



'When I grow up I want to be equal'

Professor Dr Elena Makarova heads a team pioneering a new method of challenging gender stereotypes among young people in Switzerland. The group's investigations have culminated in the development of a game that has great potential for encouraging an egalitarian society

Can you begin by explaining how you became interested in analysing the distinct gender-typical patterns associated with career choices made by youth in Switzerland?

My interest in research on gender-typical patterns in young people's career choices originated from my previous work on gender equality issues, especially on the gender gap in occupational aspirations of young people. In Switzerland, educational and professional biographies follow very distinct gender-typical patterns. For instance, less than one in 10 women pursue careers in the IT sector and there are very few men who choose to become nurses. Such gender-typical patterns in career choice not only narrow young people's horizons with respect to their future professional development, but also reinforce gender stereotypes associated with 'typical female' or 'typical male' traits and gender roles.

In collaboration with the research team at the Interdisciplinary Centre for Gender Studies at the University of Bern, we came up with the idea of developing a game that sought to encourage young people to rethink gender stereotypes and expand their vocational perspectives.

How do your previous studies on gender stereotypes and women in STEM benefit your latest project?

Our ongoing research project uses the findings from my previous research for the development of the game's content, particularly with respect to youth attitudes towards gender roles. As my previous research has shown, although attitudes of young adults in Switzerland have shifted towards a more egalitarian division of labour within the family, the idea that mothers play a domestic role and fathers are the breadwinners is still prevalent.

Moreover, based on my involvement in the Swiss National Research Programme in gender equality – NRP 60 – the ongoing project benefits from the findings related to factors that were identified as hampering or facilitating women's gender-atypical career choices. This study strongly supports the idea that gender stereotypes still exist and that in students' perceptions, mathematics and physics are trapped within the masculine gender stereotypes, which can impact upon young women's career choices in these fields.

The game you are developing is aimed at broadening vocational perspectives of adolescents through gender-atypical role models and atypical environments. What have you discovered during the course of its development?

It is important to us that the game integrates learning, fun and simulation. To meet these criteria, we involve youth in the process. In refining the 'learning content', we conducted a survey among the target group to identify how broad the range of occupations that youth are familiar with is, what occupations they perceive to be more suitable for the female or male gender and what occupations they are interested in. We also asked them to what extent women and men should be involved in paid labour, household chores and childcare.

The answers help build a framework for the development of the learning content of the game. To ensure the game is fun to play, we tested its prototype among students in the target age group and asked them for feedback, including the avatars' appearance; we wanted to determine the most appealing style of drawings. Finally, to ascertain the optimal amount of stimulation during a game, we tested



its level of difficulty within the demographic and adjusted it accordingly.

What would you consider to be a successful outcome for a player?

The successful outcomes for players would be to question images of an occupation as 'typically female' or 'typically male', to broaden their horizons of occupational fields by learning new occupations, and to increase awareness of egalitarian gender roles. The ultimate goal would be reached when a player – girl or boy – learns that career and lifestyle choices are a matter of individual interests and abilities, and that such choices should not be limited by the individual characteristics of being male or female.

Finally, is there anything specific that has facilitated your investigations?

Our projects benefit from an interdisciplinary team that combines expertise from the fields of gender studies, psychology, educational sciences, history, applied linguistics, political sciences and journalism. It also benefits from the broad experience of all our collaborative partners, especially from the collaboration of a company that focuses on the design of serious games and has substantial knowhow in this area for educational purposes.

There must be more to life than fitting a gender stereotype

Researchers from the **University of Vienna** and the **University of Bern** are attempting to deconstruct gendered images of occupations. Their efforts have culminated in their 'I'd like to be...' game, which promotes gender-atypical career choices for the youth of Switzerland

EVEN IN THE 21st Century, gender stereotypes still pervade societies on a global scale. This is particularly noticeable at the occupation level; prejudices remain about the types of careers that are specifically suitable for men or women. Typical examples are the misconceptions that STEM careers are more appropriate for men or working as a caregiver is more suitable for women.

This mindset filters down to children, who begin to build ideas about the jobs they 'should' do, as opposed to feeling free to pursue the education and career paths that genuinely interest them. Because of the gender-biased information that many youth are exposed to as they grow up, they are often unaware of the myriad other options available to them.

