

## Impact Story Activities to make women visible

<p><b>Impact Story</b></p> <p>Activities to make women visible</p>
<p><b>Intervention Definition</b></p> <p>Although the participation of women in research and development is showing an upward trend over the past few years, their proportion in Science, Technology, Engineering and Mathematics (STEM) is still too low (Wang and Degol 2017). As in many fields of expertise worldwide, female scientists receive less support and opportunities than their male colleagues do as they struggle to make their mark in what is still seen by many as a male profession. Great barriers discourage women from entering the profession and several obstacles continue to block progress for those already in the field. Many of the women working in STEM today go unnoticed and unremarked, despite their valuable contributions to scientific research (Etzkowitz et al. 1992). The serious problem of female invisibility in STEM might be a natural consequence of the low number of women in these fields, but at the same time, it leads to a lack of women role models, to job dissatisfaction and to poorly perceived career prospects, thus perpetuating the insufficient female representation in STEM. Breaking this vicious circle requires measures that enhance the status of women in science (Gowaty 2015).</p> <p>The gender equality intervention "Activities to make women visible" means the launching of initiatives to shine a light both on women researchers and on their work. Special events, programs, awards and other activities are planned, developed, carried out and communicated in order to highlight the scientific accomplishments of women.</p> <p>The partnership between the French cosmetics company L'Oréal and the United Nations Educational, Scientific and Cultural Organization (UNESCO) is a good example of this. L'Oréal recognises and supports the career of the most brilliant women scientists by awarding prizes and fellowships. In Hungary, two annual national fellowships are granted for female scientific researchers who are employed at a Hungarian higher education research institution or at a research institute of the Hungarian Academy of Sciences, and work in the field of life sciences or material sciences.</p>
<p><b>Intervention Definition Short</b></p> <p>The intervention "Activities to make women visible" aims to improve the position of women in science by recognising outstanding female researchers who can serve as role models for future generations. It wishes to help more girls enter the scientific profession and to assist them once their career is in progress. Another important objective is to make the public more aware of women in science.</p>
<p><b>Objectives</b></p> <p>(1) Increase the number of women in R&amp;I positions</p>
<p><b>Output</b></p> <p>The measure's short-term output is the creation and implementation of actions that help to make women in STEM and their scientific results more noticeable and, therefore, more valued. The output includes activities that are tailored specifically for women, such as the introduction of awards reserved for women scientists; funds for research activities carried out by women; travel grants for female researchers; exhibitions, fairs and other events held to publicise the work of women in science; celebration days of the achievements of women in STEM; etc..</p> <p>Publicity is another significant output of the intervention. The media can be consciously utilised as a tool for bringing outstanding female researchers closer to the public and for making their</p>

scientific achievements more visible. Interviews, television and radio appearances all serve this purpose.

Each year the L'Oréal – UNESCO "For Women in Science" programme grants fellowships to more than 200 talented young women researchers worldwide, who are selected by prestigious national juries of reputable scientists. The Hungarian National Fellowship is awarded to 2 women every year. Overall, more than 40 Hungarian scientists have been awarded in the past 15 years. A very important activity of the initiative is the solemn award ceremony, which is held in the prestigious building of the Hungarian Academy of Sciences. This high profile event attracts a lot of professional and public attention every year. Before the award ceremony, the awardees participate in compulsory media and public speaking trainings in order to be able to give convincing performances on television and radio interviews, newspaper articles and other media appearances.

### **Output Short**

Immediate effects of the intervention "Activities to make women visible" include all successfully organised and implemented programs, events and media activities that make women scientists and their performance more perceptible and available both to fellow researchers and to the public.

### **Output indicators**

2.2.1. Range of respect by boss/colleagues/ students

2.2.1. Award or honour by institution

2.2.1. Events to create visibility and credibility and specific types of recognition for women

### **Outcome**

Activities to make women and their research more visible give their target group a sense of being appreciated and valued. This kind of recognition may strengthen the self-confidence of outstanding women in STEM and increase their job satisfaction (Gowaty 2015). If women researchers experience that their achievements are not being downplayed, it can boost their self-assurance as researchers, and motivate them to reach their full professional potentials. This results in a smoother and more fulfilling career.

In the medium term, the measure can increase the profile of women in the scientific field and, in doing so, support women already working in STEM. The increased visibility and appreciation of female researchers foster their career advancement. Moreover, the fact that the awarded women thrive in their careers might contribute to the success of their research teams, as well.

According to the beneficiaries of the L'Oréal – UNESCO partnership, being awarded was not only a heart-warming experience, but also the positive effects of winning such a prestigious and internationally acclaimed award could directly be detected in their professional trajectories, as they have been enjoying advantages in the evaluation process of further national and international scientific applications due to the measure. This positive outcome can be observed both in the medium and in the long term.

Another key aspect of the measure's outcomes is the creation of role models who can serve as positive examples for high school and university students and even for PhD aspirants and younger researchers. Outstanding women can function as inspirational examples of success who demonstrate that it is possible to overcome traditional gender barriers, indicating to other women that high levels of success are indeed attainable (Lockwood 2006). In the case of the L'Oréal – UNESCO fellowship program this aspect is enhanced by the "spin-off" initiatives linked to the intervention, which demonstrate successful female research careers in schools, e.g. through the visits of the awardees.

### Outcome Short

The outcome of the intervention "Activities to make women visible" is constituted mainly by the enhanced visibility and smoother career advancement of female researchers, as well as their improved job satisfaction. The creation of role models is also an important effect of the measure in the medium term.

