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# **Secondary school students' reactions to descriptions of engineering and nursing in university catalogues**

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## **The text in a university catalogue is an expression of an educational program's self-image**

Bachelor of engineering education & nursing education compared

- 3 years
- All over the country
- Recruit from the same socio-economic group
- Gender unbalanced

All educational programs "want to be"  
gender balanced...

...but all have their traditions based on  
educational and professional discourses.

The programs are organized differently:  
prepared track – freedom of choice  
courses - projects

Similar phenomena are described by different words:  
group work – project work  
education in a work context - internships

Different aspects are emphasized  
'responsibility' 'leadership' 'stimulating'  
'advanced' 'competence' 'exciting'





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# Interest in people or in technology

- **The program is right for you if you are outgoing and find it stimulating to meet people, and if you wish to have freedom of choice in regard to your future workplace.**
- **The program in computer engineering is right for you if you have a general interest in computers, or have a particular interest in programming and networks.**



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# Qualities or skills

**During the program the students will develop their ability to have good relationships with the patients and their relatives, based on an ethical approach**

**Game development focuses on the technical side of game development and you will become a good programmer. Here you will learn how to use OpenGL, graphic tools, real time graphics and simulations to build realistic virtual worlds.**



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# Reproduction or production

- Nursing care is a nurse's independent professional field of work and includes, among other things, estimating needs, planning and conducting different interventions and evaluating the care that is given.
- The engineering program with an orientation towards product and production development aims at educating engineers who master the latest tools for highly effective construction and production



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# Communication

- **After the program you will be a certified nurse and can work with promoting health and preventing illness, be responsible for the care of patients, contribute to and in some cases independently perform examinations and treatments, *inform* and *instruct* patients and their relatives, *supervise* students and staff, follow and contribute to research and development, plan your work, *work in groups*, *lead a team* and *co-operate* with other health personnel.**
- **Above all, you must be good at *presenting yourself and your solutions*, to be successful.**



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# School or work

- During the whole duration of the program, theoretical studies, studies in the work context and laboratory practicals will be mixed. The theoretical studies of care include, for example, knowledge about central concepts such as health and illness, care and caregiving and what it implies to live with different ailments. This knowledge is deepened during the program.
- Project work comes in early in your education, because it is the most common work model for you as a computer engineer. Your knowledge of project work will culminate during year three, when you do a project for an external client.



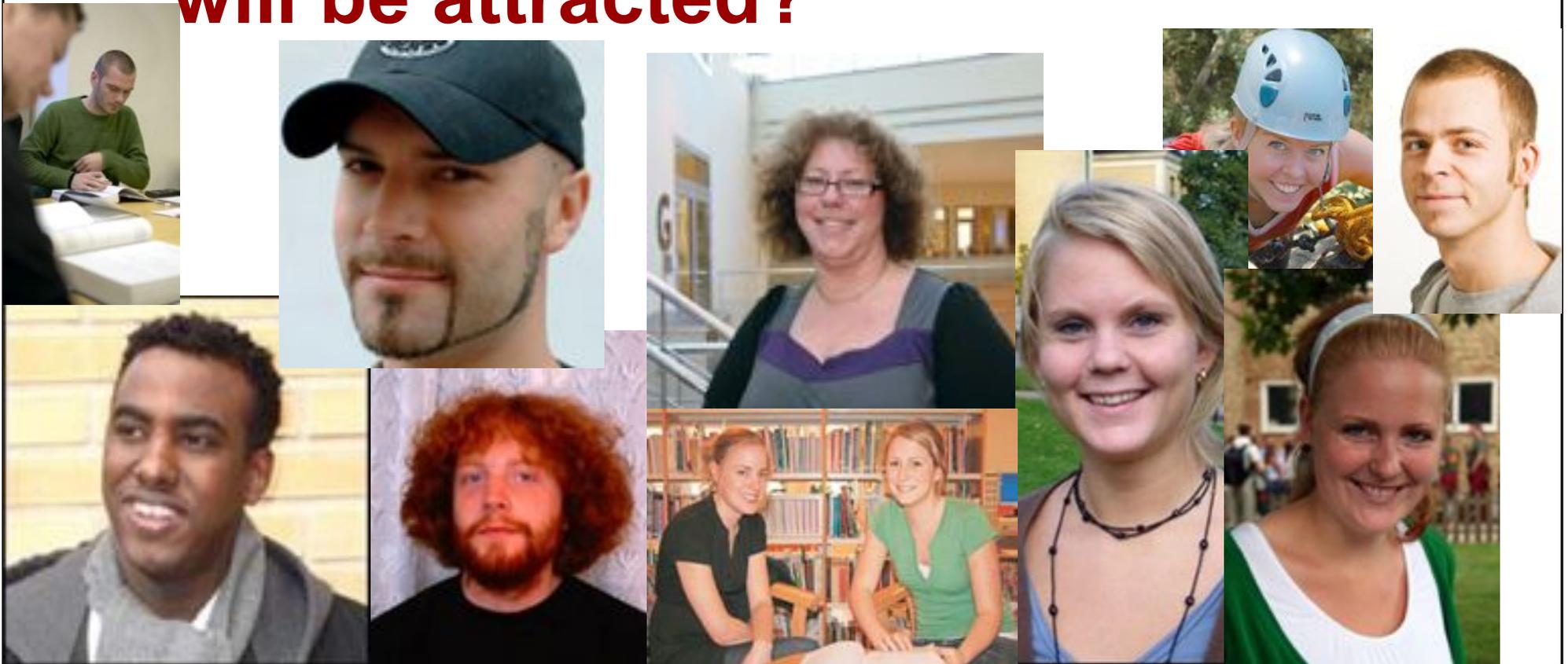
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# Collective or individual

