



GENDER DIMENSION IN RESEARCH CONTENT

When and How to Address it in Projects

1 Objectives of the Guideline¹

Research and innovation have a significant impact on society and the quality of human life. However, they do not always bring the same benefit to different social groups. This also applies to men and women. There are many known cases where neglecting physical differences between men and women or differences in their experiences and needs may lead to the limited validity of research results, less relevance or safety of research products for women (as a more often neglected group), or failure to utilise all market opportunities.

The Technology Agency of the Czech Republic (TA CR), as a provider of state aid, perceives its responsibility for the quality and impact of the research and innovation activities it funds. The aim of this text is to provide researchers with guidance on how to assess whether it is relevant to address the gender dimension in their project and how to consistently integrate it into the design, methodology, and intended application of their research. The text is also intended for experts and rapporteurs, as it may serve as a document for the evaluation of project proposals.

2 What is the Gender Dimension in Research Content and Why is it Important to Address it?

There is a growing body of evidence from various fields that findings and innovations often do not sufficiently take into account the possible physical differences of women and men, or their different experiences, perspectives, or needs. Examples include voice-activated devices that do not respond equally to lower and higher voice frequencies, or language correctors systematically marking female language forms as incorrect². At the same time, both the role of sex and gender³ are overlooked. Therefore, addressing the gender dimension in research and innovation means taking into account the possible influence of the physical differences associated with gender or differences in certain gender patterns in all stages (from the conception of the research plan to the application of the results). Where relevant, the diversity of the users of research results

¹ The first version of this guideline was created as part of the GEECCO project (GA No 741128) supported by the Horizon 2020 programme, which the Technological Agency of the Czech Republic participated in between 2017 and 2021.

² Several specific examples are presented by the website *Gendered Innovations in Science, Health & Medicine, Engineering and Environment*, on which Stanford University collaborates with the European Commission and the National Science Foundation (Schiebinger et al. 2011-2022): <https://genderedinnovations.stanford.edu/>. Examples of the application of the gender dimension can also be found on the web section of the NKC website - gender and science, one size is not enough: <https://genderaveda.cz/jedna-velikost-nestaci/>.

³ While the term “sex” refers to the partial biological differences between man and women, “gender” refers to the socially constructed differences between men and women that change throughout history and also differ in different cultures.

related to age, ethnicity, health status, etc., should also be taken into account in order to maximise the benefit of the results.

The phrase “gender dimension of research” is usually used as an umbrella term for both gender and sex dimensions and is also used in this guideline accordingly.

Main Benefits of Addressing the Gender Dimension (Including Specific Examples)⁴:

Increasing the Quality of Research and the Validity of Results

Addressing the gender dimension can help to deepen the understanding of the solved issue and increase the validity of the results. If the gender dimensions of a certain issue are overlooked, the research results may only be partially valid. In research, for example, the male body is often used as a general model or with a generalised idea of a human object, which is, however, implicitly defined as male. The conclusions of such research may not be equally valid for women, either due to their different physical parameters or other life experiences (an example may be the different perception of a comfortable temperature inside a building by men and women, which can affect well-being, concentration, and output).

Relevance of Research and Innovation Results for Different Groups and Their Safety

A lack of reflexivity towards possible sex and gender differences can harmfully affect the neglected group. For example, it is known that several types of drugs have been withdrawn from the market in the USA because the development of these drugs relied primarily on the results obtained based on the study of the male body and male individuals or tissues, as a result of which the drugs were not equally safe for women. Similarly, in the development of seat belts for cars, the male body was originally the default model, which resulted in the belts not being as safe for women, and in the case of pregnant women, even relatively minor impacts resulted in foetal death. When applying research results or introducing innovations, consideration of possible differences associated with sex or gender contributes an increase in the relevance of the created products or services for different social groups (products that suit everyone, the use of which is equally safe or pleasant for different groups).

Expanding the Range of Users and the Market Potential of Research and Innovation Results

The increased relevance of research results and created products or services for various social groups is also related to the expansion of the range of their users. Products and services that originally implicitly took into account a narrowly defined range of users can be modified by addressing the gender dimension. Their use may not be sufficiently comfortable or safe for

⁴ All examples are based on the above-mentioned website *Gendered Innovations in Science, Health & Medicine, Engineering and Environment*: <https://genderedinnovations.stanford.edu/>.

others, resulting in them being taken out of use. Therefore, taking into account knowledge about gender or gender patterns can increase the quality of life of a previously neglected group and be a possible source of market potential.

The Path to New Insights, Services, and Products

Reflecting on the possible role of sex and gender can open the way to new discoveries. For example, the inclusion of animals of both sexes and the consistent reflection of the role of gender as a variable has helped to develop a new treatment for traumatic brain injuries or to understand the mechanism of the development of some autoimmune diseases.

3 When is it Relevant to Address the Gender Dimension in Research?

In the project proposal, it is necessary to correctly evaluate whether it is relevant to take into account the possible role of sex or gender in the problem being solved (and in the case of assumed relevance, outline how the gender dimension will be taken into account in the individual phases of the research). Addressing the gender dimension may not be appropriate for every project. Sometimes the role of the gender dimension is also rather marginal, but this can often only be confirmed based on the research results. However, considering possible physical differences (sex) or differences in the experiences, perspectives, and needs of men and women (gender) **always makes sense if people are:**

- **objects of the research:** interviewing people, analysing data related to people, conducting research working with human tissues, etc.;
- **users of the results** of research or innovations: consumers, patients, and other users;
- **persons potentially affected by the results:** for example, research or innovation, which results in the environment being affected in a certain way.

