

# Inequalities and Bias in Schools

Reasons, Research and Reactions

University of Edinburgh, 17<sup>th</sup> November 2023



# Who we are



## BIPE Project

Social and ethnic biases in primary education

Funded by the *Economic and Social Research Council (ESRC)*

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Project leader



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Senior Researcher



# What this session is about



## **INEQUALITIES AND BIAS – WHAT RESEARCH SAYS**

- What is the role of school?
- How is bias studied?
- What are the consequences?



## **FINDINGS FROM OUR CURRENT PROJECT**

- Why do teachers underestimate/overestimate academic attitudes of some students?



## **YOUR VIEWS AND EXPERIENCES**

## *Let's start with an activity*

A father and son were involved in a car accident in which the father was killed and the son was seriously injured. The father was pronounced dead at the scene of the accident and his body was taken to a local morgue. The son was taken by ambulance to a nearby hospital and was immediately wheeled into an emergency operating room. A surgeon was called. Upon arrival and seeing the patient, the attending surgeon exclaimed "Oh my God, it's my son!"

Can you explain this?

## *Another activity*

On a piece of paper, write in a column to the left the 6 people you trust the most outside your family.

Then, make a tick beside each person who is similar in terms of your own

- Nationality
- Ethnicity
- Gender
- Native language
- Religion

# Gender gap in school attainment

## Grade gender gaps widen during pandemic

Scottish qualifications data shows the gap between girls and boys receiving an A grade has grown in past two years

[TES magazine, 12<sup>th</sup> August 2021](#)



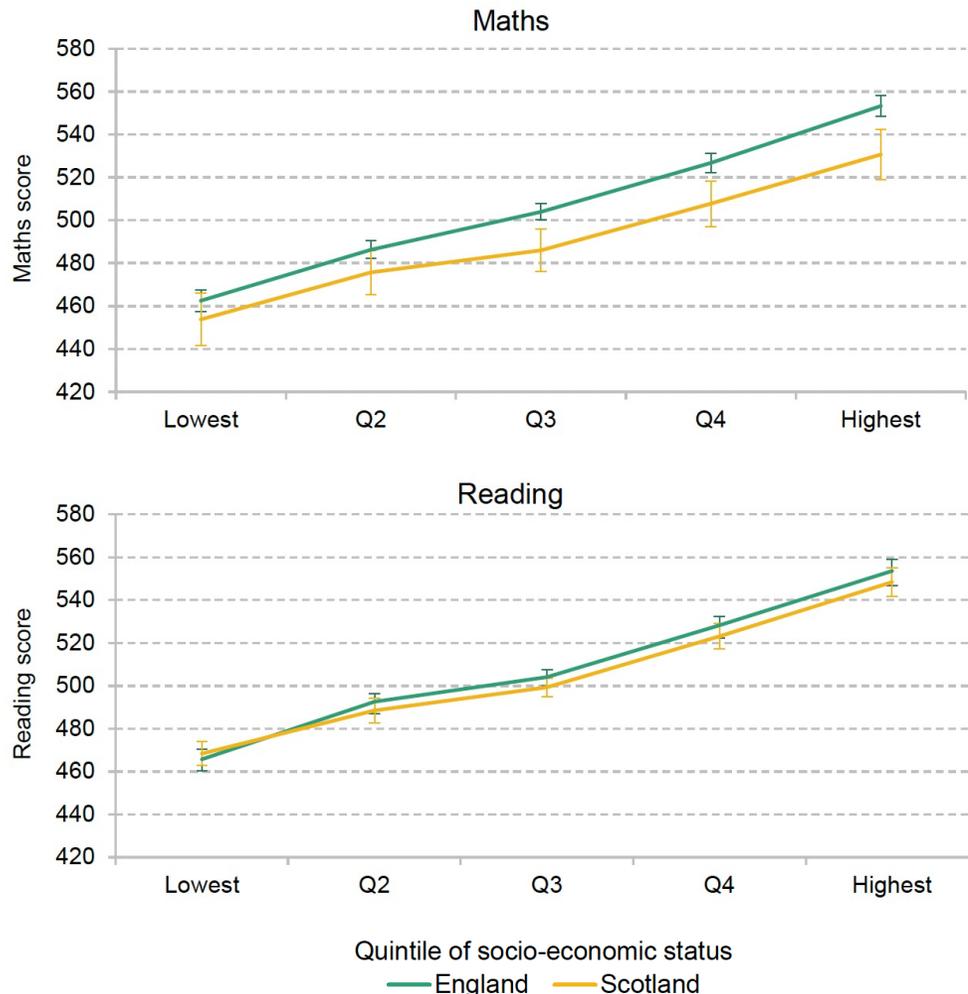
**Girls overtake boys in A-level and GCSE maths, so are they 'smarter'?**

[The Guardian, 13<sup>th</sup> August 2021](#)

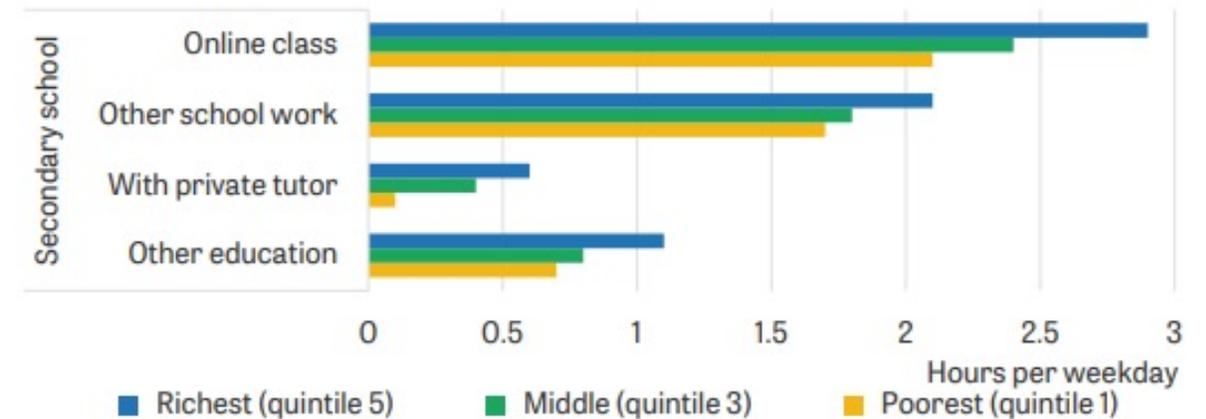
# Socioeconomic gap in school attainment

## Warning over fall in Scottish educational standards [Holyrood, 16<sup>th</sup> November 2023](#)

Figure 3. Socio-economic gradient in PISA scores in Scotland and England, 2018



## Children's daily learning time during first national lockdown in Spring 2020



Source: Andrew et al (2020).

