



# Changing Mindsets

**Reducing stereotype threat  
and implicit bias as barriers to student success**  
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# Project Funder



# Project Partnership



**University of Brighton**



# Changing Mindsets

## Workshop-based intervention

- ▣ Tackle unconscious bias

<https://psych.wisc.edu/staff/devine-patricia-g/>

- ▣ Build personal and cultural growth mindset

<https://www.mindsetworks.com/science/>

# Innovative

- Some interventions focus on specific students
- Contributing to deficit discourses (Burke, 2012; Valencia, 2012)
- Inequitable treatment = further risks creating a sense of 'otherness'
- Staff and all their students
  - Systemic problem
  - More chance of cultural change
- Theoretical underpinning – psychology (unconscious bias, stereotype threat, mindsets)
  - Tried and tested
  - Shared terminologies for difficult conversations

# What is the Mindset Theory?



Growth Mindsets

*I can continually grow,  
learn and develop*

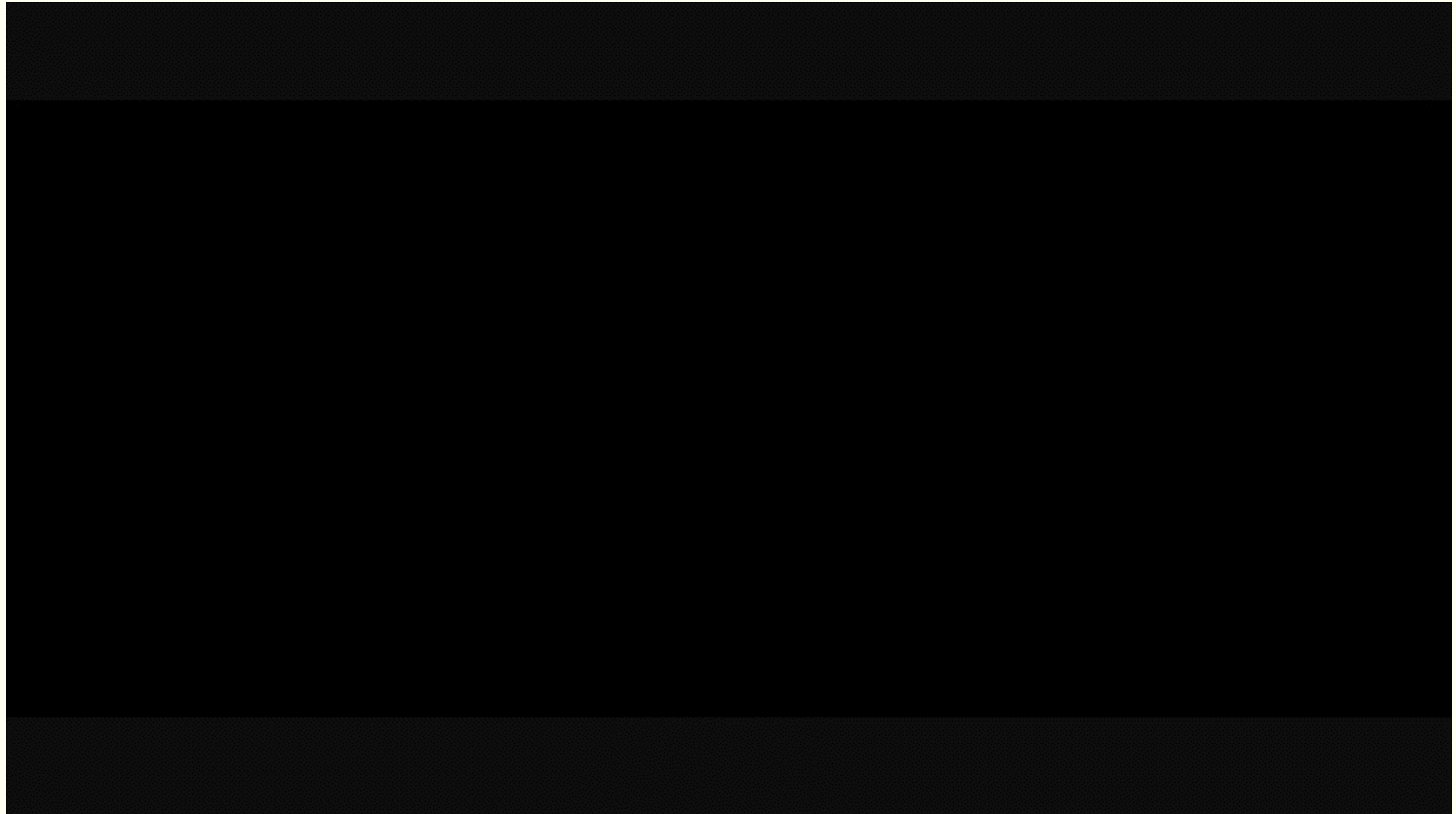


Fixed Mindsets

*I was born like this, it won't  
change very much*



# Background: Mindset Theory



# The ‘False’ Growth Mindset

*“It’s false in the sense that nobody has a growth mindset in everything all the time. Everyone is a mixture of fixed and growth mindsets. You could have a predominant growth mindset in an area but there can still be things that trigger you into a fixed mindset trait. Something really challenging and outside your comfort zone can trigger it, or, if you encounter someone who is much better than you at something you pride yourself on, you can think “Oh, that person has ability, not me.” So I think we all, students and adults, have to look for our fixed-mindset triggers and understand when we are falling into that mindset.”*

*Carol Dweck, interview in The Atlantic, 2016*

# Impact of Mindset in Education

## Learning Orientation



Learning is focused on **improvement and interest**

Mistakes are part of the **learning process** and **information to grow**

Challenges are **welcome** and offer **sense of achievement**

Effort is **necessary** and part of the process – will **change strategies**



Learning is focused on **performance and 'looking clever'**

Mistakes are **embarrassing** and a **sign of low ability** (avoidant behaviour)

Challenges are **risks** and can lead to **feelings of failure**

Effort is a **sign of low ability** and will **disengage**.



# What is stereotype?

- widely held
- fixed and oversimplified image or idea of a particular type of person or thing.

# What is bias?

- inclination or prejudice for or against one person or group
