to be suspended or expelled than are students from higher SES families





The disproportionate use of suspension and expulsion for students of color persists even when we control for *poverty* and *behavior*.





Boys are more likely than are girls to be ...

- punished
- suspended or expelled

Raffaele-Mendez, Knoff, and Ferron 2002;
Constenbader and Markson 1998;
McFadden, Marsh, Price, and Hwang 1992

African American Boys are 3 ½ times more likely than other boys to be suspended or expelled

Raffaele-Mendez, Knoff, and Ferron 2002;
Constenbader and Markson 1998;
McFadden, Marsh, Price, and Hwang 1992

These relationships are additive

Students with disabilities are more likely to be suspended

Losen and Gillespie, 2012;
Losen et al., 2015

African American Boys with disabilities are 5 ½ times more likely to be suspended or expelled than other students

Losen, et al., 2015

Decreased Opportunities to Learn

In 2015-2016

- White students lost 21 days
- Native American Students lost 54 days
- Hawaiian/Pacific Islanders lost 63 days
- Students with disabilities lost 68 days
- African American students lost 103 days





It is estimated that in 2015-2016, Black students with disabilities lost 77 more days than white students with disabilities (Losen 2018)

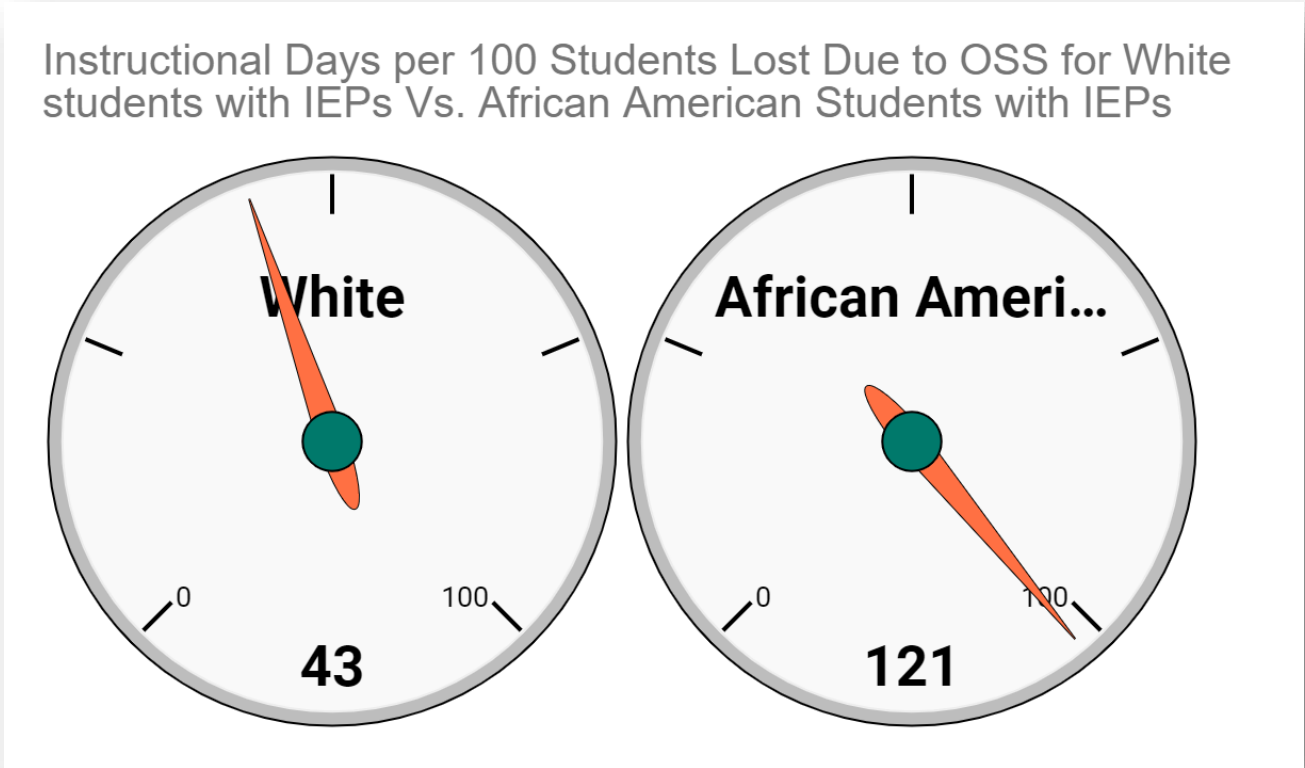


Table C1: Days of Lost Instruction Due to OSS per 100 Students by State at the Elementary Level

