

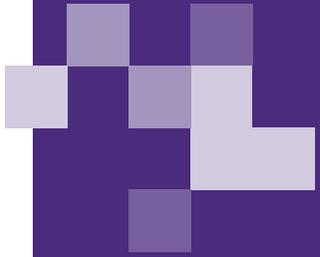


# ATTITUDES OF YOUNG PEOPLE TOWARDS MOTORSPORT AND CAREERS IN MOTORSPORTS ENGINEERING

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RESEARCH FINDINGS  
MARCH 2021





# INTRODUCTION

# BACKGROUND TO THE RESEARCH

- The Hamilton Commission: a new commission established by F1 racing driver Lewis Hamilton, aims to improve representation of young Black people in UK motorsport.
- The Royal Academy of Engineering (RAE): principal research partner for the Commission wished to conduct qualitative research with people from the Black African, Black Caribbean, Black British and Mixed heritage Black African/Black Caribbean backgrounds.
- The aim is to focus on the experiences of people from these communities, with the hope that recommendations may benefit understanding of other minority ethnic groups.
- A quantitative survey was commissioned to understand the attitudes of young people towards motorsport and engineering, and interest in pursuing careers in these sectors. Also, to explore key drivers of and barriers to participation in motorsport.
- Cultural Intelligence Hub were commissioned to conduct qualitative research to build on the findings from the survey and to provide further 'deep dive' insight into the views and themes emerging from the online survey.



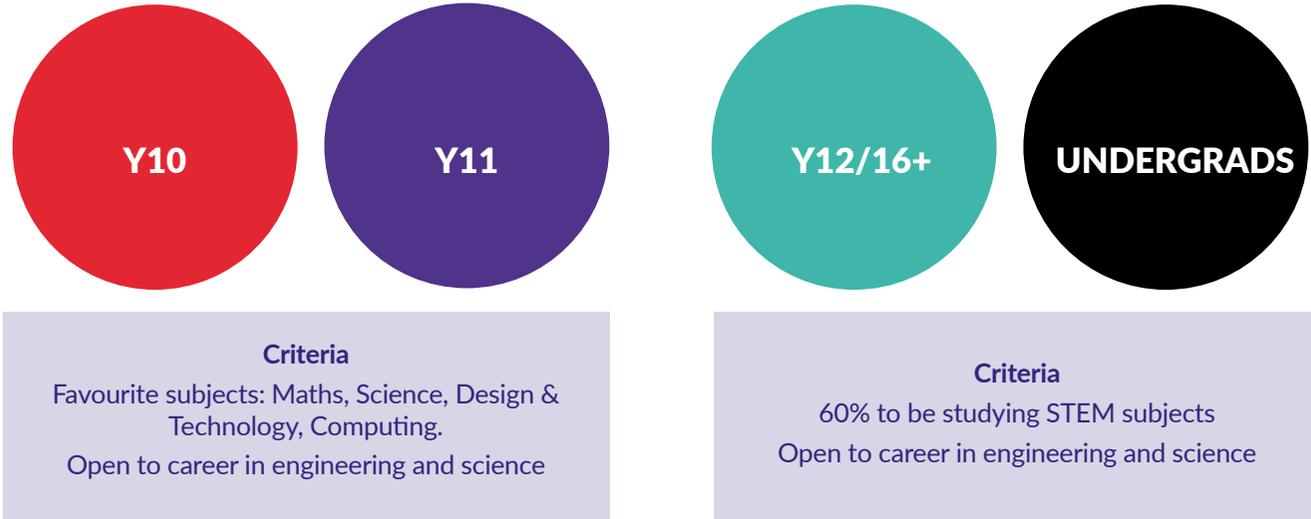
# OVERALL RESEARCH OBJECTIVES

To provide deep dive insight into attitudes of young Black people towards STEM subjects, careers in engineering and motorsport, more specifically, to identify:

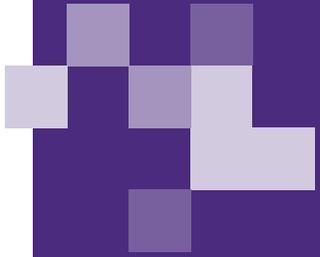
- Awareness of engineering/motorsport engineering
- Levels of interest in pursuing a career in engineering/motorsport engineering
- Barriers to young people pursuing a career in engineering and potential levers to encourage more young people to get into engineering
- Barriers to young people pursuing a career in motorsport engineering and potential levers to encourage more young people to get into motorsport engineering



# WHO WE SPOKE TO



- 100 respondents in total
- 30 Black African, 26 Black Caribbean, 20 Mixed heritage
- 24 White British



# OVERVIEW

# SUMMARY OF FINDINGS

- 01.** Many young people we spoke to know little about engineering as an academic subject or as a career
- 02.** However, this was not across the board, those who are the most interested and engaged are also the most informed
- 03.** Key barriers to interest in engineering/ motorsport engineering is the lack of knowledge, which means assumptions are abound
- 04.** The lack of exposure to engineering and engineering careers via school and parents is a big factor, therefore, these are not on the radar. This equally applies to motorsport engineering
- 05.** The key issues are that engineering is 'not for me' : too hard, too narrow, 'I won't fit in'
- 06.** Young people are even less aware or exposed to motorsport engineering. Assumptions compound the view that this is 'not for me, people like me'

