

EDUCATION REFORM

EIJC 26 April 2019

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Why do we need it?

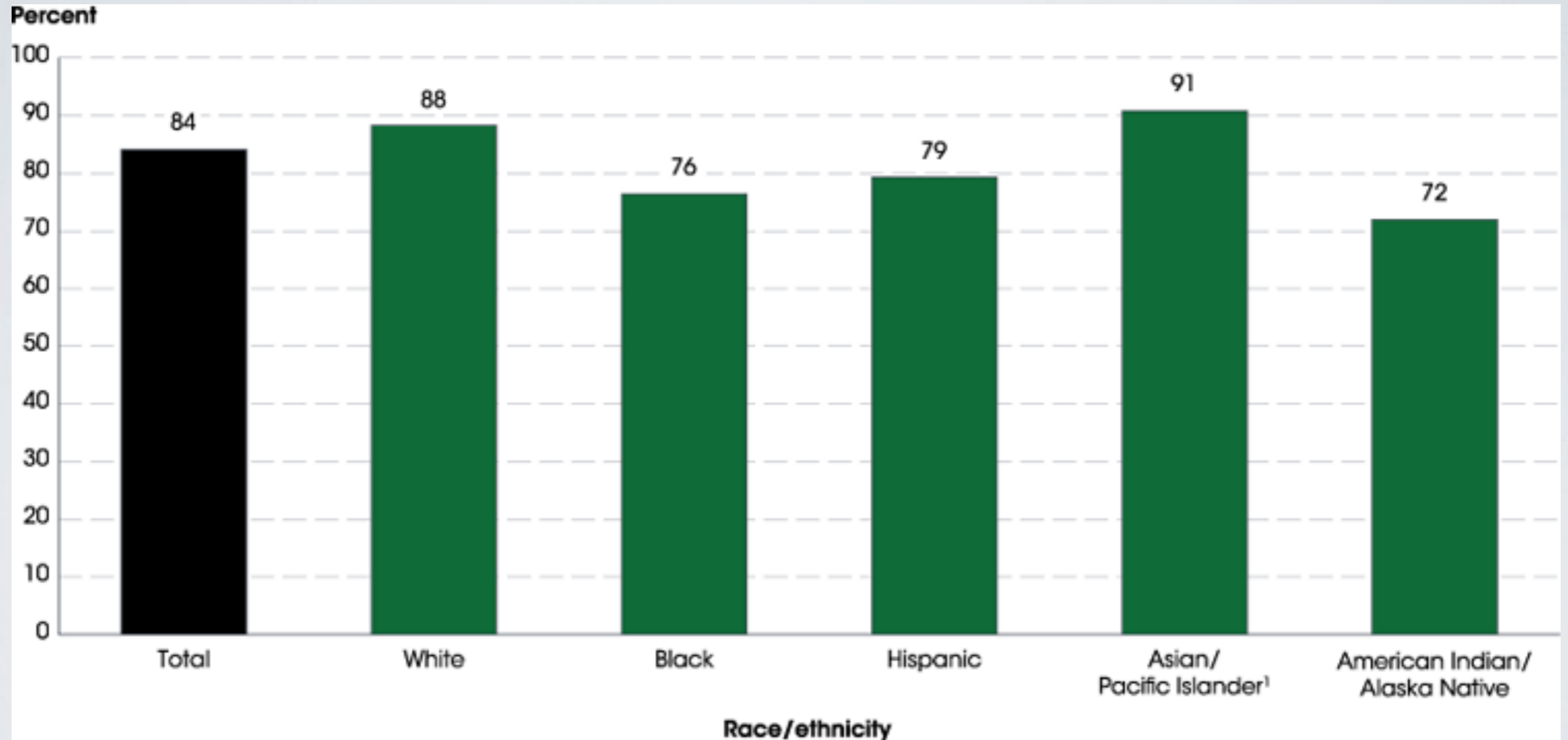
Nationally, ~84% of the high school freshmen that began in 2013-2014 graduated with their degree in 2018.

This number has actually been increasing since 2010.

Great success!

