

“Thanks to my mentor, I came to realize that even a girl can do it!”



MENTORING PROGRAM IN TECHNICAL SCIENCES FOR SECONDARY SCHOOL FEMALE STUDENTS

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GOALS OF THE PROGRAM

- Motivate girls to study technical sciences at universities
- Increase the number of women in traditionally male dominated technical sciences and tackle horizontal segregation
- Break the gender stereotypical perception of technical sciences as masculine

MEETING THE PROGRAM GOALS

- The program supports and motivates girls to study the technical sciences
 - Majority of mentees plan to apply for a technically oriented university program (some of them want to follow their mentor's path and work in research)
 - They said they are not so afraid to try it at all
- The program contributes to breaking the stereotypical perception of the technical sciences as masculine

Program proved to be an effective tool for dismantling horizontal gender segregation in Czech higher education and science.

In the long run, the program could contribute to eliminating vertical segregation because mentors (especially postgraduates) motivate mentees to develop their professional ambitions.

Since 2009 135 mentees and 67 mentors have participated in the program.

Seven Czech universities in three cities take part in the program (Czech Technical University in Prague, Institute of Chemical Technology Prague, Charles University, Czech University of Life Sciences Prague, Brno University of Technology, Masaryk University, Palacky University in Olomouc).

Reasons for founding the program

- Women represent only 12.8 % of researchers in the technical sciences in CR, 4 % less than in 2001 (Tenglerová 2014).
- Women represent 32.2 % students of technical disciplines at Czech universities (Tenglerová 2014). There are specializations where the number of women does not exceed 5 %.



“I found out that I am interested in disciplines I wouldn't normally even think about.”



Reasons for the mentoring format

- We believe the main reason for low representation of women in the technical sciences is the influence of gender stereotypes which causes lower self-confidence of girls in these subjects and orients girl's professional ambitions toward more traditional fields. This influence is strong in families and schools (Smetáčková 2005).
- We believe that changing the way girls think about the technical sciences and their own professional ambitions needs an individual long-term approach
- **We bet on basic mentoring functions:**
 1. Influence of role models (female students of technical schools)
 2. Psychological support (increasing self-esteem and breaking fears of studying gender non-traditional disciplines)
 3. Help with the choice of study and professional path (widening of horizons and providing practical information)

“My mentor definitely got me interested in her discipline.”

Motivation for participation in the program

Mentees

- Help with the choice of university and discipline
 - Confirmation/change of the original choice
 - Obtaining Information about concrete universities and programs which is not available on the internet or at “open door” events
- Information about higher education in general

Mentors

- Motivate girls to study gender non-traditional disciplines (breaking stereotypical images of their own specialization)
- Popularization and promotion of their specialization and school (including possible professional paths)
- Help to successfully transition from the secondary to the tertiary educational level
- Help to make an informed choice of a university and program
- Meeting new people (widening their own social network)

Both mentors and mentees said they have experiences with stereotypical attitudes towards women in relation to the technical sciences from their families or schools (or work in mentor's case).

Mentees stressed the instrumental function of mentoring, mentors the transformative and developmental functions.

Effectivity of the program for participants

Mentees

- Making decisions about future study
 - Majority has been supported in their decision to study a technical program
 - Orientation in the offer of concrete universities
 - Reinforcing an original choice of study
 - Reevaluation of one's original choice
- Familiarization with the university environment
- Obtaining relevant contacts to the start at university (mentor/s, her school mates, teachers)

► increasing mentees' self-confidence

Mentors

- Meeting new interesting people, making new friends
- Developing a new perspective (especially seeing their topic from lay/high-school perspective)
- Improving their own communication, popularization and organizational skills
- Relaxation – nice moments and talks, opportunity to share their own knowledge and experience
- Finding new enthusiasm for their field of study
- Increasing self-confidence (realizing what they have achieved already)

Program met all potential functions in this order: 1) instrumental, 2) developmental, 3) transformative.

Program design

Target groups

- **Mentees:** female students in the junior year of secondary schools; especially from non-university cities where students feel less informed than students in university cities
- **Mentors:** female students (including postgraduates) of technical university programs

Benefits:

- 1) mentors are only few years older than mentees – good condition for non-hierarchical relationship;
- 2) elimination of sexual subtext of the relationship (important especially because of the age of mentees) and possible shyness and passivity of mentees in cooperation with male students

Relationship format

The program makes use of various formats due to mentees' different needs

- **One-to-one mentoring** gives more space to personal development and the transformative influence of mentoring
- **Small groups** (one mentor + 2-4 mentees) help to overcome mentees' shyness and stimulate mentees to pose more questions
- **One mentee may cooperate with more mentors** from different schools and disciplines with the benefit of having multiple role models and receiving practical information about various school environments and disciplines

Activities

- **A concrete plan** is designed by mentor/s and her/his mentee/s (benefit: activities follow the needs of concrete mentee/s)
- **Most frequent activities:** school visits, lectures, seminars, labs, libraries, informal talks in student cafés, meeting mentor's schoolmates and teachers
- **Collective activities** (organized by mentors or the program coordinator) to provide information about various schools and disciplines and to meet other program participants, to share experiences and information

Literature

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