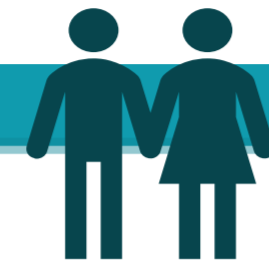


Would portraying Engineering as a discipline which has social impact attract more women, and how this can be done by universities

Patricia Olivares

Supervisor: Debbie Janson

The “Why” of this project



Gender parity is ethical and a social demand, to enable equal opportunities



Gender parity in decision-making is needed for global advancement



Women promote collaboration and gender diversity entails higher innovation & profitability

14%

Of engineers in the UK workforce are female (WES)

Action Plan: Give Engineering a Purpose, and you will attract more female engineers

1

Action Plan I: Redefine the Value Proposal for Women in Engineering



Redefinition of the Engineering Concept

Show engineering is a broad discipline that impacts everyday life. Creativity, teamwork & problem-solving are key.
Engineering is for people



Expand the Degree Offering with Social Impact Opportunities

Offer Social-Impact-specific design projects, placement opportunities and student-led groups (e.g., Engineers without Borders)



Engineering is for Women too

Create dedicated resources and activities (e.g., mentors) and give support to Women in Engineering communities (e.g., WES)

90%

Of female engineers said social impact opportunities are at least “Important” to them in their career (vs. 74% of males)

71%

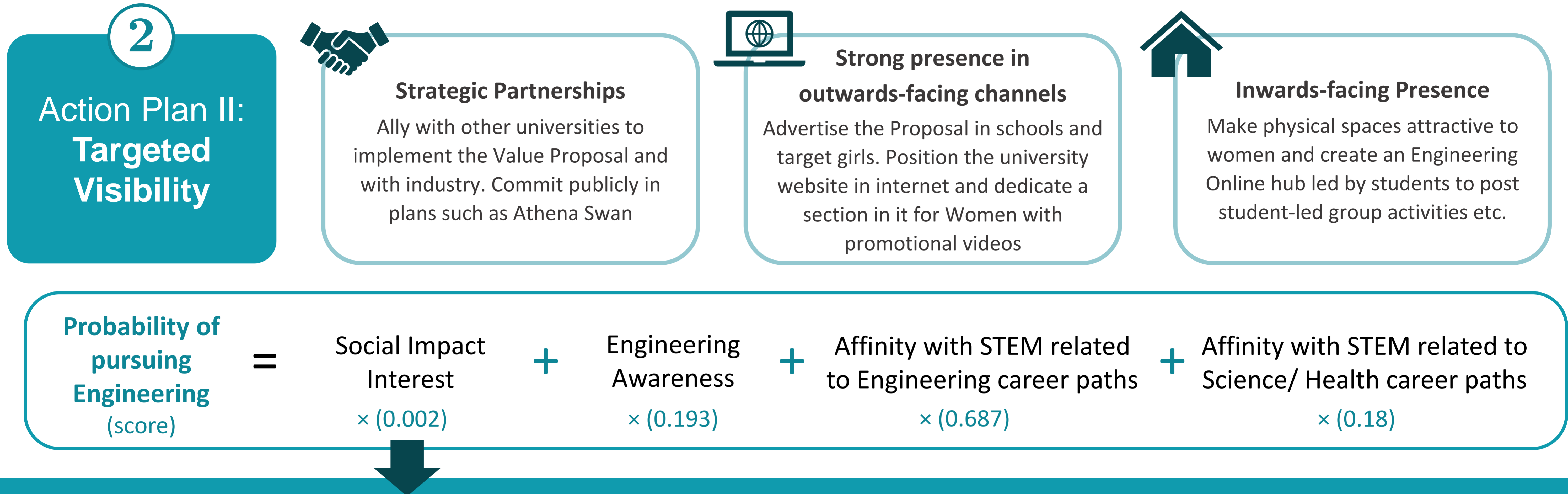
Of high school girls were “Very” or “Extremely Interested” in social impact opportunities in their future job (vs. 48% of boys)

***Investigation:** 239 engineering students & 112 high school students were surveyed; 15 female eng. students and stakeholders (e.g., university staff, potential partners) were interviewed. Data was statistically analysed & the action plan outlined was produced.

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Students do not link engineering & social impact – but female students are very motivated by it!

54%

Of high school students considered engineering more after shown its social impact & breadth

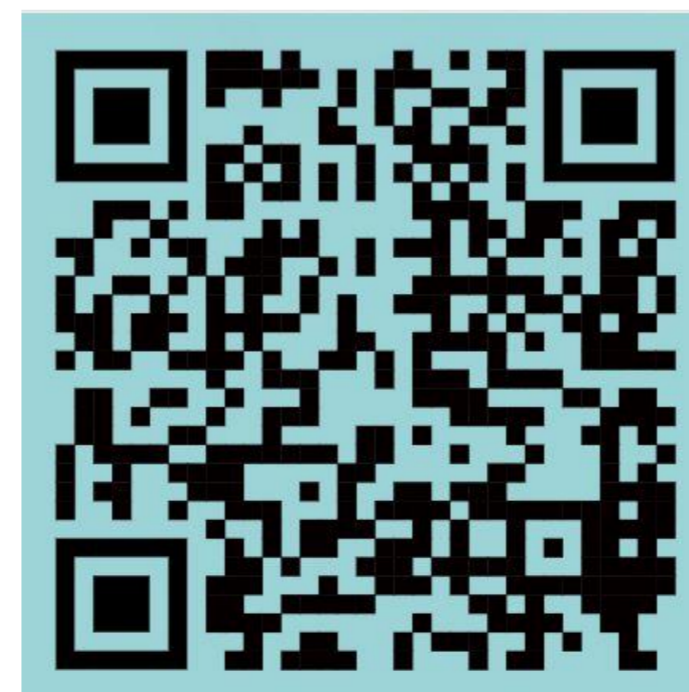
84%

Of engineering students were interested in doing engineering projects with social impact

40%

Of female engineering students were more interested in their degree after seeing its breadth & application

“It would have made Engineering more attractive, if I had realised how many engineers the world needs.”



“Engineering would be a lot more attractive if you did like Engineers without Borders, combining the world of humanitarian help and engineering.”

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Action Plan III: Lower the key barriers



Spread Engineering Awareness among girls
Girls have considerably lower engineering awareness than boys



Expand Entry Requirements from Physics
Allow Biology, Chemistry instead of Physics



Show women can do it too
Female role models: Share stories of real students and send female ambassadors

A male-dominated environment

21%

of female engineering students were worried by the gender imbalance (vs. 6% of males)

"we get told "you are not the real engineers because there's so many women"" – Biomedical engineering student

Gender stereotypes: "engineering is for boys"

10%

of high school girls are discouraged from Engineering paths by teachers (vs. 0% of males)

"Females consistently outperform their male counterparts at 1st level" (14% more) – MechEng department, Bath

General lack of engineering awareness

21%

of female engineering students learned what engineering was too late (vs. 11% of males)

"I didn't actually know about all I was going to be doing or studying in a degree. It was a black box."

Perception of a highly challenging career

42%

of female engineering students found the challenge the biggest setback (vs. 34% of males)

"I thought it was all going to be maths and calculations. But then in placement, 99% of the work was other things."