# THE PUSH/ PULL EQUALLY APPLY TO ENGINEERING AS TO MOTORSPORT ENGINEERING

## PUSH FACTORS

Too hard  
Not clever enough

Not for me  
Not for people like me

Not what I am interested in

Too technical  
I want creativity

Too narrow/niche

## PULL FACTORS

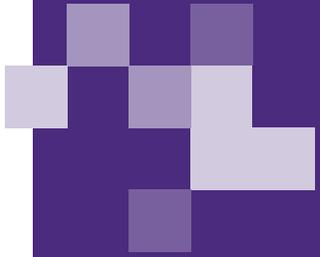
Fits with wide range of other  
interests

Other opportunities: design,  
data, software

Other pathways: Apprenticeship/  
D&T

Help to make it diverse

Wide range of careers



## **KEY FINDINGS**

# TYOLOGIES OF YOUNG PEOPLE WE TALKED TO

## DISENGAGED

- Lower SEG
- More females than males
- Don't think they are clever enough
- STEM too hard so engineering out of reach
- But not sure what they want to do

## LESS ENGAGED

- Lower SEG
- Male and female
- Interests and passions in other areas
- Too late to change course
- Aspirational but for 'safer' and more familiar careers

## MORE ENGAGED

- Higher SEG, male and female
- Aptitudes and interest in STEM/ engineering
- Already studying right subjects
- Engineering on radar even those who haven't made up their minds

# THERE ARE DIFFERENCES IN WHAT YOUNG PEOPLE ARE LOOKING FOR IN A CAREER

## INTERNAL FOCUS - WHAT I GET OUT OF IT

### DISENGAGED

Job security, good wage, enjoyment,  
fitting in, in my comfort zone

### FEELING SAFE

### LESS ENGAGED

Enjoyment, working for myself, being  
valued, fitting in, working in a team

### DOING WHAT IS FAMILIAR

## EXTERNAL FOCUS - MY CONTRIBUTION

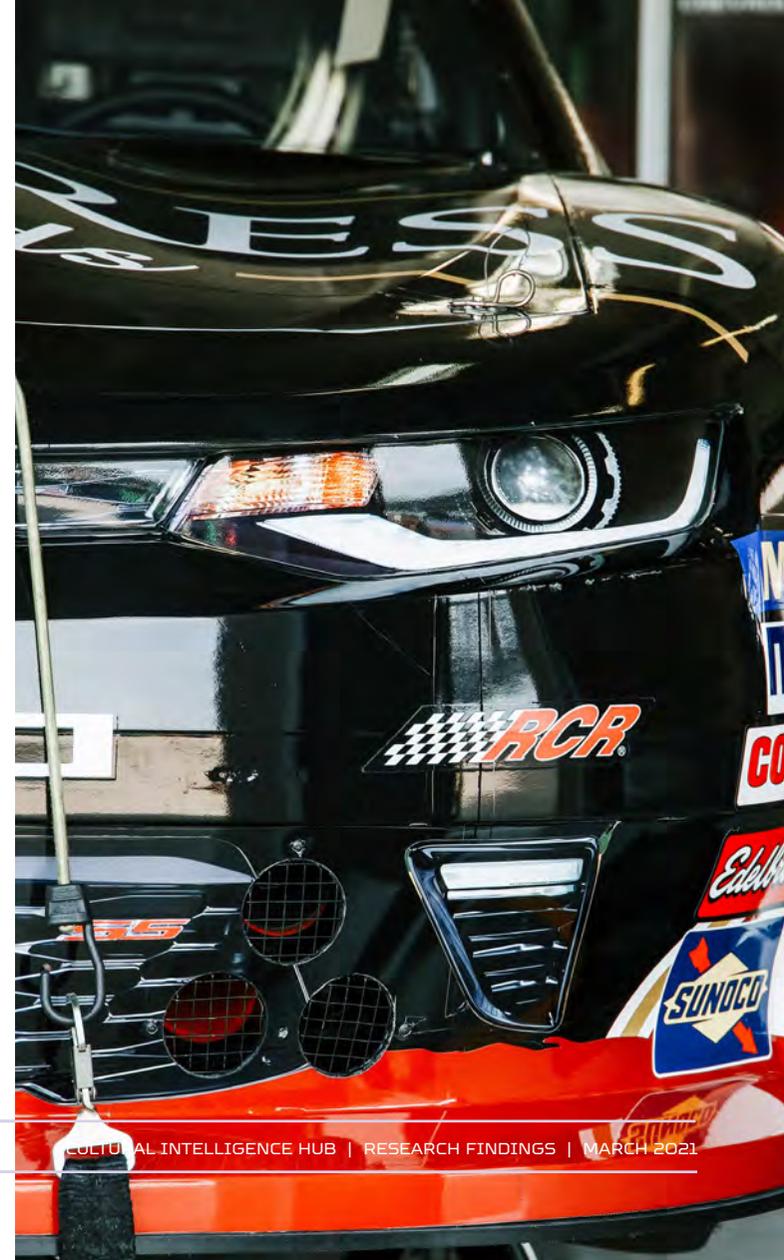
### MORE ENGAGED

Making a difference, working in a team,  
getting recognition, career progression,  
making my mark, doing something new