### Outcome indicators

- 2.2.1. Range of respect by boss/colleagues/ students
- 2.2.1. Perception by others as a legitimate scholar
- 2.2.2. Satisfaction with career
- 2.2.2. Contribution in scientific field
- 2.2.2. Sense of valuing scholars and colleagues
- 2.3.3. Change in motivation to invest more effort in scientific career
- 2.3.3. Perception of own improvement of profession
- 3.2.1. Clarity about own value as a scientist

### Impact

In the end, role models that were created in the medium term will bring more girls into STEM professions (Bosma et al. 2011). Thus, the measure contributes to the recruitment and retention of women in the scientific field and to an increasing proportion of females in leadership positions. By providing role models and encouraging both adult female researchers and young girls who are considering scientific careers, the measure helps to address the leaky pipeline problem at more than one stage, thus contributing to an increased research performance and to the elimination of gender equality barriers in research organisations and in the society (Blickenstaff 2005).

In addition, the intervention "Activities to make women visible" not only has an effect at the level of the individual researcher, but it also raises awareness of gender issues at the organisational level and thus contributes to the better integration of women in the research environment and, in the long term, to a positive change in organisational structures and culture. By reflecting a genuine commitment to gender equality, the intervention can also contribute to increased gender awareness in the society as a whole. The sector of Research, Technological Development and Innovation (RTDI) is normally not in the centre of the attention of the society. Nevertheless, the intense publicity that surrounds the program raises public awareness regarding not only the issue of female researchers, but science in general, as well.

The L'Oréal – UNESCO national fellowships are a good example of all these. The Hungarian case study indicates that since the launch of the initiative in Hungary the award has become part of the common professional knowledge and subject to public attention at the same time, therefore the whole community of female researchers is the beneficiary of the measure in the end. Shaping attitudes is an essential part of the program's mission. By demonstrating, that women researchers with children are able to pursue a profession that requires dedication and to reach outstanding scientific achievements the measure effectively fights the prevailing social stereotypes regarding gender roles. Moreover, it shows good examples of reaching a healthy balance between research careers and family obligations. The award allows female researchers to publish their research work, play a more influential role within the scientific community and encourage future generations to embark on a scientific career.

**Impact short**

Impacts of the intervention "Activities to make women visible" include the encouragement of girls into fields of study traditionally marked as masculine; increased attraction and retention of women in scientific positions; raising awareness of gender issues within organisations and the broader public; and changes in the male-dominated cultures.

**Impact indicators**

- 1.1.1. Rate of change in composition of faculty
- 1.1.1. Horizontal/vertical gender segregation in occupations and in economic sectors
- 1.1.1. Distribution of staff across gender
- 1.1.1. Proportion of women grade A staff by main field of science
- 3.3.1. Institution's commitment to promote equality and diversity
- 3.3.1. Measures addressing GE in scientific careers
- 4.1.1. Acknowledgement of gender issues
- 4.1.1. Acceptance of cultural change
- 4.1.1. Perception of gender roles in science amongst young people and their parents
- 4.2.1. Perceived extent and pace of cultural change on organisational level

**Policy Context**

The social reception and impact of the intervention is very much shaped by the national context. The case studies state that in general, career choices differ a lot between males and females in higher education, which influences the future proportion of men and women in science, and the available pool of researchers. Between 2005 and 2011, the average annual increase in the number of researchers was 4,8% for women and 3,3% for men in the EU-28 (European Union). However, female representation in research and development is still disproportionately low in several member states and even decreasing in some of the Eastern European member states (She Figures 2015). This can be linked to traditional values and persistent gender stereotypes that still prevail in some European societies. In addition, recent research in the technical fields revealed that, apart from the strong traditional family and social roles, the high level of labour market uncertainty negatively influences young researchers' academic advancement (Paksi et al. 2016).

The measure is about male and female researchers having an equal level of visibility. Therefore, the aim of the initiative should not be to create an undue advantage for women, but simply to remove barriers to a level playing field. Endeavours to make women researchers visible do not imply that the mere presence of women is enough to boost other women's performance and self-evaluation, or to encourage young girls to consider careers in STEM. Many other factors play a role in women's success as researchers and leaders. Consequently, the measure should be accompanied by other actions to support outstanding female researchers. It is also of great importance that the focus should stay on real performance and research should remain excellent-based.

Compared to other national awards and fellowships, the L'Oréal – UNESCO intervention provides unstinting support for outstanding female researchers in the participating countries. Due to the fact that the National Fellowships are part of an international initiative of UNESCO and L'Oréal, it is a powerful tool not only to enhance the scientific achievements of a given country, but to connect them to the global circulation of knowledge, as well, thus making it possible for women researchers to feature prominently on the world stage in science.

### Organisational Context

Due to the strong traditional family and social roles in some EU countries, e.g., Austria, Hungary or Germany, women face more rigid masculine organisational cultures in RTDI, which hinder work-life balance and the career advancement of female scientists. Partly because of these male-dominated organisational cultures, some members and groups within the organisations might oppose the intervention because it is a form of positive discrimination in favour of women, which is against the principle of equality and excellence. Discrimination against the female beneficiaries of the intervention „Activities to make women visible" and perceived discrimination against men might rise. To avoid these effects the senior management needs to provide legitimacy to such measures by demonstrating its commitment to it (Cacace et al. 2015).

In some cases, such interventions operate embedded in other activities, e.g. corporate social responsibility programmes of certain institutions or companies. For instance, the implementation of the measure „For Women in Science" would not be possible without the corporate background of L'Oréal, thanks to which considerable resources are allocated for the activities of the program. Although the fellowship was initiated by a cosmetics company, it was laid down as a principle at the very beginning that the selection of awardees must always be based exclusively on the scientific results and the professional achievements of the applicants. This is a key aspect in reaching the desired impact of the intervention. As a cosmetics company, L'Oréal is not linked to science as much as it is linked to beauty in the eye of the broader public. In order for the intervention to be successful, replacing these stereotypes with positive associations is necessary.

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