Blundell, R. et al. (2022; IFS)

Lester et al. (2023; IFS)

# Ethnic gap in school attainment (in England)

## Government report ([Gov.uk](https://www.gov.uk), 2022):

“Attainment 8-scores for the academic year 2020-21:

- Pupils from the Chinese ethnic group had the highest score out of all ethnic groups (69.2)
- White Gypsy and Roma pupils had the lowest score (22.7)
- Across all students the score is 50.9 (out of 90)
- Black Caribbean score 44, and Mixed White/Black Caribbean 45.0
- White British pupils score 50.2.”

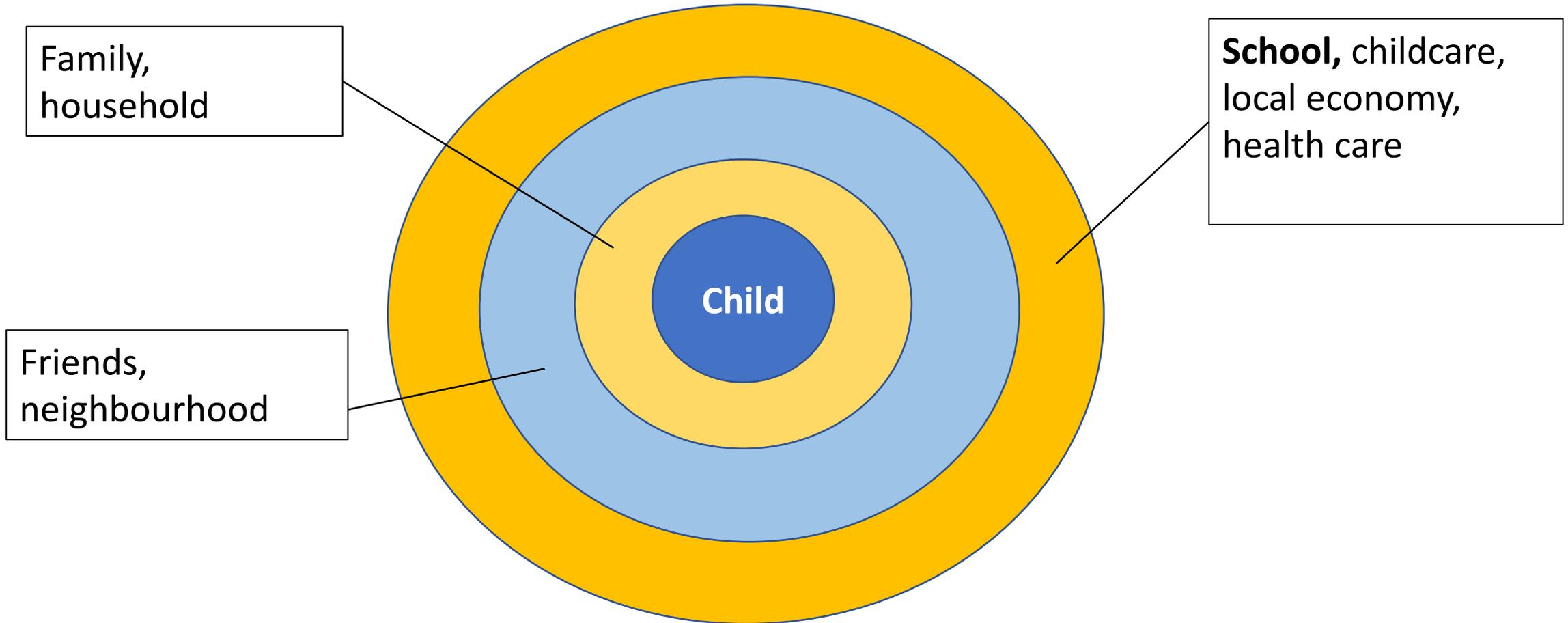


## Intersections with social class and gender:

- In some ethnic groups, gender gap is much larger
- White working-class boys are particularly unlikely to attend university (Baars et al, 2016)

# Where do inequalities come from?

Who and what influences a child's development and their school attainment?



# How much of inequalities is due to schools?

- Boys and children of socially disadvantaged backgrounds are more likely to be placed in **low ability groups**.
- Being in a low ability group **decreases academic self-esteem, self-image, enjoyment of school and attainment gain**.
- Boys and Black Caribbean students are more likely to be **excluded from school**.
- BUT, **supportive teacher-student relationships** have positive influence on social skills, behavior and attainment of students, especially for students with 'at-risk' backgrounds.



“But these children are placed in lower ability groups because their attainment is lower than that of the others!”

**At same levels of previous attainment/scores in subject-specific ability tests,**

- ❖ boys and students from high-risk families are more likely to be **placed in low ability groups**.
- ❖ boys and children from socially disadvantaged backgrounds are more likely to **receive lower marks**.
- ❖ boys and children from socially disadvantaged backgrounds are more likely to **receive negative teacher judgements about their abilities and whether they will go to university**.