### PUSHING THE BOUNDARIES

# THERE ARE PERSONAL AND SYSTEMIC REASONS WHY SOME YOUNG PEOPLE BECOME DISENGAGED

- Don't have an aptitude for STEM or one of the STEM subjects
- Unconscious bias/perceptions of discrimination at school
- Not really encouraged to pursue STEM subjects even if they have an aptitude
- More likely to be put in lower sets irrespective of academic aptitude
- Parents have little knowledge of what careers options with STEM themselves
- Low expectations of teachers, parents and of themselves



“

You get pushed into things like nursing and teachers don't understand. They think you are loud, just out for laughs and they don't understand that's just what we are like ”

**FEMALE, CARIBBEAN**

“

Those subjects are seen as for boys, there is pressure not to do certain subjects. The computer science and IT class is all boys. Girls aren't really encouraged to go for these ”

**FEMALE, MIXED HERITAGE**

# THE LESS ENGAGED MAY BE STUDYING/ ENJOYING STEM SUBJECTS BUT ARE NOT EXPOSED TO ENGINEERING

- Often have an interest/ aptitude in one or more of the STEM subjects but may have interest in other areas e.g. creative subjects
- May be encouraged to pursue more traditional/ status careers: law, medicine, accountancy
- Parents and teachers may be encouraging them into 'safer' routes e.g. health and social care, beauty, business studies
- Or there is a desire to run their own businesses (some are already doing this alongside their studies) - could come from an expectation of discrimination
  - 'Be my own boss'
  - Being in control
  - A passion



“ I wanted to be a network engineer originally but didn't like the physics aspect of that. I didn't look into it that much. When I realised there was that much science in it I became a bit wary of it ”

**FEMALE, WHITE**

“ Online businesses. That's where the money is ”

**MALE, AFRICAN**

“ I like engineering, I'm good at maths and physics, and there are a wide range of jobs you can do ”

**MALE, MIXED HERITAGE**

# THE ENGAGED

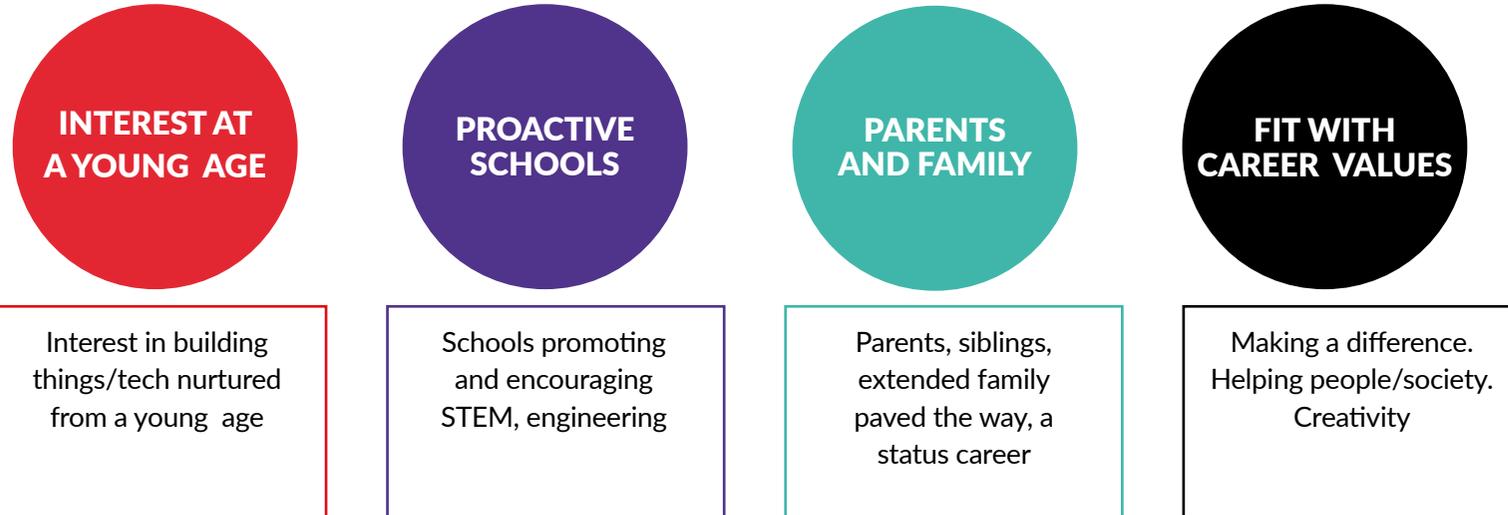
For those who are already studying stem subjects, engineering or are open to a career in engineering, there are a number of factors shaping their interest.