Young children are especially influenced by what they see, hear and experience; society, parenting and schooling heavily impact their knowledge and expectations with regard to gender.

ROLES OF INFLUENCE

Professor Dr Elena Makarova has conducted various research projects to analyse the reasons governing the career choices made by young people in Switzerland and why gender segregation exists. One project, entitled 'Gender-atypical career choices of young women' sought to improve understanding of the determinant factors within the school and family context, but also to uncover the supporting factors that led to women undertaking careers in male-dominated occupational fields. One of the key findings of the project was that role models in young women's immediate environments play a crucial part in making gender-atypical career choices.

However, the study enabled other important discoveries regarding genders and their respective role model choices. "The study shows that young people prefer same-sex role models, but young women exhibit less rigid gender patterns in their choice of role models than male youth, who exclusively favour same-sex role models," explains Makarova. "With regard to the importance of parental role models in the process of choosing a career, our results show that young women identified male

and female persons – mostly father or mother – as role models in their career choices."

Additionally, the study found that there is a strong correlation between science teachers informing their students about educational and career trajectories in maths and science and young women choosing careers in STEM.

PERCEPTIONS OF PROFESSIONS

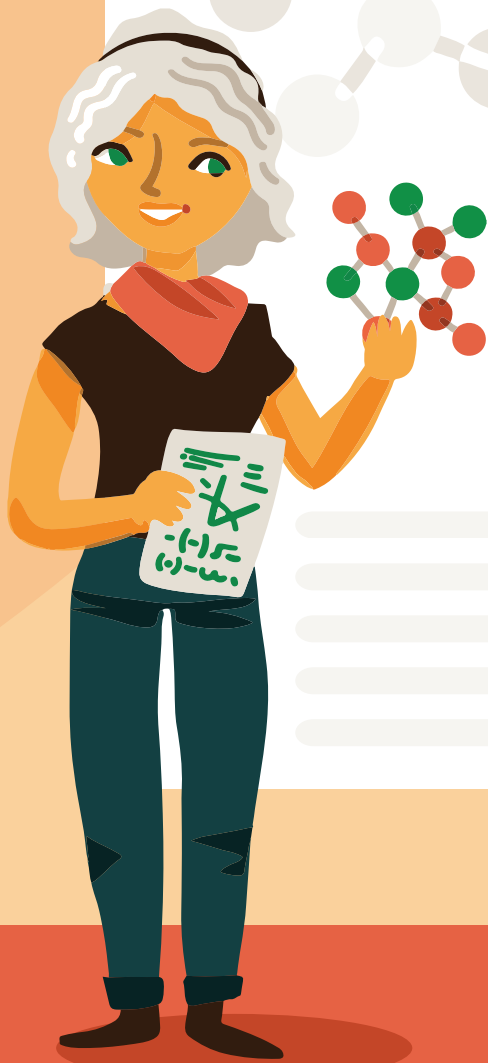
The widespread 'blue for boys, pink for girls' stereotype can serve as a metaphor for perceptions regarding the suitability of certain professions to a gender. For, while it might be common for boys to play with toy cars and girls to play with dolls, it would be irresponsible to consider this a natural occurrence.

It has been shown that sociocultural perspectives play an important role in the selection of career paths; children in elementary school typically associate occupations such as nurse or secretary with females, while firefighters or truck drivers are seen as typical male professions.

Makarova's research has shown that these gender stereotypical images of occupations are brought about through different socialisation contexts, of which family, school and peer groups are the most influential. Media representations have also been shown to play a central role, with the omnipresence of digital media having significant influence. That these stereotypical notions are formed at an early age highlights the importance of challenging such views during an individual's formative years. As digital learning tools and games are increasingly used in the classroom, these are a potentially highly effective means of broadening the minds of the young and what they consider realistic career choices to be.

A GAME OF LIFE

With that in mind, Makarova and her team have set about developing a means of increasing knowledge of gender-atypical career paths through the creation of a serious game. By deconstructing the gender stereotypes associated with given professions, the team hopes to show a virtual social environment that differs from perceived realities and expose them to different modes of thought. The game works by assigning a player the role of career counsellor, where they suggest career options





MEET THE TEAM

Working alongside Makarova on the development of the 'I'd like to be...' game are (from left to right):

Dr Michèle Amacker, Co-Director of the Interdisciplinary Centre for Gender Studies (ICFG) at the University of Bern. She is responsible for operative businesses related to the project.