# Our project on social and ethnic biases in primary education



### RESEARCH QUESTION:

**Are primary school teachers' perceptions of their students systematically *biased* against certain socioeconomic and ethnic groups?**

#### Focus on **teacher perceptions** of:

- Students' *attitudes* towards school
- Students' *abilities* in different school subjects
- Their *parents' interest* and *involvement*

**PLUS** impact of 'macro-level factors': *What's the role of education systems, teacher training and so on, in shaping biases?*

Project website: [BIPE Project](#)

Project e-mail: [bipe-project@bristol.ac.uk](mailto:bipe-project@bristol.ac.uk)

# Our project on social and ethnic biases in primary education

## Data

BIPE Project

Social and ethnic biases in primary education

Nationally representative data set including *primary school* students; we mainly focus our analysis on final year of primary school

- England (UK Millennium Cohort Study)  
**12,000 children born in 2000**
- Scotland (Growing Up in Scotland)  
**5,000 children born in 2004**
- Germany (National Educational panel study)  
9,000 children born in 2005
- Ireland (Growing Up in Ireland)  
19,000 children born in 2000

Data collected from the children themselves, their parents, their teachers + cognitive tests, school grades, etc.



Our project on social and ethnic biases in primary education



BIPE Project

Social and ethnic biases in primary education

## Methodology

Estimations of **DISCREPANCIES** between:

- teacher perceptions & students' own reports of academic attitudes**
- teacher rating of students' abilities & students' standardised test results**

**NOW** let's look at some preliminary results!

# BIPE Project

Social and ethnic biases in primary education

## Preliminary results

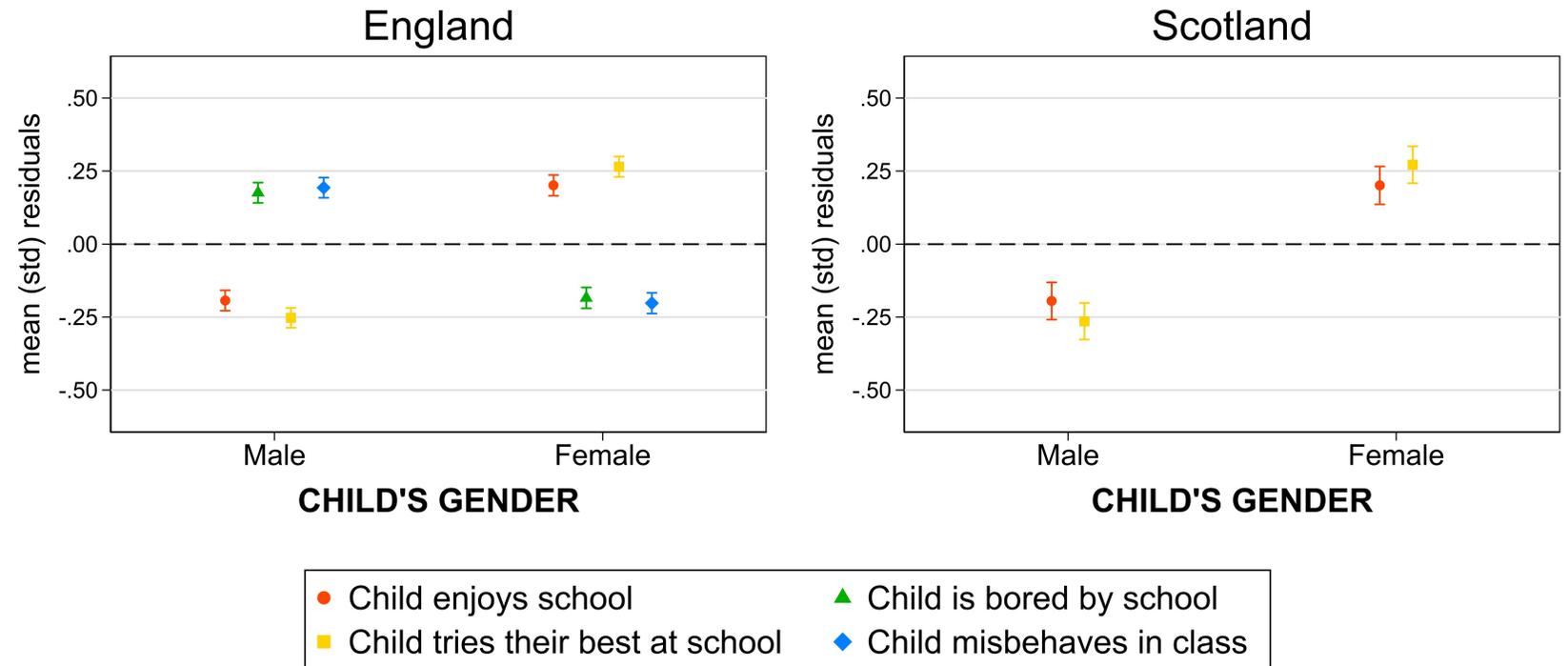
# GENDER



On average, teachers tend to ...

- over-estimate how often girls enjoy school and try their best at school.
- under-estimate how often boys enjoy school and try their best at school.
- under-estimate how often girls are bored by school and misbehave in class.
- over-estimate how often boys are bored by school and misbehave in class.