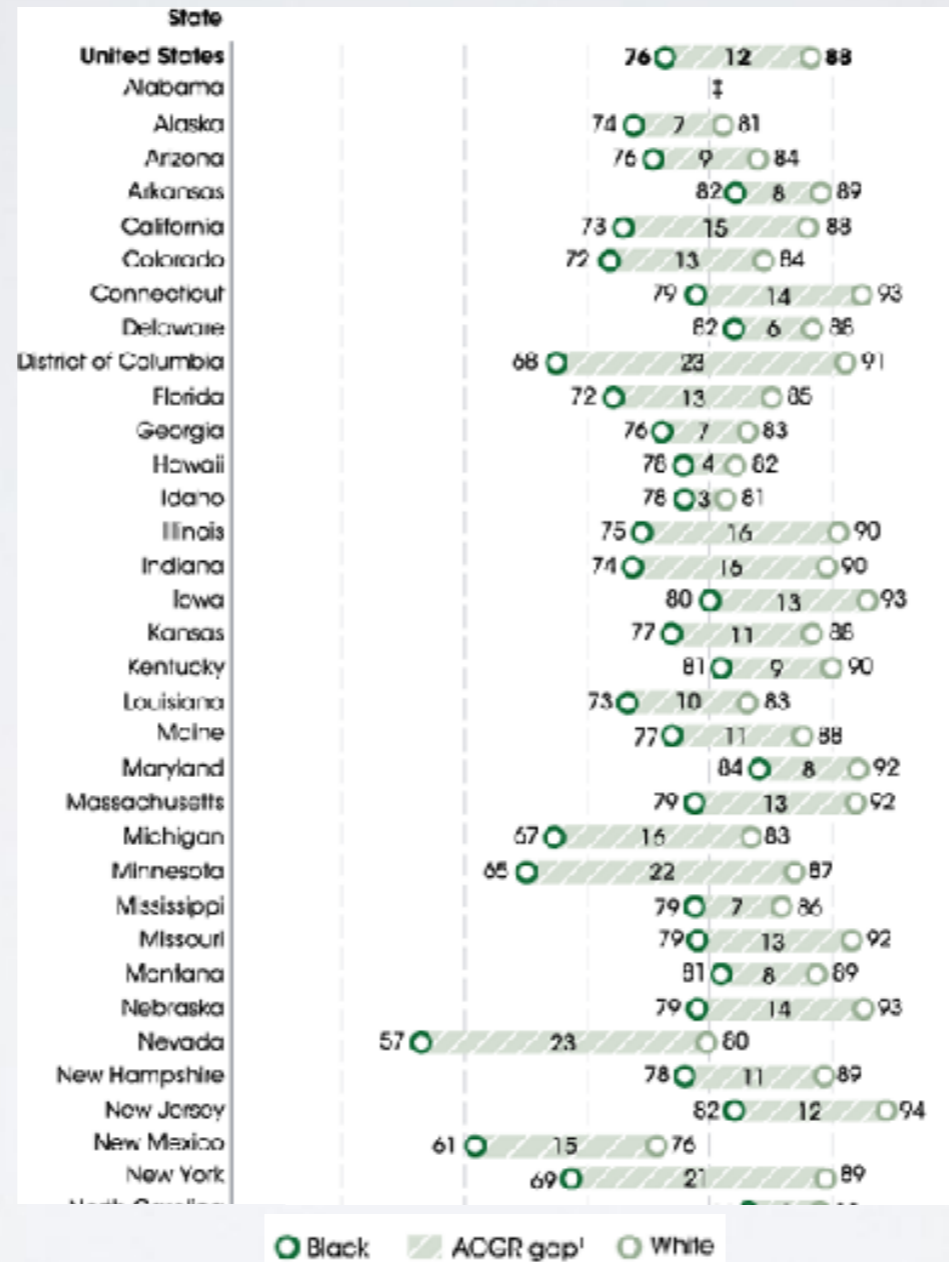
Why do we need it?

These numbers look different across ethnic/racial groups.



Why do we need it?

These numbers look very different at the state level.



Why do we need it?

These numbers look very different at the district level.