State	Black-White Gap	All Students	Latinx	Native American	Asian	Hawaiian or Pacific Islander	Black	White	SWD (IDEA)
MI	59	16	10	10	1	19	67	8	28
OH	50	13	10	18	1	4	56	6	25
MO	39	13	7	12	1	3	46	6	27
TN	35	12	3	24	1	2	38	3	22
NE	33	6	5	17	2	1	36	3	19
IN	31	9	6	7	2	2	37	5	21
VA	27	10	3	8	1	4	31	5	24
WI	26	5	5	10	1	1	29	3	17
PA	26	6	8	8	1	1	28	3	14
AR	25	11	4	3	1	2	31	6	19

Table 1: State Rankings by Racial Gap and Student Days of Lost Instruction per 100 Enrolled at the Secondary Level (2015-16)

State	Black-White Gap	All Students	Latinx	Native American	Asian	Hawaiian or Pacific Islander	Black	White	SWD (IDEA)
MO	162	61	42	59	14	36	198	36	119
KS	134	35	43	41	13	14	153	19	61
NE	133	35	41	57	10	36	154	21	79
OH	127	46	53	36	10	19	153	25	80
MI	127	49	58	60	9	16	156	28	95
WI	124	22	28	30	5	10	134	10	63
TN	123	55	37	43	10	24	149	25	132
NC	121	70	55	135	9	67	154	33	137
VA	118	64	42	50	5	26	156	38	120
DE	110	68	52	37	7	9	140	30	123

How can we close the Academic Achievement Gap
if we don't close the discipline gap? (Losen & Martinez 2020)

All students deserve a safe, orderly, fair, and predictable learning environment.



Stop, Think, Pair, Share

Which group of students at your school do you think are at highest risk of being unfairly disciplined at your school?





Not looking at disaggregated data is like driving with your eyes closed.