## ACADEMIC ATTITUDES



# BIPE Project

Social and ethnic biases in primary education

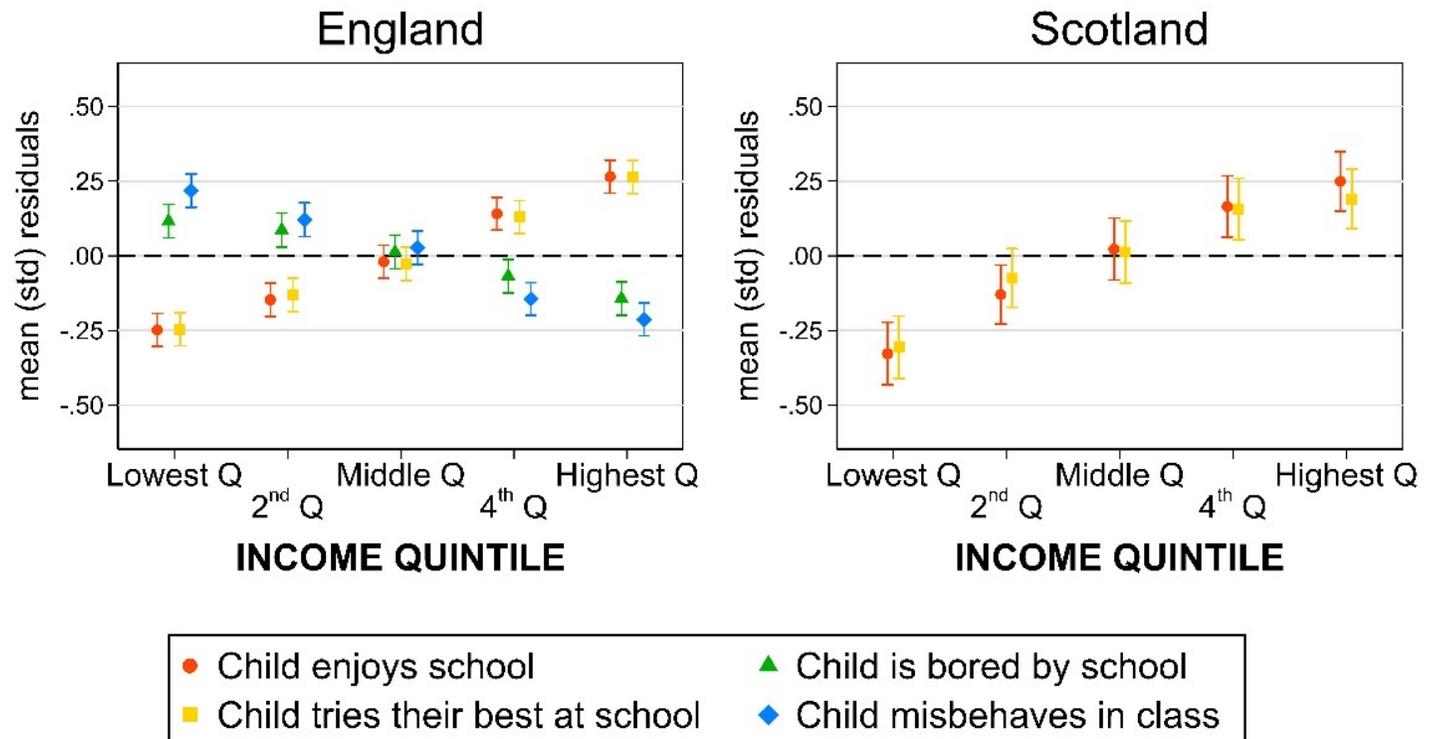
## Preliminary results Family INCOME



On average, teachers tend to ...

- over-estimate how often pupils from higher-income families enjoy school and try their best at school.
- under-estimate how often pupils from lower-income families enjoy school and try their best at school.
- over-estimate how often pupils from lower-income families are bored by school and misbehave in class.
- under-estimate how often pupils from higher-income families are bored by school and misbehave in class.

### ACADEMIC ATTITUDES



# BIPE Project

Social and ethnic biases in primary education

## Preliminary results

### ETHNICITY

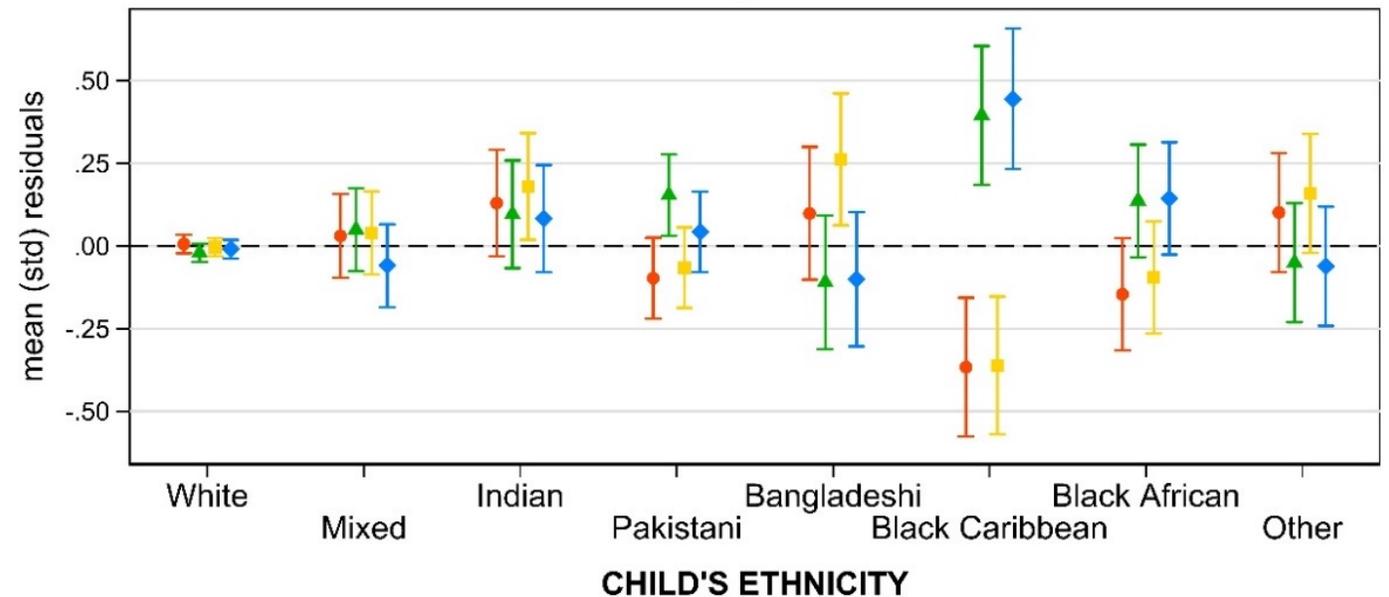


On average, teachers tend to ...

- under-estimate how often students whose families identify as of Black Caribbean heritage enjoy school and try their best at school.
- over-estimate how often students whose families identify as of Indian or Bangladeshi heritage try their best at school.
- over-estimate how often students whose families identify as of Black Caribbean heritage are bored by school and misbehave in class.
- over-estimate how often students whose families identify as of Pakistani heritage are bored by school.