- especially in a way considered to be unfair.

# What is Unintentional/Unconscious/ Implicit/Automatic Bias?

- attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner
- often unaligned with our conscious, earnest values



We receive **11 million bits** of  
information **every moment**  
We can only consciously process **40**  
**bits**  
**99.9999996% UNCONSCIOUS**



# Stereotype Threat

*"Stereotype threat is a social-psychological predicament that can arise from widely-known negative stereotypes about one's group.*

*...The existence of such a stereotype means that anything one does or any of one's features that conform to it make the stereotype more plausible as a self-characterization in the eyes of others, and perhaps even in one's own eyes. ... [We] argue that it is experienced, essentially, as a self-evaluative threat. ...When the allegations of the stereotype are importantly negative, this predicament may be self-threatening enough to have disruptive effects of its own."*

*Steele and Aronson, 1995*



# Impact of stereotype threat in education

Stereotype threat has been shown to harm the academic performance of:

- **BAME students** (Gonzales, Blanton, & Williams, 2002; Schmader & Johns, 2003);
- **Students from low socioeconomic backgrounds** (Croizet & Claire, 1998);
- **Women in maths** (Good, Aronson, & Harder, 2008; Inzlicht & Ben-Zeev, 2000; Spencer, Steele, & Quinn, 1999); and
- **White males when faced with the notion of Asian superiority in maths** (Aronson, Lustina, Good, Keogh, Steele, & Brown, 1999; Stone, Lynch, Sjomerling, & Darley, 1999).

# Strategies That DO NOT Work

- **Stereotype Suppression**  
(e.g., Galinsky & Moskowitz, 2000; Monteith et al., 1998)
  - Banish stereotypes from one's mind (i.e., gender or race "blind")
- **Belief in personal objectivity**  
(Uhlmann & Cohen, 2007)
  - Leads to biased evaluations



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# Shift in Conceptualization of Prejudice

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**Old Framework** = Prejudice is bad so if I think or act with bias, I am a bad person

**New Framework** = Prejudiced thoughts and actions are habits that we all have and breaking these habits requires more than good intentions

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# 1. Stereotype Replacement

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- ✓ **Recognize** when you have stereotypical thoughts and stereotypical portrayals in society.
- ✓ **Challenge** the fairness of the portrayal
- ✓ **Replace** it with a non-stereotypical response. For example,
  - *I know someone's identity does not affect their academic performance*