New Bedford

Student Group	% Graduated
All Students	65.5
Male	56.1
Female	76.0
EL	50.0
Students w/ disabilities	40.0
Low income	62.1
High needs	61.6
Afr. Amer./Black	47.8
Asian	-
Hispanic/Latino	62.2
Amer. Ind. or Alaska Nat.	-
White	71.3
Nat. Haw. or Pacif. Isl.	-
Multi-race, Non-Hisp./Lat.	73.3

Cambridge

Student Group	% Graduated
All Students	88.8
Male	86.9
Female	91.0
EL	64.0
Students w/ disabilities	76.1
Low income	81.6
High needs	82.0
Afr. Amer./Black	79.3
Asian	98.0
Hispanic/Latino	87.3
Amer. Ind. or Alaska Nat.	-
White	94.2
Nat. Haw. or Pacif. Isl.	-
Multi-race, Non-Hisp./Lat.	93.3

Why do we need it?



Funding for public schools depends on property tax.

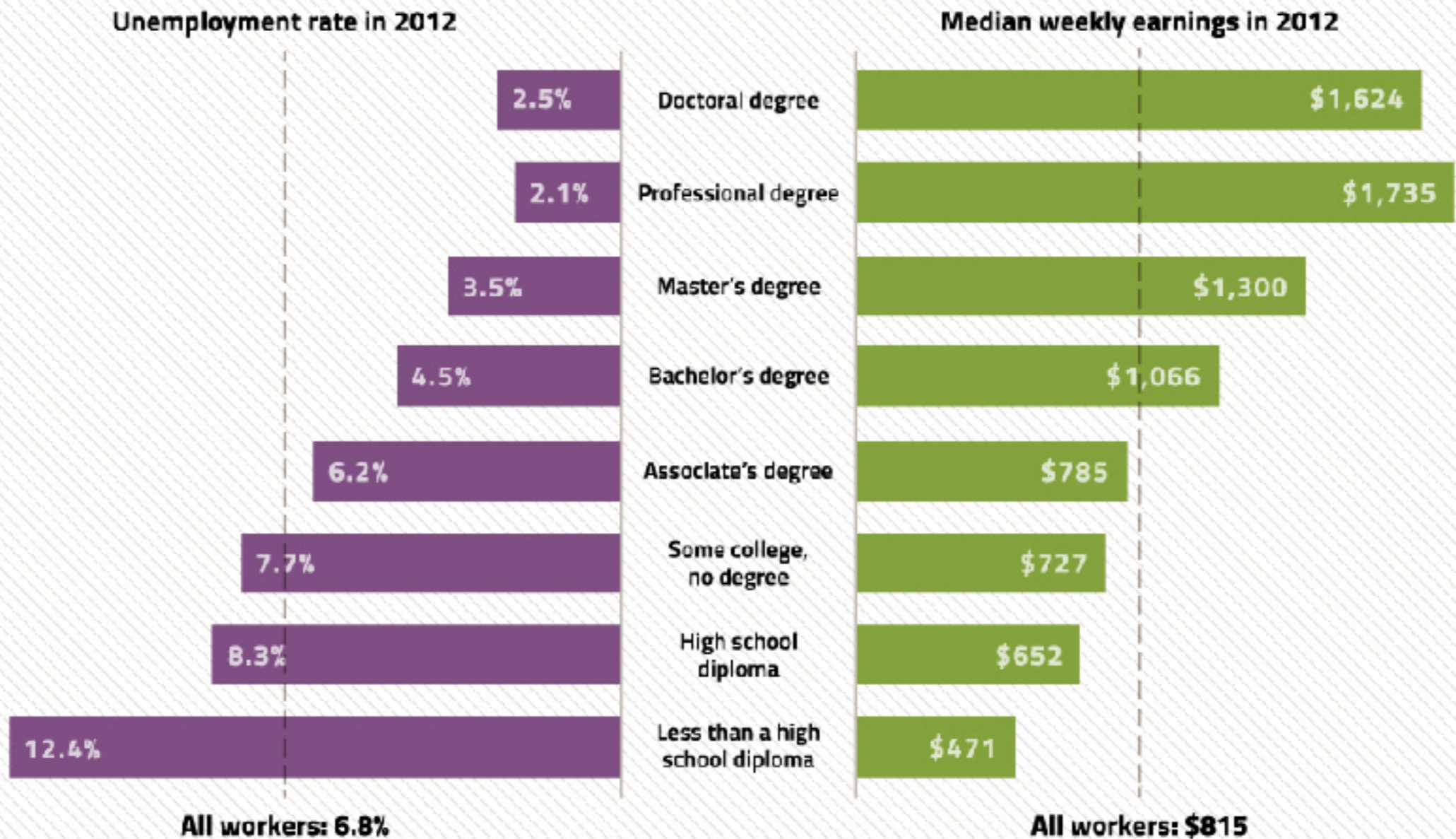
The more the houses in your neighborhood are worth, the more money your school gets.