### ACADEMIC ATTITUDES

England



- Child enjoys school
- Child tries their best at school
- Child is bored by school
- Child misbehaves in class

# BIPE Project

Social and ethnic biases in primary education

## Preliminary results

# GENDER



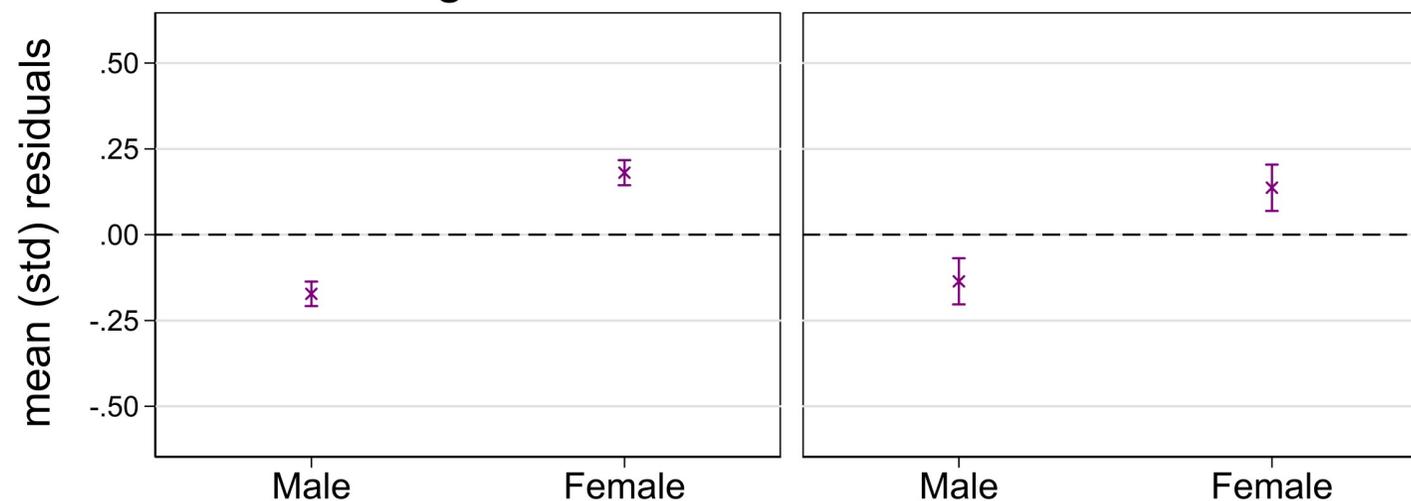
On average, teachers tend to ...

- over-estimate the language skills of girls.
- under-estimate the language skills of boys.

## ACADEMIC ABILITY

England

Scotland



CHILD'S GENDER

× Academic ability: English

# BIPE Project

Social and ethnic biases in primary education

## Preliminary results

# Family INCOME



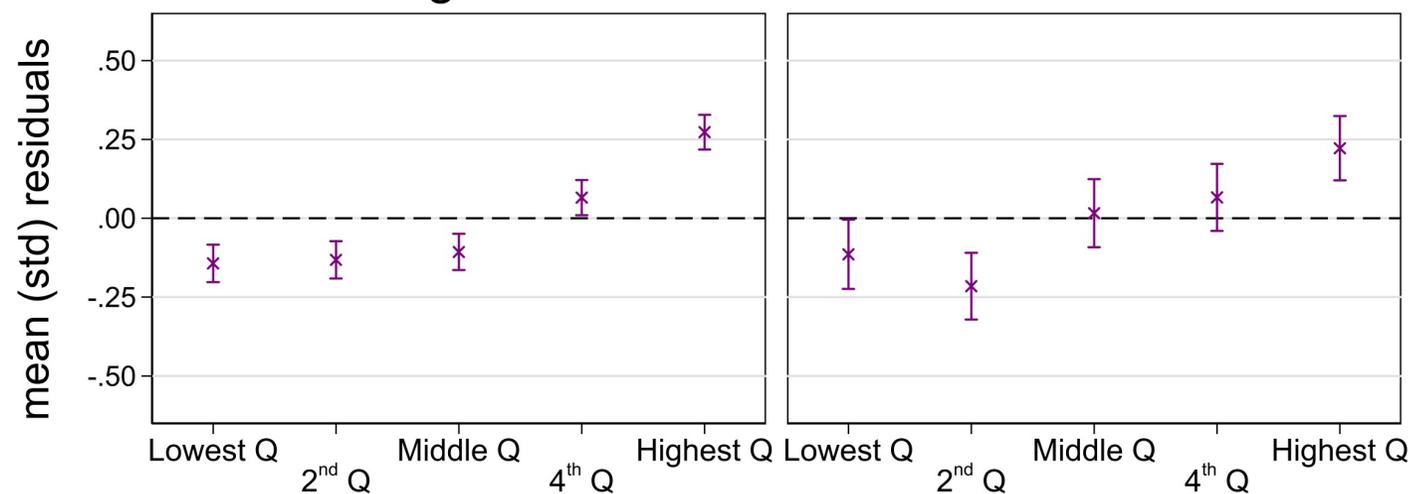
On average, teachers tend to ...

- over-estimate the language skills of pupils from higher income families.
- under-estimate the language skills of pupils from lower-income families.