Early Warning System

Base

- Risk Index

Comparative

- Risk Ratio
- Risk Difference
- Raw Differential Representation
- Effect Size

Overall Outcomes

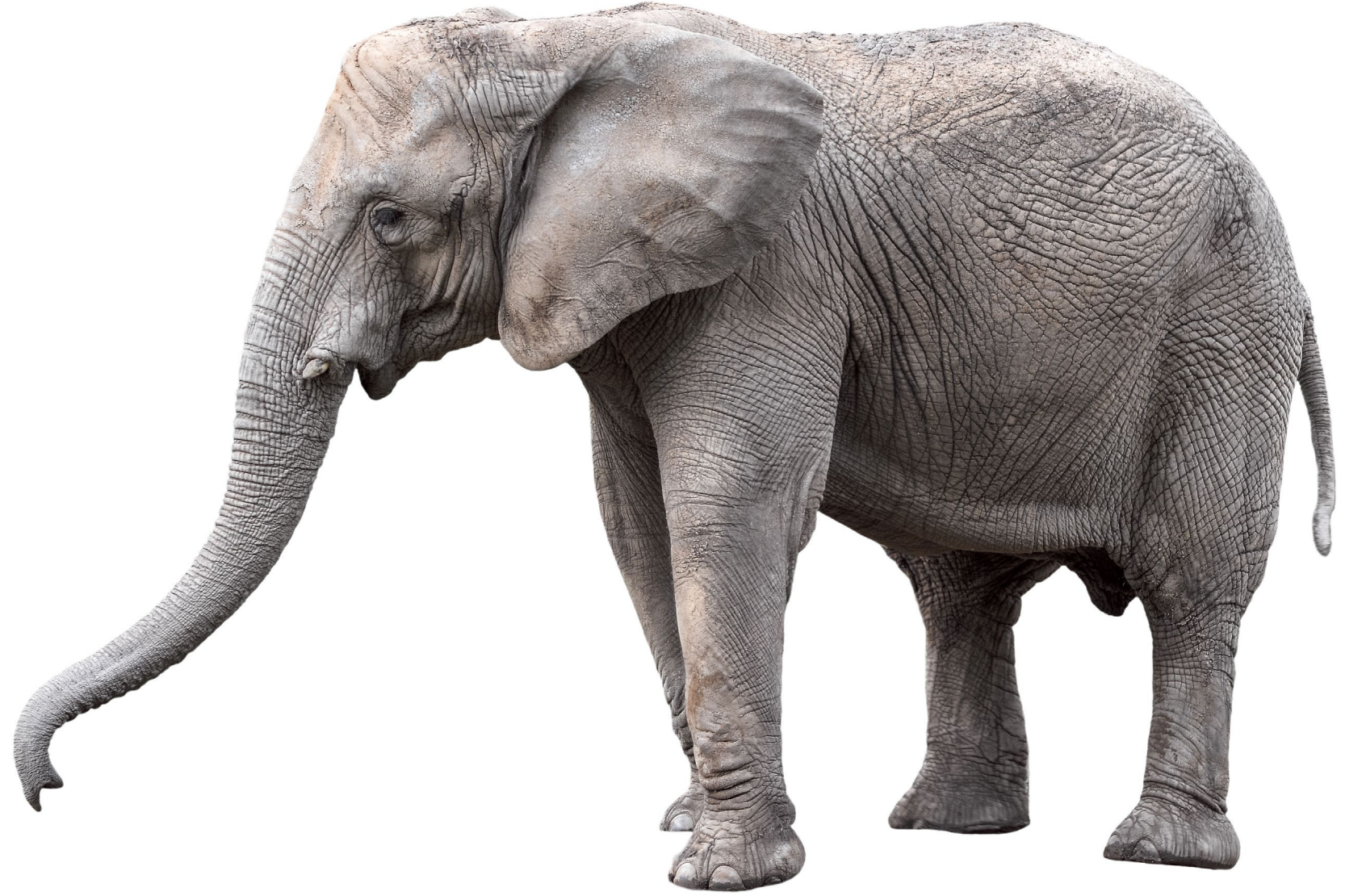
- Discipline Rate

Source



Erik J. Girvan, Kent McIntosh & Keith Smolkowski (2019) Tail, Tusk, and Trunk: What Different Metrics Reveal About Racial Disproportionality in School Discipline, *Educational Psychologist*, 54:1, 40-59, DOI: 10.1080/00461520.2018.1537125







Considerations

- Is it easy to calculate?
- Is it easy to interpret?
- How do changes in the base rate affect the metric?
- Does it measure something different?
- Is it *stable*?





DISCLAIMER

Risk Index

The proportion of a target population who have experienced an outcome of interest at least once.

“3 out of 4 [or .75 or 75% of] dentists use Crest!”



Risk Index

$$\frac{\text{Number of students in target group who experienced the outcome}}{\text{Number of students in the target group}}$$



Risk Index

3 Dentists Use Crest
4 Total Dentists

= .75



Risk Index

$$\frac{60 \text{ Students with an IEP have at least 1 ODR}}{100 \text{ students with IEPs enrolled}} = .60$$

Let's Practice!

- Using Handout 1, complete question 1.a.
 - Calculate the risk index for students who qualify for F/R Lunch of receiving at least one ODR
 - 40 enrolled
 - 20 have at least one ODR
 - Calculate the risk index for students who do not qualify for F/R lunch of receiving at least one ODR
 - 60 enrolled
 - 20 have at least one ODR