This particularly effects inner city and rural (and Native Land) schools, which are routinely underfunded.

The racist practice of redlining has ensured that this trend will continue.

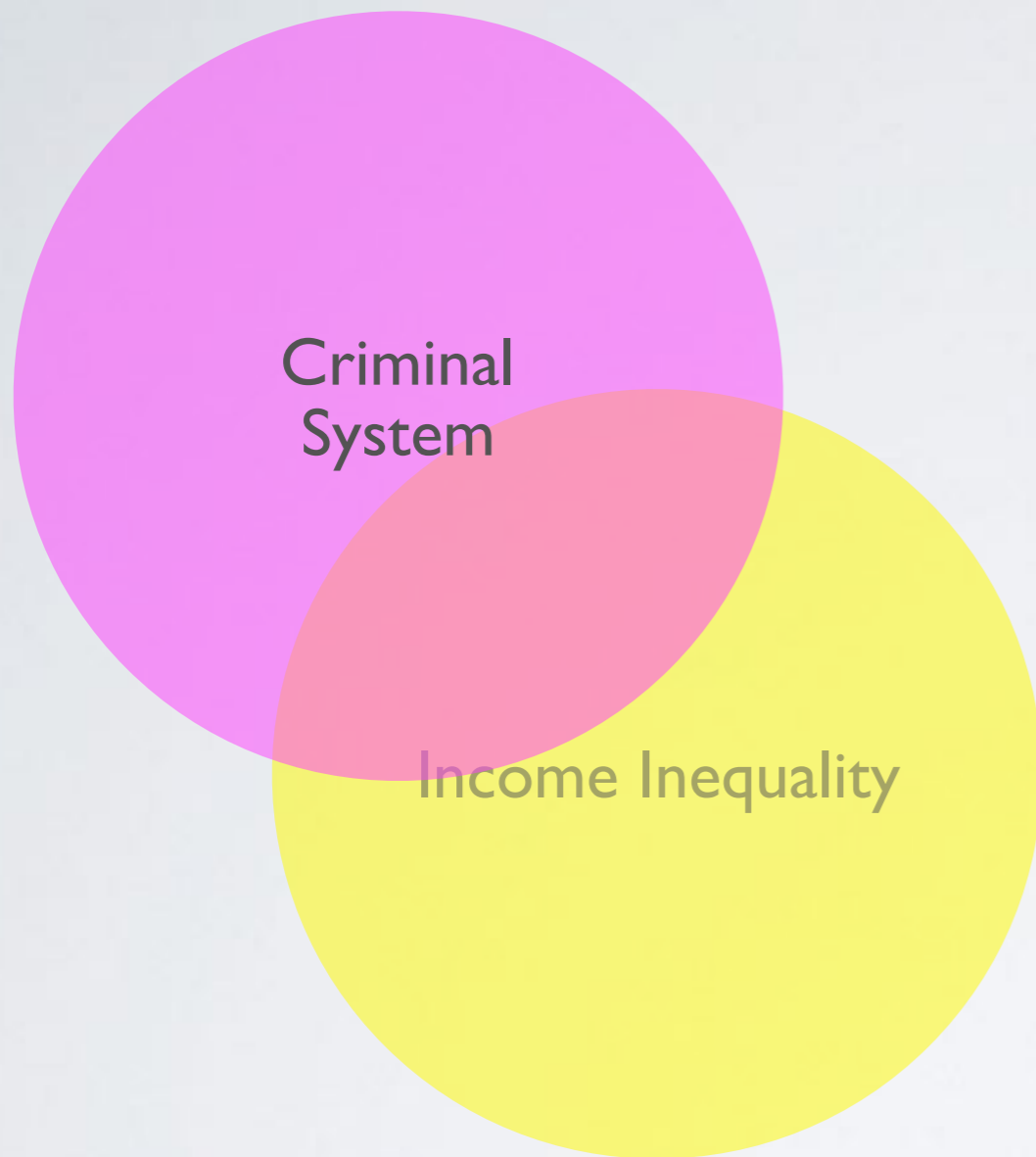
Why do we need it?