### ACADEMIC ABILITY

England

Scotland



### INCOME QUINTILE

× Academic ability: English

# BIPE Project

Social and ethnic biases in primary education

## Preliminary results

### ETHNICITY

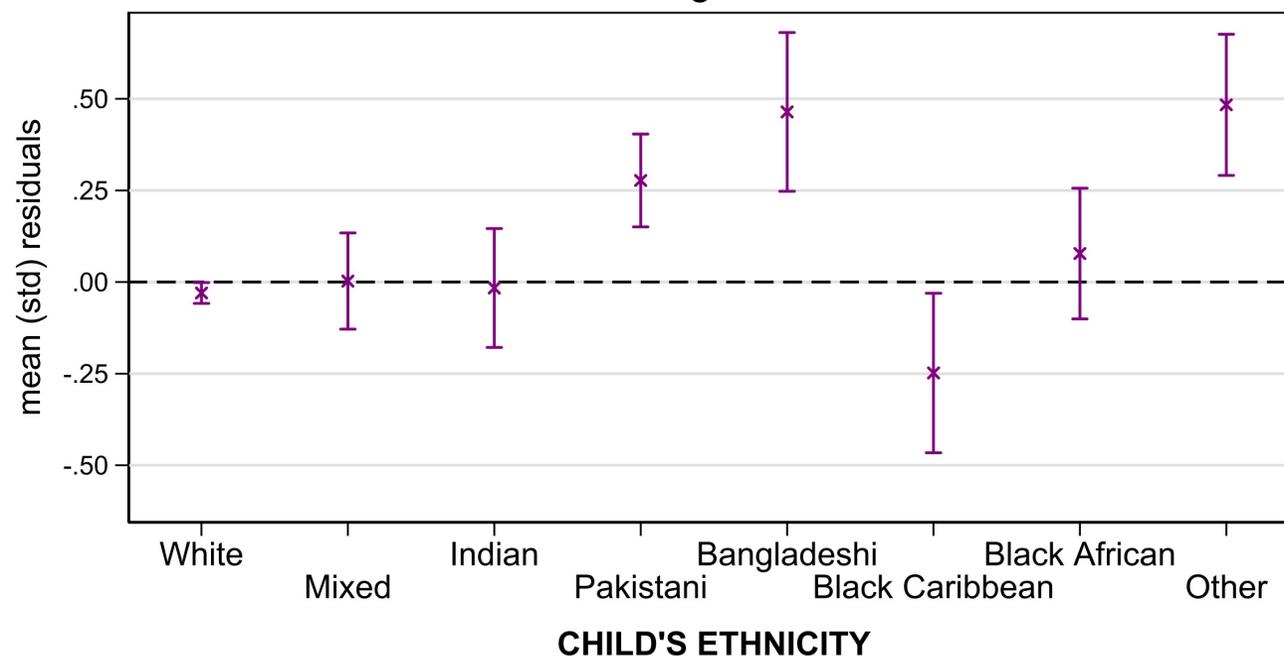


On average, teachers tend to ...

- under-estimate the language skills of students whose families identify as of White or Black Caribbean heritage.
- over-estimate the language skills of students whose families identify as of Pakistani, Bangladeshi, or Other heritage.

### ACADEMIC ABILITY

England



× Language skills (English)

## *Activity*

In groups, please discuss the research findings. Your group will focus on either gender, ethnicity or family income.

**What processes in the classroom or school could be leading to discrepancies between teacher and student perceptions?**

**Why are these discrepancies bigger for some groups of students than for others?**

Use the flipchart paper to write down and illustrate key points from your discussion.

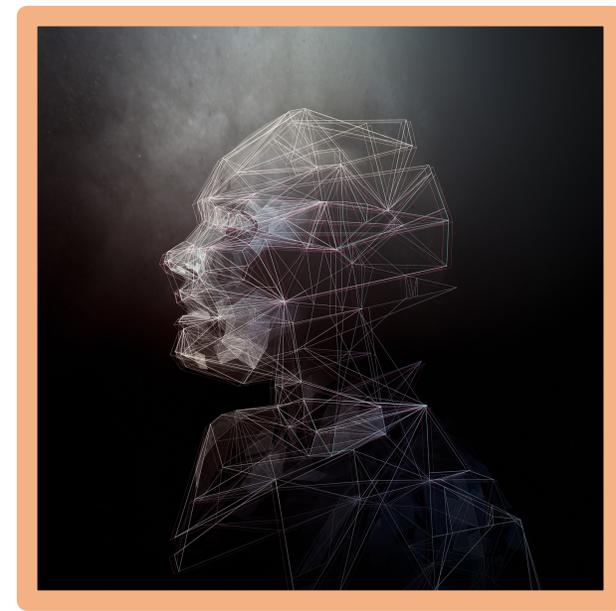
# Unconscious bias (UB): Implicit social cognition

**Implicit cognition:** past experiences, stereotypes and attitudes influence people's judgements in a way that is not conscious to them

- Implicit cognition works **automatically** and activates automatic behaviours
- Neuroscience shows prejudice and stereotypes are **learned fear responses**

**That it's a fear response means it is learned and therefore can be changed**

- It is measured with an **Implicit Association Test (IAT)**: categorisation task where words or images are rated as "pleasant"/"unpleasant", "good"/"bad" with fast reaction times.



# Implicit association test (IAT): example 'gender-career IAT'



Figure 1a: Gender-career IAT, training round 1



Figure 1b: Gender-career IAT, training round 2



Figure 1c: Gender-career IAT, stereotypical pair



Figure 1d: Gender-career IAT, non-stereotypical pair

## *Activity: Conscious reflections*

Thinking of your class, make a list of each student's initials and ask yourself:

- **Did you talk to that student yesterday?**
- **Does the student have an adult in the school that they trust?**
- **How do you usually give feedback to the student?** Is it detailed and constructive (“to get better at X, do Y and Z”) or just descriptive (“well done”, “that wasn’t so good this time”)?
- **Then, take a note of each student’s gender, ethnic background, socioeconomic background, SEN-status, and perhaps other ‘non-academic’ characteristics. Do you see a pattern?**

What are the consequences of biases?