## 2. Counter-Stereotype Imaging

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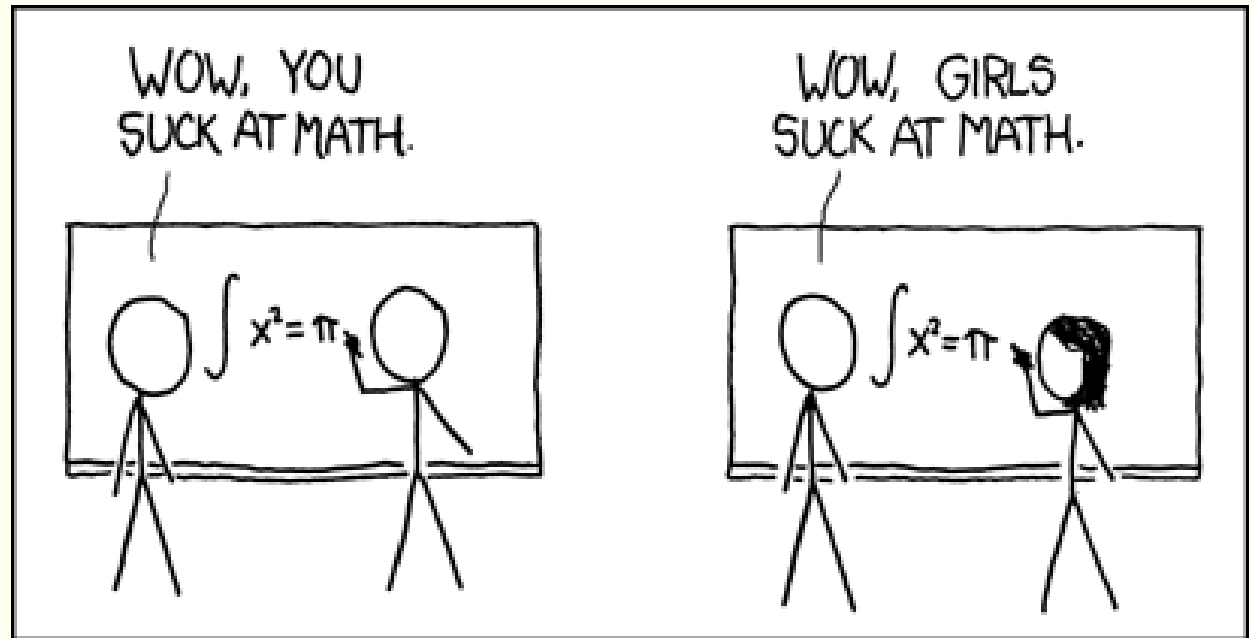
- ✓ Help regulate your response by seeking examples of counter-stereotype images
  - *e.g. an astronaut, engineer, CEO who is a woman/BAME or specific positive counter-stereotypical individuals you know*



### 3. Individuating (instead of generalizing)

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- ✓ Avoid making a snap decision based on stereotypes
- ✓ Obtain more information about a person before making a decision

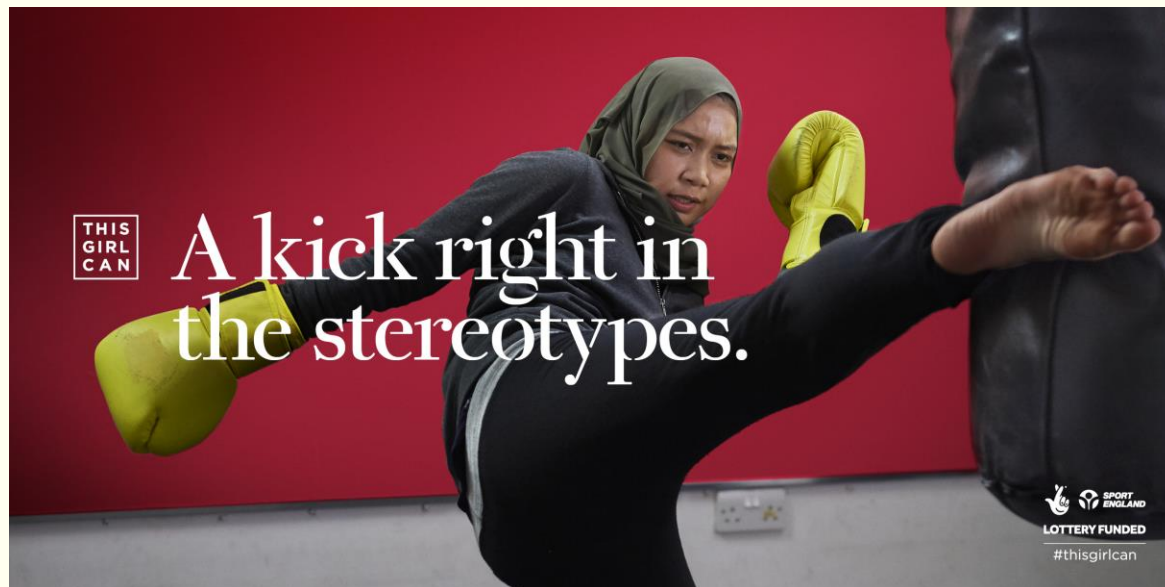


## 4. Growth Mindset

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- ❑ Negatively stereotyped students (girls in math, or African-American and Hispanic students in math and verbal areas) showed benefits from being in a growth-mindset workshop.
- ❑ Growth mindset and stereotype cannot co-exist = eroded stereotype threat

(Aronson, Fried, and Good, 2002; Good, Aronson, and Inzlicht, 2003).