> THEY HAVE A POSITIVE, CAN DO ATTITUDE TO EDUCATION AND FURTHER CAREERS

> THEY ALREADY HAVE SOME LEVEL OF KNOWLEDGE ABOUT ENGINEERING AS FURTHER EDUCATION AND AS A CAREER

# FOR THE MORE ENGAGED, THERE ARE A NUMBER OF PULL FACTORS

## OPEN MINDED TO A CAREER IN ENGINEERING

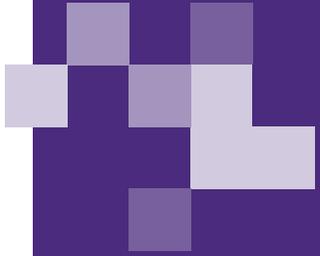


“ I’m interested in the outside world. My brother is a chartered electrical engineer. My dad saw I had a knack for problem solving so he gave me a broken laptop to fix ”

**MALE, AFRICAN**

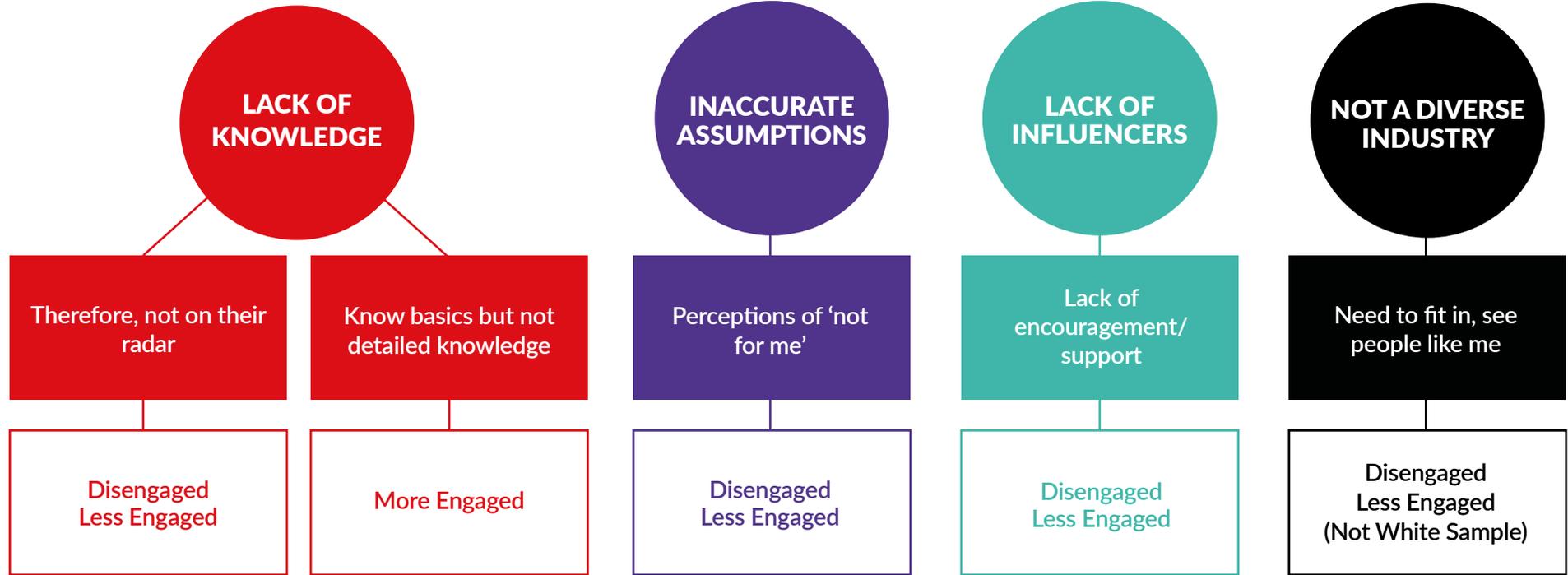
“ I always wanted to join the army. I’m doing a BTEC in public service and computer science and doing my basic training to join the Royal mechanical and electrical engineers. I just want to help other people ”

**FEMALE, MIXED HERITAGE**



# **YOUNG PEOPLE AND ENGINEERING**

# SIMILAR BARRIERS EMERGE TO THOSE IDENTIFIED IN THE QUANTITATIVE SURVEY



# LACK OF KNOWLEDGE IS A REASON WHY SOME DON'T CONSIDER ENGINEERING AS A CAREER

- LACK OF KNOWLEDGE IS A RESULT OF A LACK OF EXPOSURE AT HOME AND AT SCHOOL
- PARENTS' OWN LACK OF KNOWLEDGE/EXPERIENCE MEANS THEY ARE UNABLE TO OFFER ANY GUIDANCE
- SCHOOLS WHERE ENGINEERING IS NOT A PRIORITY PERPETUATES PURSUIT OF MORE FAMILIAR SUBJECTS AND CAREERS

N.B.