When evaluating the possible relevance of the **role of gender**, it is necessary to focus on whether anatomical or physiological differences between men and women may play a role in the issue being solved or in the development of products. For example, differences in body size or parts of the body, manipulative strength, range of motion, voice position, perception of temperature, etc.

Assessing the **role of gender** means considering whether there may be differences in the needs or perspectives of men and women (or their groups) in the target group of the project. It is also appropriate to focus on whether men and women may have different expectations for the functions of the product or service being created (application, software, methodology, etc.), different needs for the content of the solution, or different expectations for the design of a technology or other research products. It is also advisable to consider whether there is a risk that the specific creation of procedures or services will lead to the exclusion of certain groups from using the offered solution.

If you come to the conclusion that sex or gender is relevant for your project, you need to outline in the project proposal **how this dimension will be taken into account in the project** (see the next chapter). If you believe that sex and gender does not play any role in your project, or only a marginal role, this should be properly justified in the project proposal. In the event that your reasoning is evaluated as factually correct and sufficiently substantiated, the absence of the gender dimension will not be a reason to lower the score.

4 How to Systematically Integrate the Gender Dimension Into a Project

If you identify the role of sex or gender in the issue you plan to solve, this dimension should also be taken into account in the research proposal, research design, and description of the intended application. The following questions can be used as a guide:

Research Objectives, Questions and Hypotheses

- Can physical differences between men and women (e.g., hormonal production, ergonomics, manipulative strength, body size or part of it, voice pitch) or their different experiences, needs, and preferences enter into the theme?
- Can different results for women and men be considered in the context of the issue?
- Is it possible to expect different impacts on women and men (or their groups)?

Methodology, Research Design, Collected Data

- Will the research design and tools (questionnaires, focus groups, etc.) enable us to capture any sex or gender differences, or, on the contrary, confirm the absence of differences?
- Will data on both genders be collected or will both genders be interviewed (and in adequate proportions)?

Analysis

- Will the data be analysed with respect to sex or gender?
- Will the association of sex or gender with other relevant variables (such as age, social background, ethnicity) be analysed?

Applications and Impacts

- Will the resulting product or service (if not specifically aimed at persons of one gender) meet the needs of both men and women?
- Will it meet the expectations of both men and women (or their different groups) in terms of content, features, or design?
- Will the resulting product or service be equally safe for men and women (e.g., development of medicines, safety features, food ingredients, etc.)?

- Will the positive effects of the project affect the quality of life of men and women in a similar way (e.g., transport planning, town planning, public services, etc.)?
- Will the planned product or service be equally accessible to men and women (or other groups as well)?

Communication and Dissemination of Results

- Will relevant conclusions related to the sex or gender dimensions of the issue (including the identified non-existence of differences) be presented as part of the analysis?
- Will relevant statistics, tables, or graphs distinguishing by gender be part of the presentation?
- Will the creation of a specific publication presenting the sex or gender dimension of the issue, conference paper, etc., be considered?

5 What to Watch Out for When Evaluating and Addressing the Gender Dimension in Research

Based on the prior experience of TA CR with submitted project proposals, applicants tend to make mistakes particularly in the following areas:

- **Confusion of the gender dimension in the research content and the gender balance of the research team** (the composition of the research team is not related to the gender dimension in research content).
- **Insufficient inclusion of the gender dimension in the methodology and method of application** (despite the often correctly identified gender context of the issue).
- **Formalism or unsubstantiated argumentation** – the criterion was often vaguely conceived, for example stating that “the research is gender neutral” or that “the research does not cause inequalities between men and women”. Some projects automatically exclude the possible gender dimensions of the issue in advance (without further thought or research).

Foreign experience⁵ with the evaluation of the criterion focused on the gender dimension in projects and its subsequent consideration in their solution has highlighted several other pitfalls that should be avoided:

- **Use of stereotypes:** for example, creating special “female” versions of certain products often indirectly supports gender stereotypes about female interests and essentialist ways of perception. Products based on stereotypes are often not even in line with user preferences and are more likely to provoke resistance.
- Gender and gender-related characteristics **should not automatically be treated as binary categories** (i.e., existing in just two versions – male and female). Possible intra-group diversity and the number of masculinities and femininities should be reflected, as well as the possible non-existence of differences between men and women.

⁵ See, for example, the above-mentioned website *Gendered Innovations in Science, Health & Medicine, Engineering and Environment*.

- When trying to incorporate sex and gender dimensions, it is necessary to perceive the **interrelationship of these variables with other variables or characteristics** (age, ethnicity, social origin, sexuality, etc.).
- It is not only bad to not to reflect on the possible gender dimension, but also to **emphasise this dimension without sufficiently supporting its role in the investigated issue** (or emphasising it at the expense of other variables (e.g., age), whose role is actually more significant).

The purpose of reflection and possible consideration of the gender dimension in research content is usually not to create two different versions of a product or solution, but rather to achieve an inclusive research solution beneficial for all. The objective is also not to artificially expand research that, for legitimate reasons, is dedicated only to men or women (for example, research focused on selected aspects of fatherhood or the use of menstrual aids) and to purposefully include the other gender in the research plan. In particular, it is always necessary to ask whether gender-blind research questions, methodologies, and thinking about the effects of research do not stand in the way of new knowledge or a better quality of life.