- ❑ Space and celebration for process and mistakes
- ❑ Understand – no one can accurately assess potential
- ❑ Expectation = outcomes, so high expectation for all
- ❑ Avoiding talent/luck/stereotype myths around good performance
- ❑ Language
  - ❑ Process
  - ❑ Product
  - ❑ Outcome
  - ❑ Not ability

## 5. Use evidence to break myths

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### **The Myth of Tariff on Entry**

- five years of pre-cohort data across the Changing Mindsets project,
- analysis of student outcomes by tariff on entry does not account for persistent attainment gaps
- consistent with similar findings by Mountford-Zimdars et al (2015).

# Our results

## Pre intervention

- Staff and students who have growth mindsets are more likely to want to create inclusion and to overcome bias (overcoming bias scores).
- Staff and students with fixed mindsets are more likely to hold stereotype beliefs.
- Statistically significant negative correlations between growth mindsets and stereotypical beliefs

## Results

- Significant reduction in stereotype thinking in students attending the Changing Mindset workshops

# References

- Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology*, 38(2), 113-125.
- Ashley, L., J. Duberley, H. Sommerlad, and D. Scholarious. (2015). A qualitative evaluation of non-educational barriers to the elite professions. The Social Mobility & Child Poverty Commission.
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child development*, 78(1), 246-263.
- Burke, P. J. (2012). *The right to higher education: Beyond widening participation*. Routledge.
- Carnes, M., Devine, P. G., Manwell, L. B., Byars-Winston, A., Fine, E., Ford, C. E., ... & Palta, M. (2015). Effect of an intervention to break the gender bias habit for faculty at one institution: a cluster randomized, controlled trial. *Academic medicine: journal of the Association of American Medical Colleges*, 90(2), 221.
- Carnes, M., Devine, P. G., Isaac, C., Manwell, L. B., Ford, C. E., Byars-Winston, A., ... & Sheridan, J. (2012). Promoting institutional change through bias literacy. *Journal of diversity in higher education*, 5(2), 63.Chicago
- Equality Challenge Unit (2015). Equality in higher education: statistical report 2015.
- Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. *Journal of Applied Developmental Psychology*, 24(6), 645-662.
- Mangels, J. A., Butterfield, B., Lamb, J., Good, C., & Dweck, C. S. (2006). Why do beliefs about intelligence influence learning success? A social cognitive neuroscience model. *Social cognitive and affective neuroscience*, 1(2), 75-86.
- Mountford-Zimdars, A., Sabri, D., Moore, J., Sanders, J., Jones, S., & Higham, L. (2015). Causes of differences in student outcomes. The Higher Education Funding Council of England.
- Osborne, J. W., & Walker, C. (2006). Stereotype threat, identification with academics, and withdrawal from school: Why the most successful students of colour might be most likely to withdraw. *Educational Psychology*, 26(4), 563-577.
- Ross, J. (2017) Equality & Diversity Student Data Report 2015/16.
- Satchell, L., Hoskins, S., Corr, P., & Moore, R. (2017). Ruminating on the nature of intelligence: Personality predicts implicit theories and educational persistence. *Personality and Individual Differences*, 113, 109-114.
- Staats, C. (2014). State of the science: Implicit bias review 2014. Kirwan Institute for the Study of Race and Ethnicity. <http://kirwaninstitute.osu.edu/wp-content/uploads/2014/03/2014-implicit-bias.pdf>.
- Trade Union Congress (2016) 'Black workers with degrees earn a quarter less than white counterparts, finds TUC' <https://www.tuc.org.uk/equality-issues/black-workers/labour-market/black-workers-degrees-earn-quarter-less-white>
- Valencia, R. R. (Ed.). (2012). *The evolution of deficit thinking: Educational thought and practice*. Routledge.
- Wakeling, P. and Hampden-Thompson, G. (2013) Transition to higher degrees across the UK: An analysis of national, international and individual differences. York: Higher Education Academy.
- Wakeling, P. and M. Savage. (2015), Entry to elite positions and the stratification of higher education in Britain. *The Sociological Review*, 63: 290-320.

**Thank you!**

**Any questions?**



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