Earnings and unemployment rates by educational attainment



Data from: Bureau of Labor Statistics, Current Population Survey. http://www.bls.gov/emp/ep_chart_001.htm

Why do we need it?



> 50% of inmates in federal, state and local prisons did not finish high school.

US Bureau of Justice

also see: all4ed.org/press/crime-rates-linked-to-educational-attainment-new-alliance-report-finds/

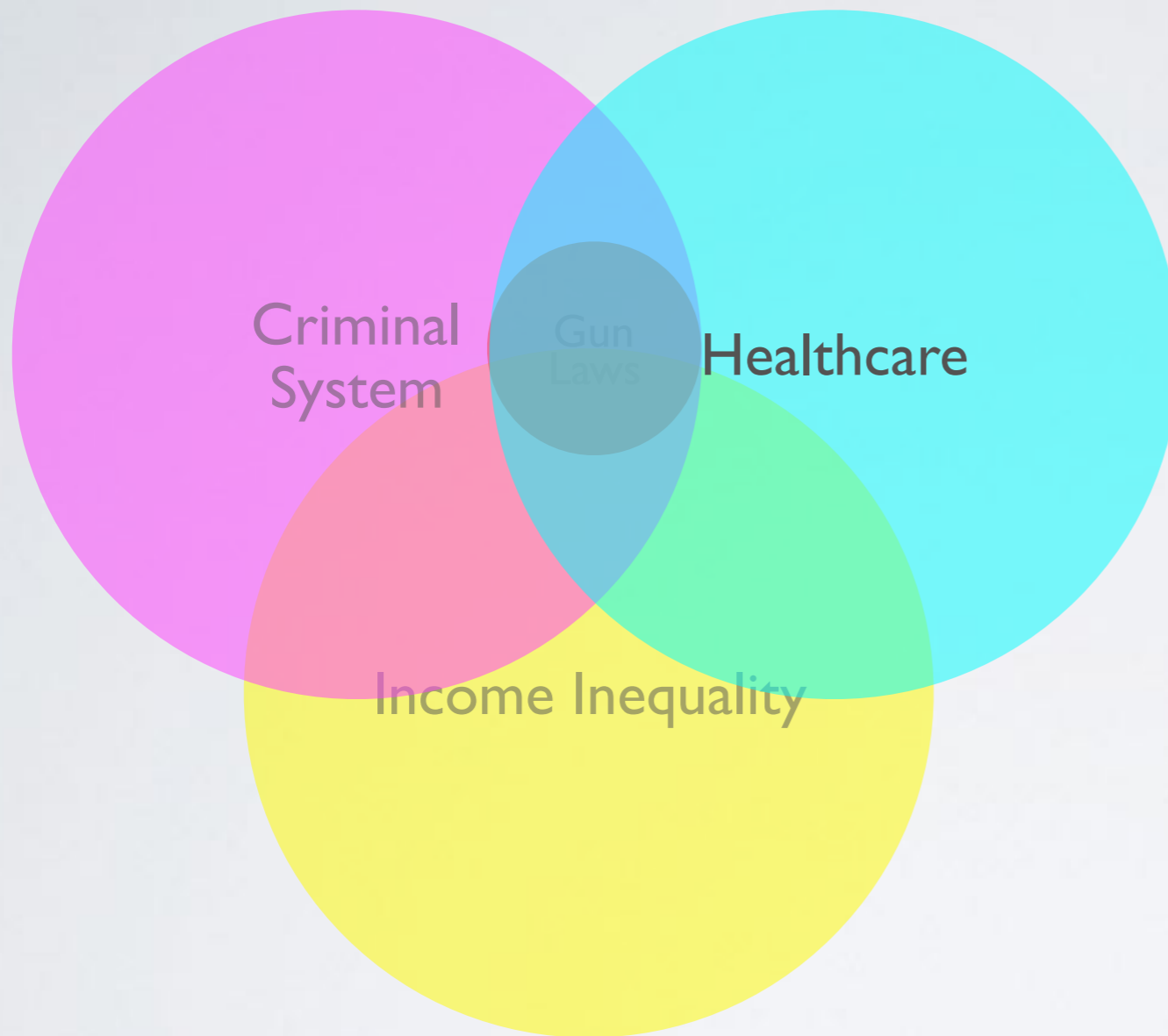
Increasing the required schooling age by one year reduces the crime rate by more than 10%