Risk Index

Advantages

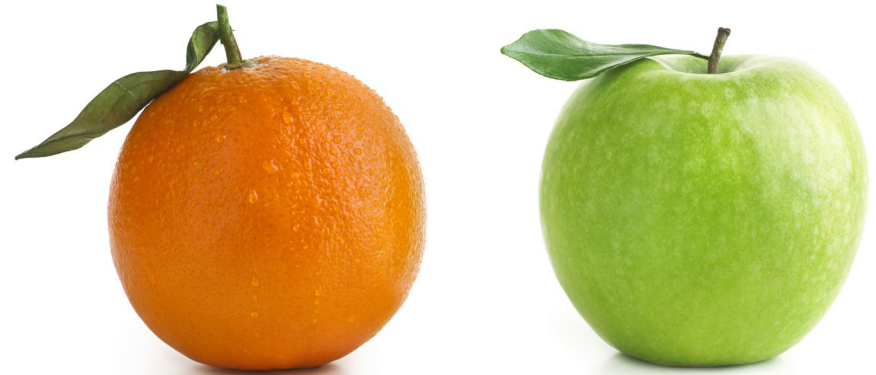
- Easy to calculate
- Easy to interpret
- Measures risk for a particular group
- Not affected by outlier
- It is the base for all other disproportionality metrics!

Disadvantages

- Does not account for all events
- Is not a comparison.
- Varies widely with only small changes in base numbers, especially when the overall frequency is low.
- It starts at 0 and only goes up throughout the year



Comparative Risk Measures



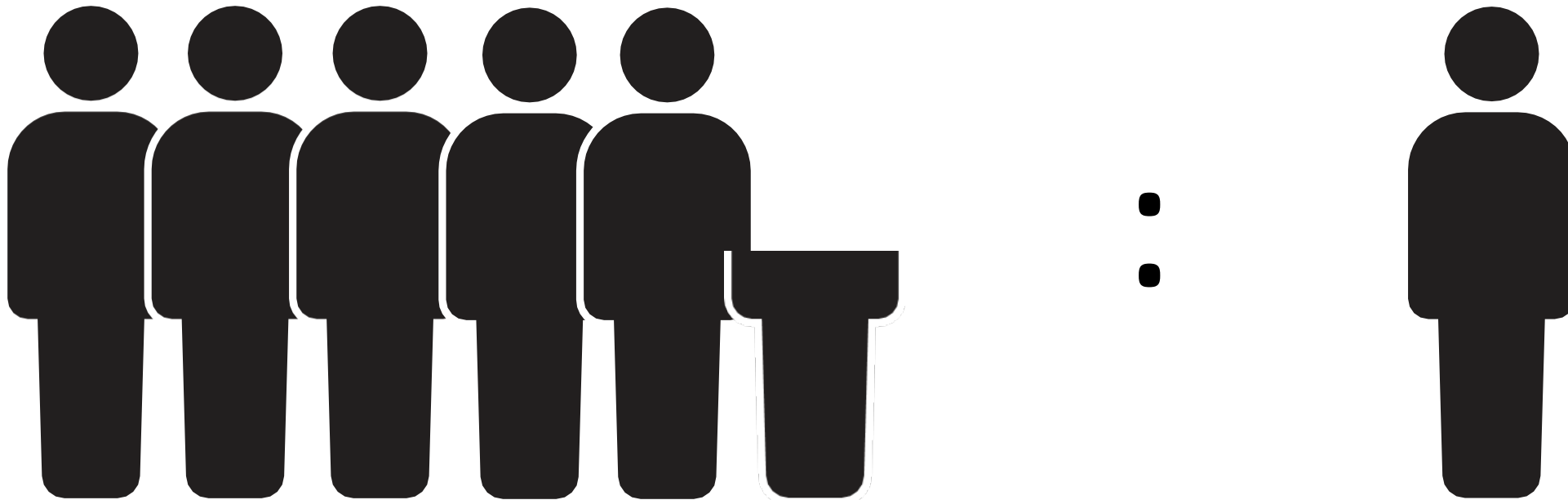


Risk Ratio

The likelihood that a member of the target group will experience an outcome as compared to a reference group.

“African American boys with disabilities are **5 ½** times more likely to be suspended than all other students.”