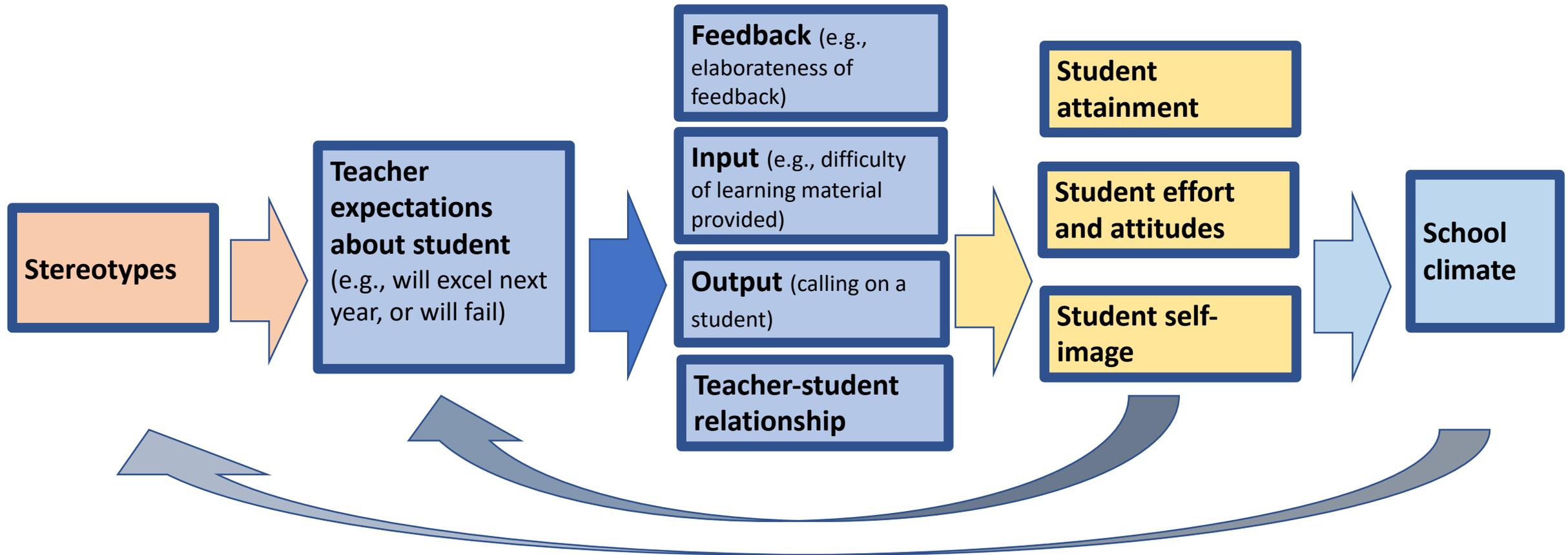
# Pygmalion study

- **Famous study by Rosenthal and Jacobson (1968)**
- Pygmalion effect = teachers' expectations of pupils' abilities influence the school performance of the pupils
- Experiment in which teachers were misled in thinking random group of pupils had outstanding abilities
- Students abilities were measured at beginning and end of school year; students whom teachers believed to have outstanding abilities achieved higher than other students at the end of the school year



*Pygmalion* by Jean-Baptiste Regnault, 1786, Musée National du Château et des Trianons; source: wikipedia

# Chain reactions and feedback loops



# Unconscious bias training: *does it work?*

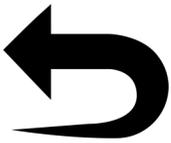
- Not all unconscious bias training has been shown to be effective
- What seems effective? Techniques that **'show' rather than 'tell'** people their biases; activities that develop skills to deal with bias
- Let's look closer at some interventions that seem to work...



Sources: Equality and Human Rights Commission 2018; FitzGerald et al 2019



**Intentional strategies to overcome biases** – participants are instructed to implement strategies to override or suppress their biases.



**Exposure to counter-stereotypical exemplars** – participants are exposed to exemplars that contradict the stereotype of the outgroup.



**Identifying with the outgroup and imagining contact** – participants perform tasks that lessen barriers between themselves and the outgroup.



**Inducing emotion and empathy** – emotions or moods are induced in participants

Unconscious  
bias training:

what seems to  
work (at least in  
the short-term)

# A critical word

- Unconscious bias should not be used to justify racism and discrimination, and to take away responsibility from structures, authorities and institutions, or overtly biased people!
- Focusing on the processes in the brains of individuals bears the risk of underestimating and downplaying the role of society and institutions.



## *Activity: How can this be implemented in your classroom and school?*

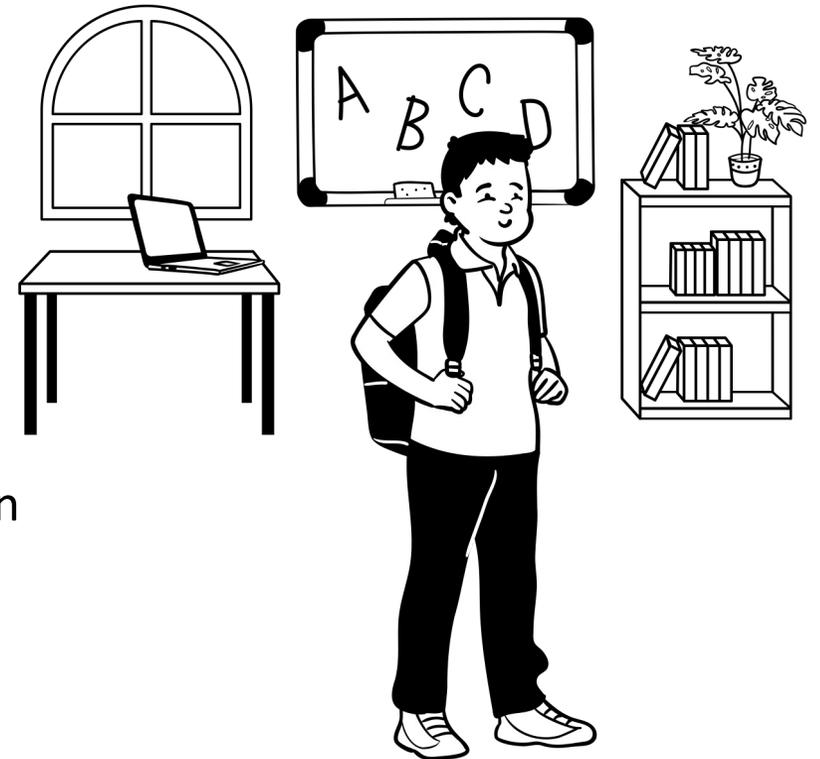
- In your groups, read the working sheets that summarise examples of an Unconscious Bias (UB) training and use this information (and other content from today or your own experiences) to discuss ways in which inequalities and bias could be reduced in your classroom and school.
- Use another flipchart paper to write down your suggestions for classroom practice.