- HOWEVER, THE FLIP SIDE IS ALSO TRUE
- YOUNG PEOPLE PURSUING/ PLANNING TO PURSUE ENGINEERING, WILL SAY THIS IS BECAUSE A PARENT/ SIBLING IS AN ENGINEER
- THEIR SCHOOLS HAVE BEEN PROACTIVE IN PROMOTING ENGINEERING: TALKS, CAREERS EVENTS ETC.
- CAN'T UNDERESTIMATE THE IMPACT OF THIS

“ I don't know much about it. It's cars, fixing things. You have to be smart I know that. Engineering is like mechanics and you don't want to mess up because that could endanger lives ”

FEMALE, CARIBBEAN

“ Men in big glasses, white, clever ”

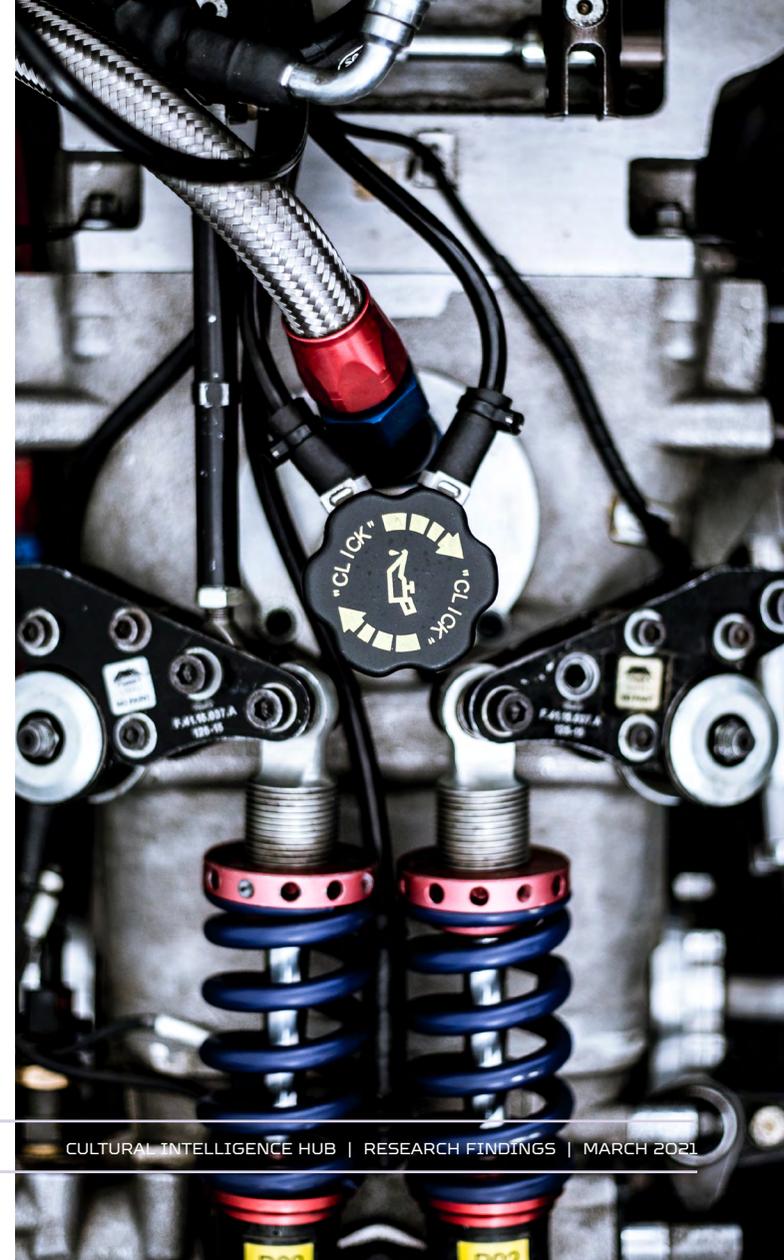
FEMALE, MIXED HERITAGE

“ My school had a careers event, and the boys were going to the engineering stand. I saw a woman there and started talking to her. She was so inspiring and passionate, I decided that was what I wanted to do ”

FEMALE, CARIBBEAN

# THERE IS ALSO SOME CONFUSION ABOUT STEM SUBJECTS NEEDED AND PATHWAYS INTO ENGINEERING

- The need for Maths taken for granted
- Most also assume that Physics is also necessary - a subject that some struggle with
- Not all aware that Chemistry and Biology also count (unless know about chemical engineering!)
- Or where Design & Technology fit
- Most assume a degree is the pathway to an engineering career and cost of a university degree can be prohibitive
- However, those who are more informed, know that there are opportunities for engineering apprenticeships



# INACCURATE ASSUMPTIONS CREATE PERCEPTIONS OF ENGINEERING AS 'NOT FOR ME'

Among those who know little about engineering:

- Higher academic achievers pursuing other career options, perceive engineering as a 'low level' job therefore doesn't match their educational and career aspirations
- Lower academic achievers see engineering as 'too high brow' and beyond their capabilities

## TOO LOW LEVEL

- 'About cars'
- 'Getting hands dirty'
- Mechanic, plumbing, fixing things
- Perceived as 'manual'/old world rather than 'digital'/new world
- Don't need higher education

## TOO HIGH LEVEL

- Need to be clever: 'It can't be me' (too structured, corporate etc.)
- Need to be 'expert' i.e., know everything about the subject
- STEM are hard subjects, too challenging, stressful

# THE ROLE OF INFLUENCERS CAN BE BOTH KEY IN HELPING GUIDE CAREER CHOICES AND A BARRIER

Siblings, extended family (e.g. aunts, cousins) more likely to have their ear to the ground about different career options. Seeing people in their family doing engineering is a key motivator.