Losen, et al., 2015





Risk Ratio

$$\frac{\text{Risk Index of Target Group}}{\text{Risk Index for Reference Group (usually all *but* the target group)}}$$



Risk Ratio

$$\frac{.75 \text{ (risk index for Dentists Using Crest)}}{.25 \text{ (all doctors *except dentists* using crest)}} = 3.00$$



Risk Ratio

$$\frac{.60 \text{ (risk of student with IEP having ODR)}}{.3 \text{ (Risk of all students without IEP having an ODR)}} = 2.00$$

Practice

- Using the risk indices that you calculated for question 1.a. on the Handout, calculate a risk ratio for students who qualify for F/R Lunch to receive an ODR compared to everyone else.





Interpretation

- Usually expressed as a multiple or fraction of 1.00
- 1.00 means the target and reference groups are equivalent
- EEOC recommends the 4/5ths rule
 - < 0.80
 - > 1.25
- Target group must have at least 10 individuals in the subgroup to be meaningful
 - Compare school, district, region or state

Risk Ratio

Advantages

- One of the most common metrics; people are familiar with it.
- Easy to interpret
- Easy to calculate
- Comparative
- Not affected by outliers
- Proportional to population, so comparable across groups
- Identifies disproportionality

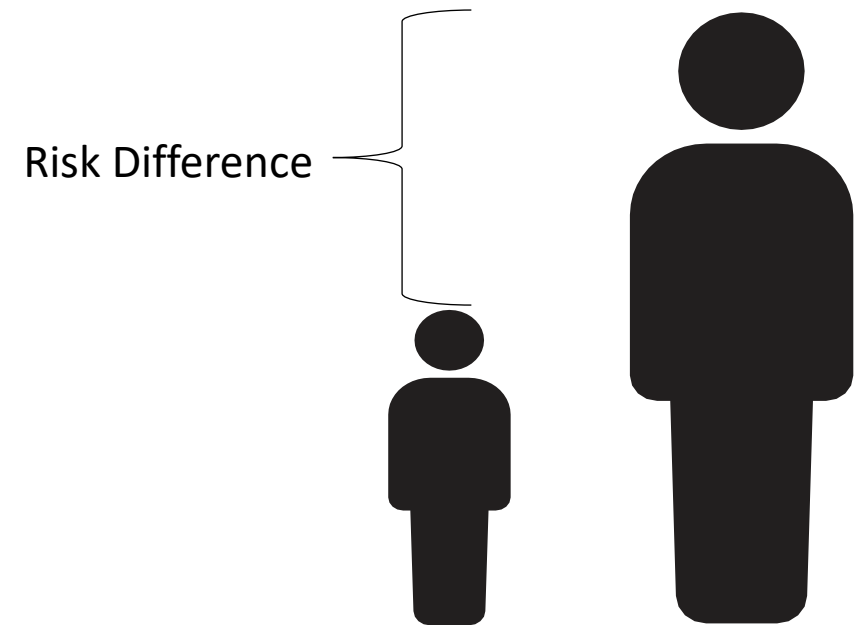
Disadvantages

- Does not account for all events
- Considered to be “unstable”
- Does not provide information regarding the actual numbers of outcomes
- Provides no information about the *absolute* magnitude of the difference; schools with the same risk ratio can have very different overall discipline.



Risk Difference

The *difference* in the risk of experiencing the outcome of interest between members of the target group and members of the reference group.





Risk Difference

(Risk Index of Target Group) – (Risk Index of Reference Group)



