Engineers less empathetic, study finds

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Are engineering students less empathetic than students in the caring professions? Yes, the findings from a study performed at Linköping University indicate that this is the case. The study comprises more than 200 students from six different study programs and was carried out by Chato Rasoal, a researcher in psychology, together with two colleagues.

The researchers measured empathy with a well-established questionnaire that shows, for example, the degree of imagination, the ability to assume the perspective of others, and whether the subject cares about others, along with the subject´s own worries and anxiety.

"Empathy can have both a cognitive and an emotional aspect," explains Chato Rasoal. The capacity to see things from the point of view of others is primarily cognitive, while caring about others is a more emotional component.

Earlier research has shown that engineers have a lower degree of empathy than future doctors and nurses. This may seem perfectly natural, after all, you don't need much empathy to work with machines and calculations, do you? But Chato Rasoal doesn´t agree.

"Advanced engineers often take on leading positions in companies, where they have to be able to lead teams involving many co-workers. This requires both good communication skills and social competence. In today´s global business world you also need intercultural competence, an ability to communicate and collaborate with people from entirely different cultures."

The students responses evinced clear differences between caring-profession students and engineers. The latter had considerably lower scores. However, the differences were mitigated when the data was adjusted for gender. It´s well known that women are more empathetic than men.

Two groups of engineers participated, students of computer engineering and applied physics. For the latter a marked difference compared with caring students remained even after adjusting for gender differences.

For computer engineering students, the differences were largely eliminated. The researchers have a theory about why: the computer engineering students are taught with PBL, problem-based learning, which is not the case for the applied physics students. Chato Rasoal believes this can influence the degree of empathy.

"In problem-based learning you work in groups a lot. You have to be able to listen to others and accept other people´s thoughts and expressions of emotions. Otherwise it won´t work."

In a currently ongoing study they want to see if this theory can be confirmed. For five semesters they have followed students of computer engineering to see whether PBL affects their capacity for empathy. The data are now being processed.

The findings from the first study have been presented in an article in *European Journal of Engineering Education*.

More information: Rasoal, C., Danielsson, H. and Jungert, T. Empathy among students in engineering programmes, *European Journal of Engineering Education*, Vol. 37, Iss. 5, 2012, DOI: 10.1080/03043797.2012.708720