## **NOT SEEING OTHERS LIKE ME IS A BARRIER**

Teachers can often be pivotal in instilling confidence in general and nurturing talents and aptitudes. Many young people talk about how the passion of individual teachers has inspired them to follow paths they may not have considered.

## **TEACHERS CAN BE INSTRUMENTAL IN THWARTING INTEREST/ APTITUDES IN STEM**

For many, parents' role is one of moral guidance and general encouragement than specific advice on careers; want kids to do what they enjoy. If they are in the know, they can be great advocates for engineering: well paid, high status. If not, it is not on their radar: push for 'proper' jobs e.g. accountancy, or careers for 'people like them' e.g. health and social care

## **MORE CONSERVATIVE PARENTS CAN HAMPER YOUNG PEOPLE STEPPING OUTSIDE THEIR COMFORT ZONE**

# PERCEPTIONS OF ENGINEERING AS A 'WHITE' INDUSTRY IS A BARRIER FOR SOME BUT A CHALLENGE TO OVERCOME FOR OTHERS (NON-WHITE SAMPLE)

## THE MORE OUTWARD LOOKING AND CONFIDENT 'ENGAGED'

- Don't feel held back by ethnicity, feel success comes down to aptitude, commitment and hard work rather than 'fitting in'
- Feel confident in themselves to fit in with any sector they want
- See engineering as an industry trying to become more diverse and inclusive as are other sectors

## THE LESS CONFIDENT AND 'DISENGAGED'

- Greater need to see 'people like them'
- Parents tend to prefer them to follow careers that are diverse e.g. NHS, law etc.
- Look to run their own business - don't have to battle with discrimination
- See engineering as out of their reach

“ You don't think about Black engineers so I wouldn't want to stand out. I don't want to feel restricted. I want to be myself, like not having to change the way I speak or act ”

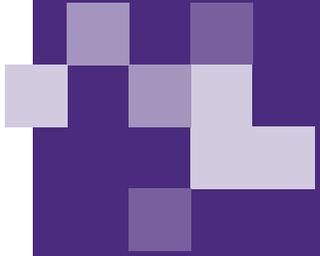
**MALE, MIXED HERITAGE**

“ I think it's very difficult for black people and I don't think there are many Black people in this career ”

**FEMALE, MIXED HERITAGE**

“ I think engineering is changing, they are trying to get more ethnic people in, so i'm not put off if there aren't many now. It doesn't bother me ”

**FEMALE, CARIBBEAN**



**ENCOURAGING YOUNG PEOPLE TO  
CONSIDER A CAREER IN ENGINEERING**

# THERE IS POTENTIAL TO DIAL-UP INTEREST IN ENGINEERING AMONG THOSE WITH AN INTEREST IN STEM

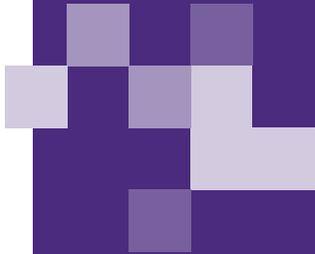
- Concept that engineering underpins everything around us is very strong - communicates engineering as a career that has purpose and meaning
- Appeal for those who enjoy the challenge of solving complex problems
- Engineering ticks many career values e.g., high salary, opportunity to travel, work within a team, learn new skills
- Many really enjoy subjects involving designing and developing product ideas, such as Design Technology - opportunity to play on entrepreneurial tendencies
- Potential applications of engineering in the software space complements their passion for videogaming, programming, anime, apps etc
- Breadth of roles makes it less exclusive and potentially easier to get into
- Potentially motivating for parents around engineering as a career choice
  - High Salary - very motivating

“ You want to see other Black engineers, visit schools, get into the communities. Talk about salaries. Have discussions at school before you decide your GCSEs ”

**MALE, AFRICAN**

“ There are so much different things around engineering there is not one specific thing, you look around you and you see the different stuff that people have created, it inspires you ”