Risk Difference

$$.75 \text{ (Dentists)} - .25 \text{ (all other doctors)} = .5$$



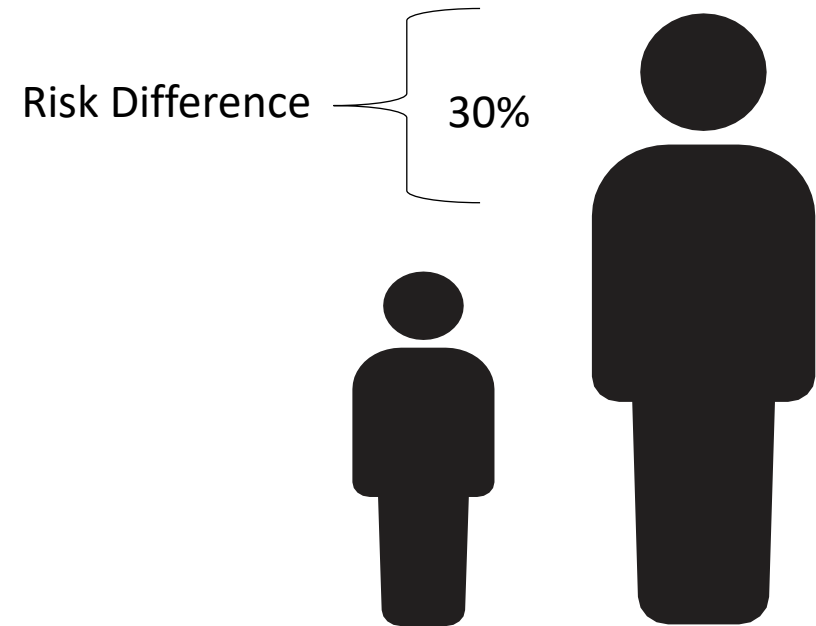
Risk Difference

$$.6 \text{ (students with IEPs)} - .3 \text{ (all other students)} = .3$$



Risk Difference Interpretation

- If the Risk index for students with IEPs is .60, and the risk index for all other students is .30, then students with IEPs are at .30 higher risk to receive the outcome, or 30% more students with IEPs an ODR than would be expected if they were referred at the same rate as students without an IEP.





Risk Difference

Advantages

- Easy to understand
- Easy to calculate

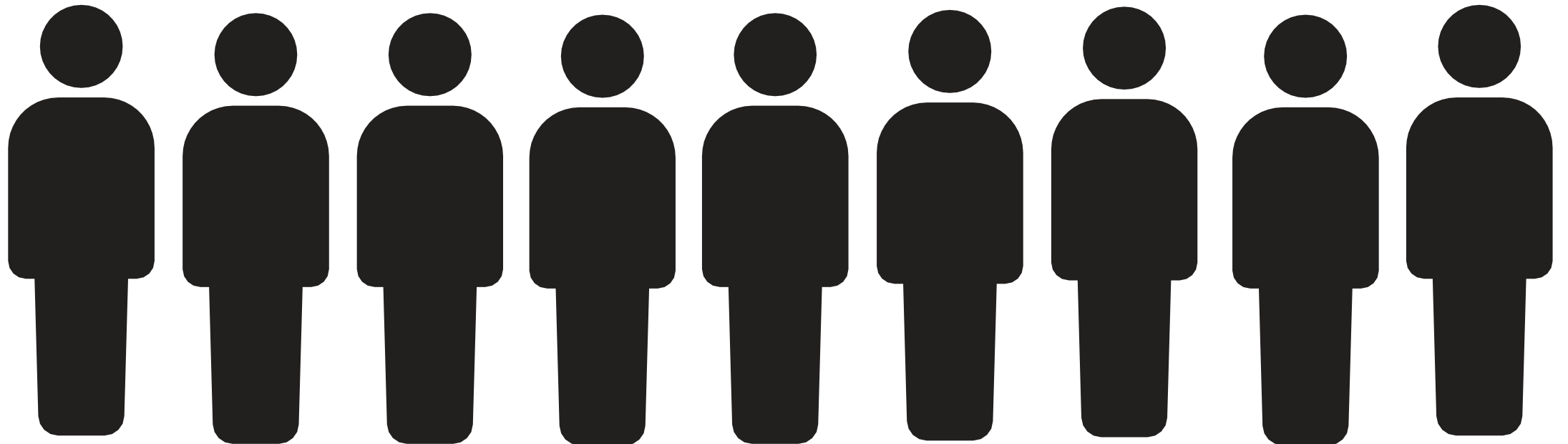
Disadvantages

- Does not present the *relative* magnitude
 - $.90 - .60 = .30$
 - $.40 - .10 = .30$
- Considered to be unstable



Raw Differential Representation

The Raw Differential (RDR) is an estimate of the number of students in the target group who experienced the outcome, but would not have if they were disciplined at the same rate as the reference group.