www.economics.handels.gu.se/digitalAssets/1439/1439011_49-55_research_lochner.pdf

Students are more likely to miss class if they travel through a high-crime neighborhood on their way to school

www.npr.org/2019/02/13/693972661/a-high-crime-neighborhood-makes-it-harder-to-show-up-for-school

Why do we need it?

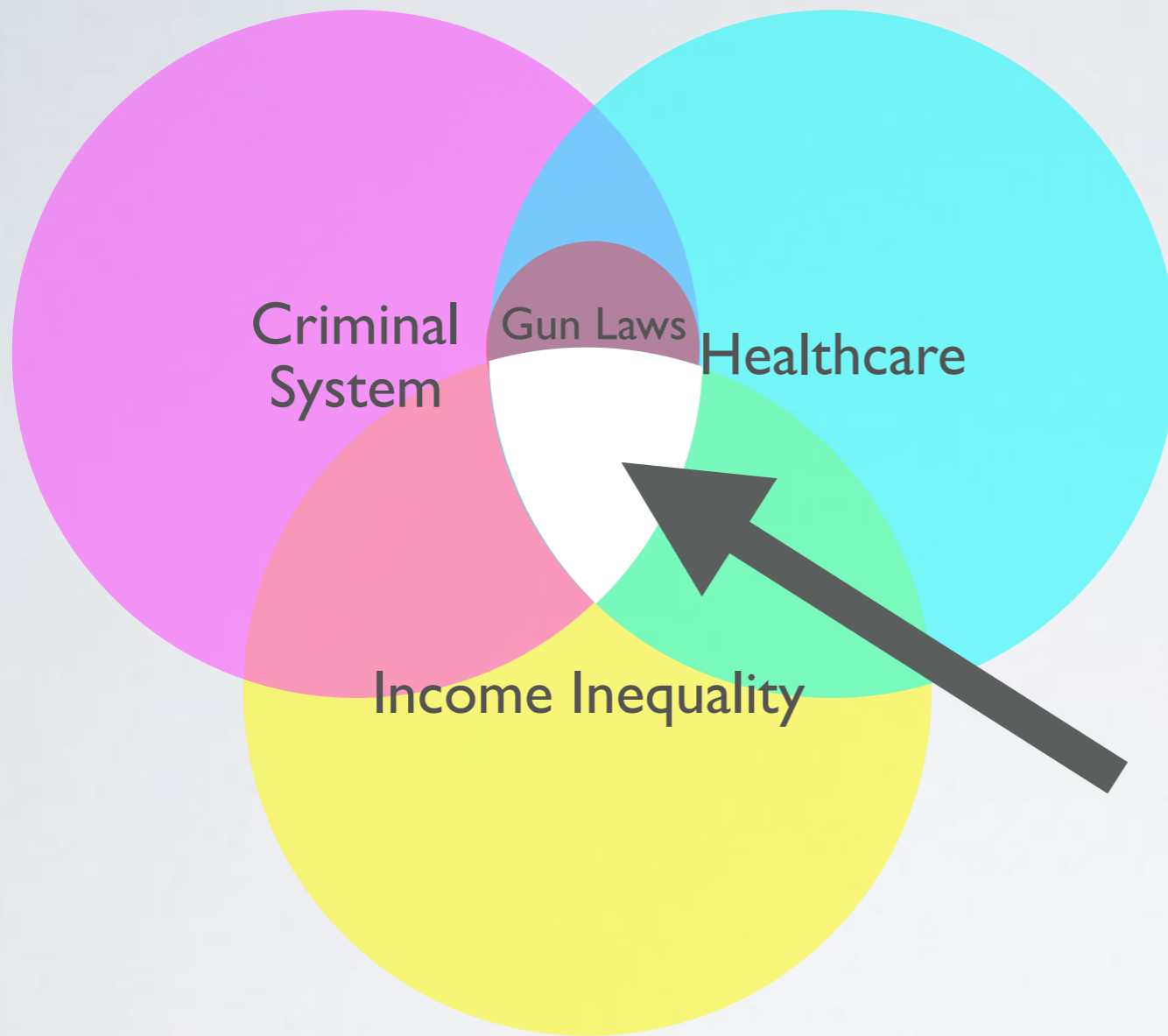


If students have access to the healthcare they need (e.g., primary care, mental services, learning disability screening) they are less likely to have to miss school.

It has been shown that improving education has a positive impact on the general health of the community.

The Free & Reduced Lunch program provides food for some of the poorest students in this country. Oftentimes, that is the only meal they receive in a day.

Why do we need it?



EDUCATION REFORM

education reform *is not*...

A magical elixir for all the world's problems.

Simple. The student population across the US has many diverse needs, requiring attention at macro (federal) and micro (local) levels.

Easy. This is a multifaceted issue that affects many parts of society, and it is deeply rooted in history, tradition, and colonization.

education reform

noun

1. Enact policy and practices to restructure the US education system
2. Engage in good-faith equitable practices in every school
3. Provide a sustainable structure that serves the needs of all learners

Previously at the EIJC...

the achievement gap
technology in schools
accessibility
mental health issues in academia