**FEMALE, CARIBBEAN**



# MOTORSPORT ENGINEERING



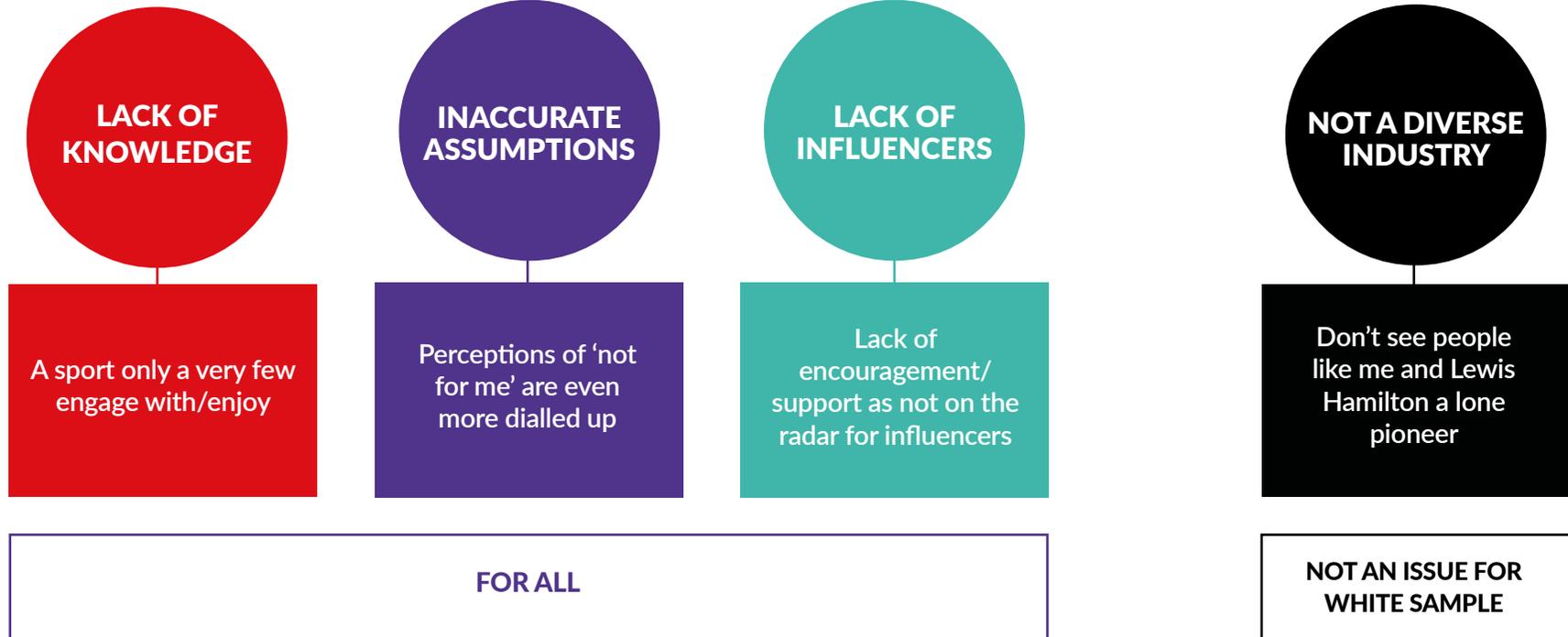
**ALL OF THE BARRIERS IDENTIFIED AROUND ENGAGEMENT WITH ENGINEERING EQUALLY, IF NOT MORE SO, APPLY TO MOTORSPORT ENGINEERING**



**WHILST MOST GIRLS WE SPOKE TO DID NOT FEEL THAT ENGINEERING WAS 'NOT FOR THEM' BECAUSE OF THEIR GENDER, THIS IS MORE OF A BARRIER TO MOTORSPORT ENGINEERING**



# SIMILAR BARRIERS EMERGE FOR MOTORSPORT ENGINEERING AND THESE APPLY TO ALMOST ALL YOUNG PEOPLE WE SPOKE TO



# THERE IS LOW ENGAGEMENT WITH THE SPORT, IN THE FIRST INSTANCE

- **Very low awareness of the sport esp. among girls**
  - Low interest
  - No connection/ access
  - 'For boys'
- **Only a few follow motorsport - grew up loving cars, inherited love of motorsport from parents, watch F1 on TV, or karting**
- **Not everyone knows Lewis Hamilton, but those who do, see**
  - A Black man who has been very successful
  - Someone trying to help other Black young people
- **There are a minority who are real fans**
  - An aspirational role model
  - 'Want to be like him'



“ I’m not into cars and wouldn’t even think about watching. It’s just fast cars ”

FEMALE, CARIBBEAN

“ I watch F1 videos, Lewis is hardcore ”