Raw Differential Representation (Formula 1)

$$\# \text{ of Target Students receiving outcome} - \frac{\# \text{ of Target Students receiving outcome}}{\text{Risk ratio comparing target to reference}}$$



Raw Differential Representation (Formula 1)

$$300 \text{ Dentists Prefer Crest} - \frac{300 \text{ Dentists Prefer Crest}}{3.00 \text{ Risk Ratio of Dentists compared to other doctors}}$$



Raw Differential Representation (Formula 1)

300 Dentists Prefer Crest - 200 = 100 more dentists use crest than if they used crest at the same rate as other doctors



Raw Differential Representation

50 students with IEPs had at least one ODR - $\frac{50 \text{ students with IEPs had at least one ODR}}{2.00 \text{ risk ratio for students with an IEP}}$



Raw Differential Representation

50 students with IEPs had at least one ODR - 25 =

25 more students with IEPs
received an ODR than if they
were disciplined at the same
rate as all other students



Raw Differential Representation

Advantages

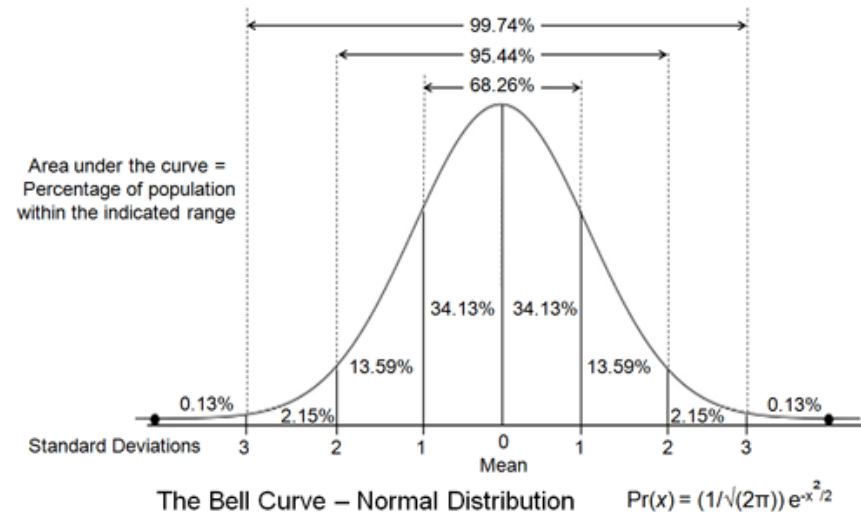
- Easy to understand
- Provides a measure of the magnitude of the difference
- Provides information about the actual number of students impacted

Disadvantages

- *Very* sensitive to differences in population
- Cannot be used to compare schools
- No standardized decision rule

Probit d' Effect Size

The probit d' effect size is a **standardized** measure of the magnitude of the difference of outcomes between the target group and the reference group.





Compare the metrics for both schools

- Use the Disproportionality Calculator to fill in the two tables in question 2.
- Compare the results for the demographics and the metrics for both schools.
- What do you notice?





Discipline Rate





Discipline Rate

$$\left(\frac{\frac{\# \text{ of outcomes}}{\# \text{ of days of school}}}{\# \text{ of students Enrolled}} \right) \times 100$$



Discipline Rate

$$\left(\frac{\frac{3000 \text{ ODRs}}{180 \text{ days of school}}}{1000 \text{ students}} \right) \times 100 = 1.67 \text{ ODRs per Day Per 100 students}$$

Discipline Rate

Advantages

- Takes into account *all* outcomes of interest (as opposed to number of students who experienced the outcome)
- Can be used to compare different schools
- Informs interpretation of the Risk Ratio

Disadvantages

- Not a disproportionality metric

Discipline Rate

$$\frac{\text{Total Students Enrolled}}{100} \times (\# \text{ of School Days})$$



Recommendation

- Erik J. Girvan, Kent McIntosh & Keith Smolkowski Recommend an Equity Report
 - Use Risk Ratio to identify disproportionality
 - Use Discipline Rate by subgroup to compare different schools
 - Use Raw Differential Representation for progress monitoring