affirmative action
stereotype threat
unconscious bias
inclusive STEM teaching practices
inquiry based learning

education reform

noun

1. Enact policy and practices to restructure the US education system
2. Engage in good-faith equitable practices in every school
3. Provide a sustainable structure that serves the needs of all learners

Primary/Secondary Education

public vs. charter
school choice
funding
common core
home schooling
rural schools
indigenous ed.
prison schools
etc.

Higher Education

structure (tenure)
student debt
common core
admissions
etc.

Other

adult education
non-/informal ed.
US vs. international ed.
decolonizing curricula
school calendar
etc.

NON-/INFORMAL EDUCATION

Non-formal education refers to any structured educational experience that takes place outside a formal classroom setting. This typically requires many resources, and targets a specific group of people.

Informal education is a nebulous term used to describe the unstructured, often random ways in which we learn from our surroundings and interactions.

Pair Discussion

For 3 minutes, the person with the shorter hair talks, the other just listens. Then, switch roles.

Describe how you first became interested in astronomy/STEM.

How many of you would credit outreach or some kind of informal **mentor** with your presence in this room?

NON-/INFORMAL EDUCATION: MENTORSHIP

Relationships can change
EVERYTHING



NON-/INFORMAL EDUCATION: MENTORSHIP

Four kinds of support a mentor provides:

emotional

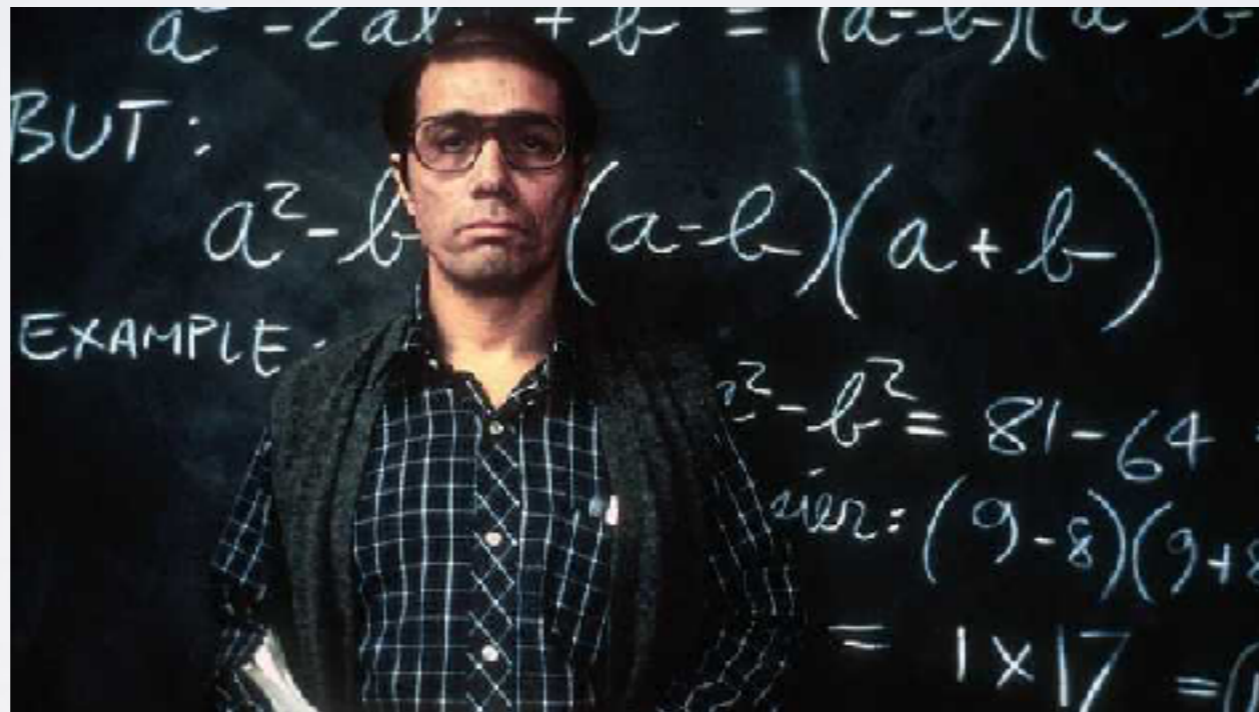
informational

appraisal

instrumental

NON-/INFORMAL EDUCATION: MENTORSHIP

Most effective when it's genuine and long lasting



NON-/INFORMAL EDUCATION: OUTREACH

a combination of

formal (school),

informal (mentoring) and

non-formal (outreach)

is the best way to
affect student outcomes

NON-/INFORMAL EDUCATION: OUTREACH



Education takes away the oxygen that allows the fire of violence to burn. Just as it's easier for students to learn French by speaking it in France, we need civics, literature and science to be practiced in communities rocked by nonsensical violence. We must create opportunities to practice what students learn in schools.



Writer and educator, Andre Perry

hechingerreport.org/high-crime-areas-education-reform-needs-expand-outside-classroom/

NON-/INFORMAL EDUCATION: IMPACT

1. Reduces dropout/ interrupted graduation rates
2. Reduces crime rates
3. Encourages students to return to school if they do drop out
4. Improves overall health and wellness of community
5. Creates equity in access to educational resources
6. etc, etc, etc, ...

TAKE ACTION

- Volunteer to teach at a local prison:

<http://pbha.org/programs/hope/>

- Join a local organization that's dedicated to education and prison reform:

<http://princetonspear.com/>

- Take a (free!) online course about how to build a safe space for your indigenous students (and likely, your non-indigenous students as well):

<https://www.edx.org/course/reconciliation-through-indigenous-education-1>

- Donate useful and impactful resources directly to a classroom:

<https://www.donorschoose.org>

- Get involved in the outreach programs at the CfA, SED, Harvard at large (but maybe try to specifically target schools that need the attention)

<https://www.cfa.harvard.edu/education-outreach>

<https://www.cfa.harvard.edu/sed/>

<https://www.scienceclubforgirls.org/volunteer>

- **Others? What do you think we can/should be doing at the CfA?**