Janine Lüthi, who holds an MA in Sociolinguistics and Gender Studies. She works at ICFG and is interested in the transfer of gender-related knowledge. In the project, Lüthi assists the development of the game's content and is responsible for its evaluation.

Monika Hofmann, a scientific employee at ICFG. She is responsible for the public relations of the Centre. Hofmann coordinates the tasks and manages the Agora project. She also works on the development of content for the game.

Gwendolin Mäder, an MA student in Political Science and Public Law. She works as a student assistant at ICFG and is interested in gender discrimination and inequalities. Mäder assists Lüthi with the evaluation of the content and the instruments.

'I'D LIKE TO BE...'

GENDER-ATYPICAL CAREER CHOICES

OBJECTIVES

To deconstruct stereotypical gendered notions of professions and inspire youth to pursue their desired career path through the development of a serious game called 'I'd like to be...'

KEY COLLABORATORS

Dr Michèle Amacker, **Monika Hofmann**, **Janine Lüthi**, **Gwendolin Mäder**, Interdisciplinary Centre for Gender Studies (ICFG), University of Bern, Switzerland

PARTNERS

Research project: Career Education and Gender under the leadership of **Professor Dr Hannelore Faulstich-Wieland**, University of Hamburg, Germany • Game design company: **LerNetz AG** - connected learning (www.lernetz.ch) • School project **AVANTI** (www.schulprojektavanti.ch) • **Anja Roth** (career advisor) • Swiss service centre of vocational training and career guidance **SDBB** (www.sdbb.ch) • **Nationaler Zukunftstag** - Swiss Career Orientation Day for Girls and Boys (www.nationalerzukunftstag.ch)

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CONTACT

Professor Dr Elena Makarova

University of Vienna
Department of Teacher Education/
Department of Education
Porzellangasse 4
1090 Vienna
Austria

T +43 664 60277 60030

E elena.makarova@univie.ac.at

University of Bern
Interdisciplinary Centre for Gender Studies
Leadership of the SNSF Science Communication
Project (AGORA)
Vereinsweg 23
CH-3012 Bern
Switzerland

E elena.makarova@izfg.unibe.ch

www.elenamakarova.ch

f www.facebook.com/elena.makarova.5815

in <http://bit.ly/LinkedInElenaMakarova>



ELENA MAKAROVA received her PhD and her Venia Docendi at the University of Bern, Switzerland. Makarova worked on number of research projects funded by the

Swiss National Science Foundation (SNSF) and was the SNSF Research Fellow at the Victoria University of Wellington, New Zealand, and at the University of Illinois at Chicago, USA. Currently, she has a position as Full Professor of School Pedagogy at the Centre of Teacher Education and the Department of Education at the University of Vienna and leads a science communication project at the ICFG at the University of Bern.

It has been shown that sociocultural perspectives play an important role in the selection of career paths

for individuals. The idea is to achieve the best fit between an individual's profile and the job description, thus demonstrating that gender should not be a consideration when applying or employing for a role.

The profiling of individuals and occupations is based on specifics seen as effective and relevant to communicating the message; both female- and male-atypical professions are defined as those that have less than 30 per cent uptake of the respective genders, information gathered from the last Swiss Census. Female and male-atypical personal traits and gender roles will be driven through the existing research findings, while occupational profiles will be based on John L Holland's RIASEC-Scheme, which matches personality traits with an occupational type, namely realistic, investigative, artistic, social, enterprising and conventional.

SPEAKING THEIR LANGUAGE

In keeping with the technological developments that have now become a fundamental

aspect of our lives, the game will be made available on smartphones, tablets and PCs. Although the message Makarova and her colleagues are communicating is challenging conventional beliefs and stereotypes, it is crucially important to engage with their audience on a platform they recognise. Once the game has been promoted through a variety of different channels, the team will regularly evaluate its effectiveness to ensure continuous improvement.

The distinctiveness of the game lies in its challenge to what the youth in Switzerland consider distinct gender-typical patterns. By presenting a virtual milieu that contrasts with an experienced reality, the team challenges what is expected in a society; defying expectation is precisely how we move forward as a society, locally, nationally and globally.

