

FROM CRADLE TO CAREER: DOES THIS RING TRUE FOR GIRLS IN MAINSTREAM EDUCATION? A FOCUS ON YOUTH STEM SUBJECT CHOICES.

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THOPE FOUNDATION

$$x^2 = 64$$

$$\frac{x \times x}{2} = \frac{64}{2}$$

$$2 \times 4 =$$



THOPE FOUNDATION

- A registered nonprofit organisation established in 2013,
- Operates in Khayelitsha, Cape Town,
- Provides educational support in:
 - STEM tutoring,
 - Specialised robotics camps,
 - Life skills and leadership programs,
 - Positive deviant model for mentoring,
 - Mama-Mentors intergenerational dialogues
- Target primary school girls aged 10- 17 years old



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EVIDENCE OF WOMEN IN STEM

- US data says girls and boys in primary and high school do not significantly differ in **abilities** in science and math,
- Boys are three times more likely to be interested in pursuing STEM majors,
- Women earn 57% of bachelor's degree in all fields,
- Only 19% in degrees in computer science & physics,
- Women make up 47% of employees, but only represent 14% of maths, science and engineering careers,
- Glass ceilings, sexual harassment, unequal pay, invisibility in the workplace



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WHAT HAPPENS BETWEEN PRIMARY SCHOOL AND WORK PLACE?

A myriad of interpersonal and personal factors such as:

- Teachers impact perceptions about learning and careers,
- Early exposure to professions and visible role models in STEM careers,
- Peer pressure to pursue 'cool' careers such as fashion/journalism/psychology etc,
- Heteronormative institutions of higher learning,
- Sexism in the workplace,



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SOCIALISATION AND GENDER

- Deeply ingrained gender socialisation and the role of women,
- Internalised ideas about what girls/boys can/can't do,
- The school as a mirror for the household and community,
- Media and societal messaging about women often detrimental to self-perception



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THREE CRITICAL BLOCKAGES TO ENTRY

- In developing countries, often girls do not have access to technology, exposure and opportunities to knowledge and education,
- Access to support programs that fast track and support girls interested STEM careers,
- Limited knowledge about careers in STEM,



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WHAT WE ARE SEEING WITH GIRLS

- Significantly more diminished confidence in mathematics and science ability,
- Even if they know the answer, they will hesitate to volunteer a response,
- When girls are alone, are more likely to exercise agency and voice,
- Girls code switch language and behaviour when among boys/ males,
- The result= girls lean OUT of STEM more readily,



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WHAT WE ARE SEEING CONT...

- Girls only spaces are key to building confidence, self-esteem and sharing lessons,
- Women play a vital role in transmitting messages (both verbal and non-verbal) about agency, ability and capability to girls.
- Words shape behaviour- what we say, how we say it significantly impacts young girls' self-perceptions.



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HOW WE ARE CHANGING STATUS QUO

- Starting with representation of girls and women in STEM,
- Using technology as an enabler for programs,
- Equipping girls with technological tools to increase access,
- Growing online persona and presence of girls,
- Focused annual robotics programs for girls across the age spectrum,
- Linkages to support programs and bursaries to STEM schools,



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Thank
You