- **As a hospital nurse you will be in demand both nationally and internationally**
- **You can, for example, create a profile further towards construction, materials technology or automation, but you can also read courses in design, energy technology or environmental technology. If you wish you can also supplement the education with, for example, languages, economics or law.**



**Does this matter for which sex  
will be attracted?**





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**Questionnaire to 366 secondary school students  
on theoretical programs in a middle sized town and rural areas, with  
weak academic traditions.**

**Based on 4 descriptions on educational programs where subject content  
is removed, but the phrasing borrowed from descriptions of nursing  
and engineering programs.**

**Answer:**

**No, the formulations do not seem to be important in a gender perspective.  
If the subject matter is removed, the descriptions attract girls and  
boys in approximately the same numbers.**

**However, descriptions of nursing programs are more attractive to both  
girls and boys than descriptions of engineering programs.**



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# What is important for this group of students

To get a job after graduation

preferably a choice of different jobs

preferably anywhere in Sweden

preferably even abroad (girls also want to study abroad)

The town where the university is located is important

Personal development is important

Getting profound theoretical knowledge is also good



# Most important

## For boys

- 1. Good chances to get a job after graduation
- 2. Good chances to get a job anywhere in the country
- 3. University town appears nice
- 4. Education gives you good theoretical knowledge
- 5. Education gives you personal development

## For girls

- 1. Education gives you personal development
- 2. Good chances to get a job after graduation
- Good chances to get a job anywhere in the country
- 3. University town appears nice
- 4. Many elective courses
- 5. The college has a good reputation
- Education gives you good theoretical knowledge



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	Nursing 1	Nursing 2	Engineering 1	Engineering 2	Sum
Girls	83	49	40	26	198
Boys	40	40	38	28	146
Unknown gender	3	1			4
Sum	126	90	78	54	348
Girls	67% chose nursing		33% chose engineering		
Boys	55% chose nursing		45% chose engineering		



## Why are nursing programs more attractive?

Preferred by 62% of the students

- Personal development
- For outgoing people who like to meet other people
- Study and work abroad
- Leadership and independence



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# What is attractive in descriptions of engineering programs?

**Preferred by 38% of the students**

**Freedom of choice, elective courses, breadth**

**Ties to working life**

**working with 'real problems'**

**work for wage during the education**

**"your degree weighs heavily on the labour market"**

**Practical knowledge**

**Project work is definitely NOT attractive**



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# In general

- Getting a job was the most important aspect.
  - **Descriptions of jobs were important in the catalogue texts**
- Social aspects and generic capacities are more important for girls than for boys:
  - **Values and ethics important to learn about**
  - **Communication skills important to learn**
  - **Critical thinking important to learn**
  - **Good social climate on the education important**



# Conclusions

- **Texts in university catalogues accede to and reproduce societal gender norms The catalogue texts seem to target the same gendered group that already inhabits the education**
- **While working on broadening the recruitment base to include more women, engineering education can compare itself with female dominated educational programs and reflect on:**
  - **Which features that already exist in engineering programs could be stressed more in recruitment?**
  - **How could engineering programs be described in more varied and different ways?**
  - **Which aspects that do not exist on engineering programs, or exist only in a marginalized position would be attractive and beneficial to both students and future employers?**