



European Commission



# GENDERED INNOVATIONS

## How Inclusive Analysis Contributes to Research and Innovation

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“As EU Commissioner for Innovation, Research, Culture, Education and Youth, and holding gender equality matters very close to my heart, I am determined to step up our efforts on equality. I am committed to ensuring that the gender dimension is fully integrated into research and innovation content in Horizon Europe, and that it is fully acknowledged in the European Research Area.”

Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth

## DID YOU KNOW?



**GENDER ROLES AND IDENTITIES INFLUENCE HOW PAIN IS EXPERIENCED, HOW READILY PATIENTS’ REPORT PAIN, AND HOW PAIN MANAGEMENT IS HANDLED BY HEALTHCARE PROFESSIONALS?**

Women, for example, are more likely to be referred for psychological treatment, receive non-specific diagnoses, wait longer for treatment and receive more antidepressants than men. While men, in contrast, are often perceived to be more resistant to psychological treatment and in greater need of painkillers. A better understanding of sex and gender in pain can lead to better treatments and better outcomes.

**SEA TURTLE POPULATIONS AT THE NORTHERN GREAT BARRIER REEF IN AUSTRALIA HAVE BECOME HIGHLY FEMALE-BIASED DUE TO RECENT GLOBAL WARMING?**

Over 99% of juveniles and subadults originating from northern sites are now female, and local extinction is possible in the near future. Understanding the different sensitivities of female and male marine organisms to climate change is critical to effectively managing ecosystems.



### MOBILITY PATTERNS ARE GENDERED?

Transportation needs are determined by gender-specific divisions of labour, as well as gender disparities in resources. For example, care-related trips addressing the needs of others, or performing more general household-related duties, are still predominantly undertaken by women. Moreover they differ significantly in nature from trips that urban transport is often designed around, such as commuting to work. Not taking diverse needs into account thus disadvantages certain groups of people in terms of their mobility options.

### WASTE DISPOSAL BEHAVIOUR IS OFTEN DETERMINED BY GENDER?

Women spend more time and effort than men on domestic waste management, which is usually unpaid. Apps that use gamification to teach best practice in recycling and waste disposal could promote behavioural change. However, men show higher interest than women for these apps. Integrating gender analysis in user preferences may lead to interfaces that are accepted by more people overall. This could ultimately strengthen citizens' engagement to reduce waste and encourage a circular green economy.

### FACIAL RECOGNITION SYSTEMS PERFORM BETTER ON MEN'S FACES THAN ON WOMEN'S AND ON LIGHTER SKIN THAN DARKER SKIN AND CANNOT ALWAYS "SEE" TRANSGENDER PEOPLE?

Error rates vary from 35% for darker-skinned women, to 12% for darker-skinned men, 7% for lighter-skinned women, and less than 1% for lighter-skinned men. Recognition accuracy also decreases for transgender individuals, averaging 87.3% for transwoman and 70.5% for transman. To correct this, AI systems need to be checked for bias, techniques adapted, and the people developing and operating them trained accordingly.

### WOMEN ENTREPRENEURS SEEKING VENTURE CAPITAL INVESTMENT FACE SIGNIFICANT BARRIERS?

Entrepreneurship and capital ownership are seen as masculine domains, and men may be less familiar with industries perceived as feminine, and may therefore value them less. Gender analysis helps reveal conscious and unconscious gender bias in investment decisions.



>> **SEX** refers to biological characteristics that distinguish between male, female, and intersex (in humans) or hermaphrodite (in animals).

>> **GENDER** refers to socio-cultural norms, identities and relations that, together, shape and sanction "feminine" and "masculine" behaviours, and which are complex and change across time and place.

>> **INTERSECTIONAL FACTORS**, such as racial or ethnic origin, age, socioeconomic status, sexual orientation, or disability, combine with sex and gender to shape a person's or a group's experience and social opportunities, thereby influencing the form of discrimination and inequality they encounter.

## WHY INTEGRATING SEX, GENDER AND INTERSECTIONAL ANALYSIS INTO RESEARCH AND INNOVATION CONTENT MATTERS



Taking into account sex, gender and intersecting factors in the design and delivery of R&I leads to:

- ▶ added value of research in terms of excellence, creativity and business opportunities
- ▶ an in-depth understanding of all people's needs, behaviours and attitudes
- ▶ goods and services better suited to the needs of all people
- ▶ enhanced societal relevance of research and innovation.

# WHAT IS THE EUROPEAN COMMISSION DOING TO STRENGTHEN THE GENDER DIMENSION IN DIMENSION IN RESEARCH AND INNOVATION?



The European Commission has become a global leader in setting policy for the integration of the gender dimension into research and innovation content. In the new Framework Programme, [Horizon Europe](#), it is one of the gender quality objectives, and will be accompanied by additional provisions to foster gender equality in research and innovation organisations across the EU.

The policy report produced by the EU funded [H2020 expert group on 'Gendered Innovations'](#) provides researchers and innovators with methodological tools for sex, gender and intersectional analysis. It also presents concrete case studies, showcasing projects funded under Horizon 2020 and addressing key research and innovation areas for Horizon Europe clusters, missions and partnerships. These include areas such as health, artificial intelligence and robotics, energy, transport, marine science and climate change, urban planning, agriculture, fair taxation and venture funding, as well as the COVID-19 pandemic.



## WANT TO LEARN MORE

[Policy report: Gendered Innovations 2: How inclusive analysis contributes to research and innovation](#)

[Horizon 2020 Expert Group on Gendered Innovations](#)

[Impact of sex and gender in the COVID-19 pandemic](#)

[Gender and intersectional bias in artificial intelligence](#)

[Gender equality in research and innovation policy](#)

## OTHER LINKS

[EU Gender Equality Strategy 2020-2025](#)

[EU Anti-racism Action Plan 2020-2025](#)

[A new ERA for Research and Innovation](#)



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