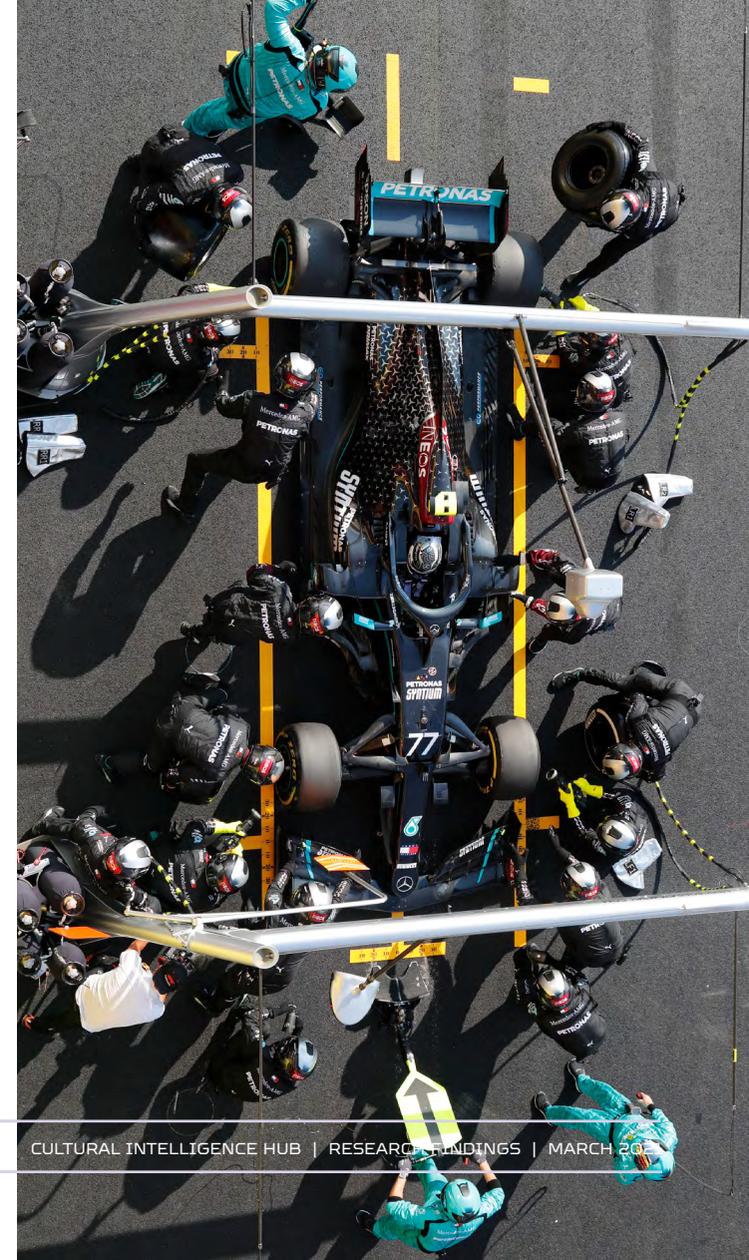
MALE, CARIBBEAN

“ We’re from Camberwell. Motorsport is not ‘us’. We’re from the inner city, not the suburbs. So, it’s quite inaccessible ”

MALE, CARIBBEAN

# AWARENESS OF MOTORSPORT ENGINEERING IS VERY LOW, EXCEPT FOR THE FEW WHO KNOW ABOUT CARS

- No exposure to the sport unless a parent/ friend/ sibling has introduced the sport
  - Then, front of mind will be a race driver - unattainable
  - Or car mechanic
- Parents are unlikely to have any knowledge, so, as with engineering, can't guide/support
- Not an engineering career path anyone will generally come across, certainly not at school
- So, quite 'left field'



“ It’s about the driver, pit stops  
and changing tyres ”

**MALE, MIXED HERITAGE**

“ You just don’t think about it. You  
have to love cars to want to be a  
motorsport engineer ”

**MALE, AFRICAN**

# IN THE ABSENCE OF KNOWLEDGE, CURRENT ASSUMPTIONS OF MOTORSPORTS AND MOTORSPORT ENGINEERING HINDERS INTEREST

- Too hard to get into
- Need to love cars
- Have to be in the know/know the right people
- Don't know how to even get in
- Demanding, stressful, fast paced career



# PERCEPTIONS OF A LACK OF DIVERSITY MORE OF AN ISSUE IN RELATION TO MOTORSPORT/ MOTORSPORT ENGINEERING

- Perceptions of motorsport engineering is coloured by the perceived culture of the sport
  - Niche
  - White, male
  - A rich man's sport
- A sense that the sport (and therefore, the career) is inaccessible to working class Black young people esp. females
  - Concerns that they would feel self-conscious 'being themselves' in this environment



“ Because of the high-profile motorsport in the media, I don't think those motorsport companies really want diversity. You would not want to be 'too much' [working for these companies]. The media don't want to see the Black man succeed. They would want to restrict you ”

**MALE, CARIBBEAN**

“ Doesn't feel like a career you would feel you belong in ”

**FEMALE, CARIBBEAN**

“ It's something that falls into your lap, not something you come across every day ”

**MALE, MIXED HERITAGE**

# THERE ARE LEVERS TO INCREASING INTEREST IN MOTORSPORT ENGINEERING

- Increasing awareness of the breadth of roles
- Promote the range of entry points/ pathways
- Potential to fit with career values
- Don't need to love cars, just engineering
- Tapping into young peoples' areas of interest
  - Creativity/design
  - Software/computers
  - Data analysis



“ It’s not taught, even more unheard of. You need to you don’t need a high qualification and that it is open to diversity ”

**FEMALE, MIXED HERITAGE**

“ I just didn’t realise that there are so many things you can do, I’d be interested in the design side ”

**FEMALE, CARIBBEAN**

“ I love data analysis and I would never have considered motorsport engineering ”

**FEMALE, MIXED HERITAGE**



# ATTITUDES OF YOUNG PEOPLE TOWARDS MOTORSPORT AND CAREERS IN MOTORSPORTS ENGINEERING