Note that most studies are from the US and were not conducted with teachers. You may have to **be creative and do 'long stretched' transfers** when thinking of ways to reduced bias in classrooms and schools.

Note also that examples often refer to bias towards ethnic minority groups, but try to think of ways to **reduce bias towards a range of groups** (boys, students from socially disadvantaged backgrounds, etc.)

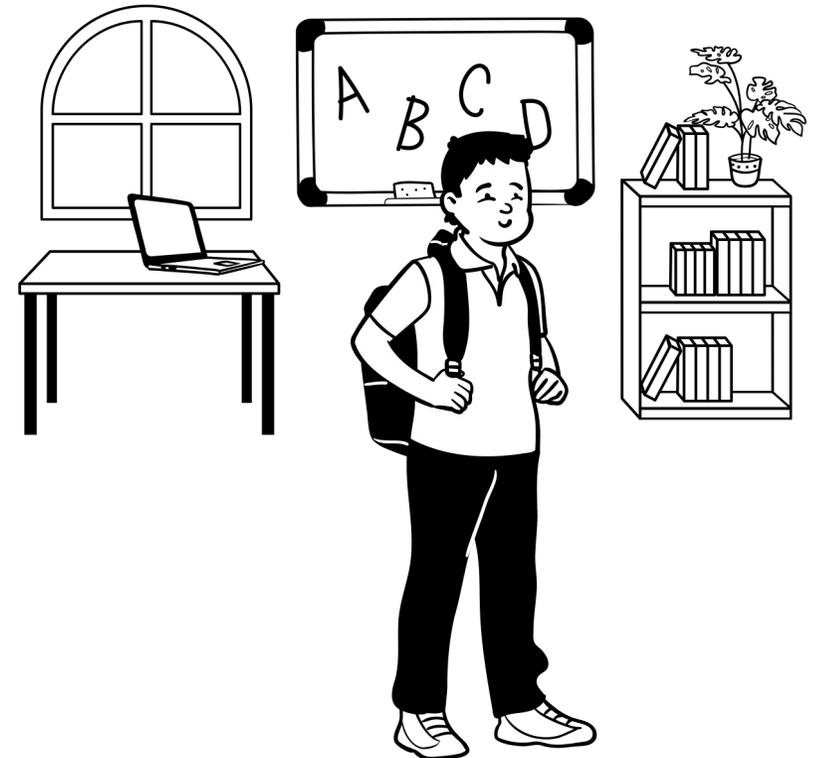
# Some practical ideas (from the research)

1. Take time when making judgements.
2. Have very specific marking criteria.
3. Engage in collaborative marking and cross-marking.
4. Discuss student cases with colleagues from another school.
5. Keep grading anonymous.
6. Create warm and supportive relationships with students (and don't assume it's the students' responsibility to create and maintain them).
7. Think of counter-stereotypical examples, recall their 'stories' in detail.



# Some practical ideas (from the research)

8. Create games in class in where teachers team up with the disruptive, 'difficult' students.
9. Let the most disruptive, low performing students tell their personal, pleasant and unpleasant school experiences.
10. Think of the characteristics one has in common with each of the students (remember own school experience or those of a friend, for example).
11. Before making decisions or even every day before going to school, formulate and speak out intentions (e.g., to be fair to a certain student).
12. Don't grudge.



# Take away message

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- Social, ethnic and gender inequalities in education persist
- But schools and teachers can make a difference through
  - Building positive teacher-student relationships
  - Consciously addressing overt and covert bias



Thank you 😊

Please leave your name and  
email address to get more  
information about our  
research.

Dr Katherin Barg

[katherin.barg@bristol.ac.uk](mailto:katherin.barg@bristol.ac.uk)

# Further readings and links



## Some practical readings

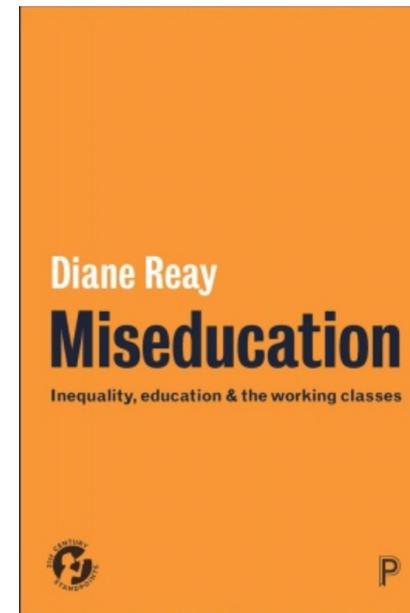
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- Scott, T. (2021) Implicit bias, disproportionate discipline, and teacher responsibility for instruction as prevention, Preventing School Failure: Alternative Education for Children and Youth, 65:4, 291-300

## Theoretical (sociological readings)

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- Willis, P. E. (1977). *Learning to labour : how working class kids get working class jobs*. Saxon House.

## Other media

- Take an Implicit Association Test here: <https://implicit.harvard.edu/implicit/takeatest.html>
- Channel 4 series 'The school that tried to end racism' <https://www.channel4.com/programmes/the-school-that-tried-to-end-racism>



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## Data sources and info for BIP-project

The BIPE Project uses the *Millennium Cohort Study* and the *Growing Up in Scotland* study, two large-scale surveys that followed, respectively, 19,000 children born between 2000 and 2001 in the UK and 5,200 children born between 2004 and 2005 in Scotland.

The **PRELIMINARY** results presented here refer to around 6,000 children aged 11 years old residing in England in 2012, and 2,000 children aged 10 years old residing in Scotland in 2014/2015.

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