

Women choice on STEM careers and expectations in an emerging economy

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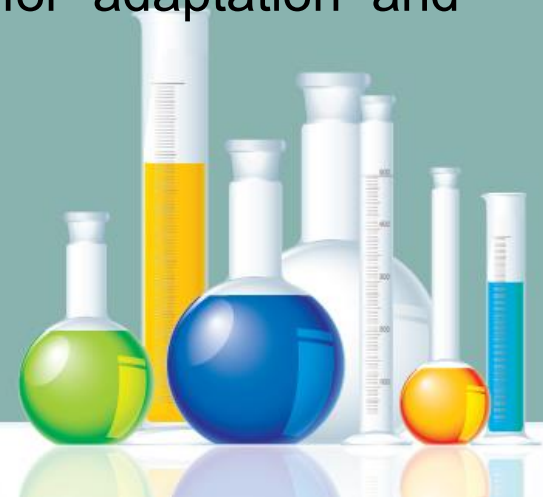
Introduction

In order to investigate the intrapersonal and interpersonal factors that may influence the choice of women for STEM courses, a study was conducted on female student population from Aerospace Engineer education program at the Faculty of Engineering campus Mexicali (FIM) of the Autonomous University of Baja California (UABC).



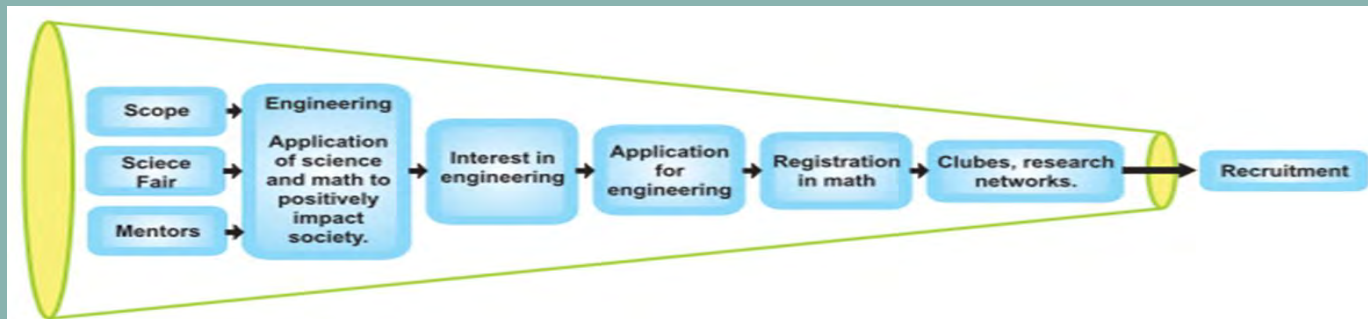
Common factors to consider are

The social, economic, ethnic and family contexts; gender issues; influence of schools and quality of education; as well as interest and aptitude for science (Scantlebury and Baker, 2007). It has also highlighted the family context and positive relationships between parents and children as a fundamental element for adaptation and success in the educational context (Munk, 2011)



STEM as a tool to encourage studies in engineering

- The OECD sets educational policies for Latin America based on the STEM.
- The model emphasizes educational strategies with the objective of motivate and avoid drop-out of students in engineering



Methodology

The objectives of this study is to investigate the intrapersonal and interpersonal factors skills that may influence the choice of STEM courses.

The applied instrument is the Relevance of Science Education Questionnaire (ROSE-Q) which consists of open and closed questions (Schreiner and Sjoberg, 2004).

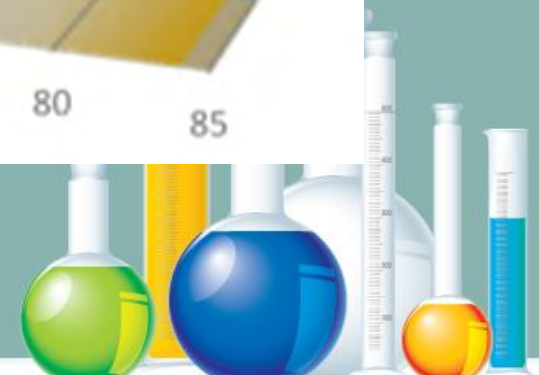
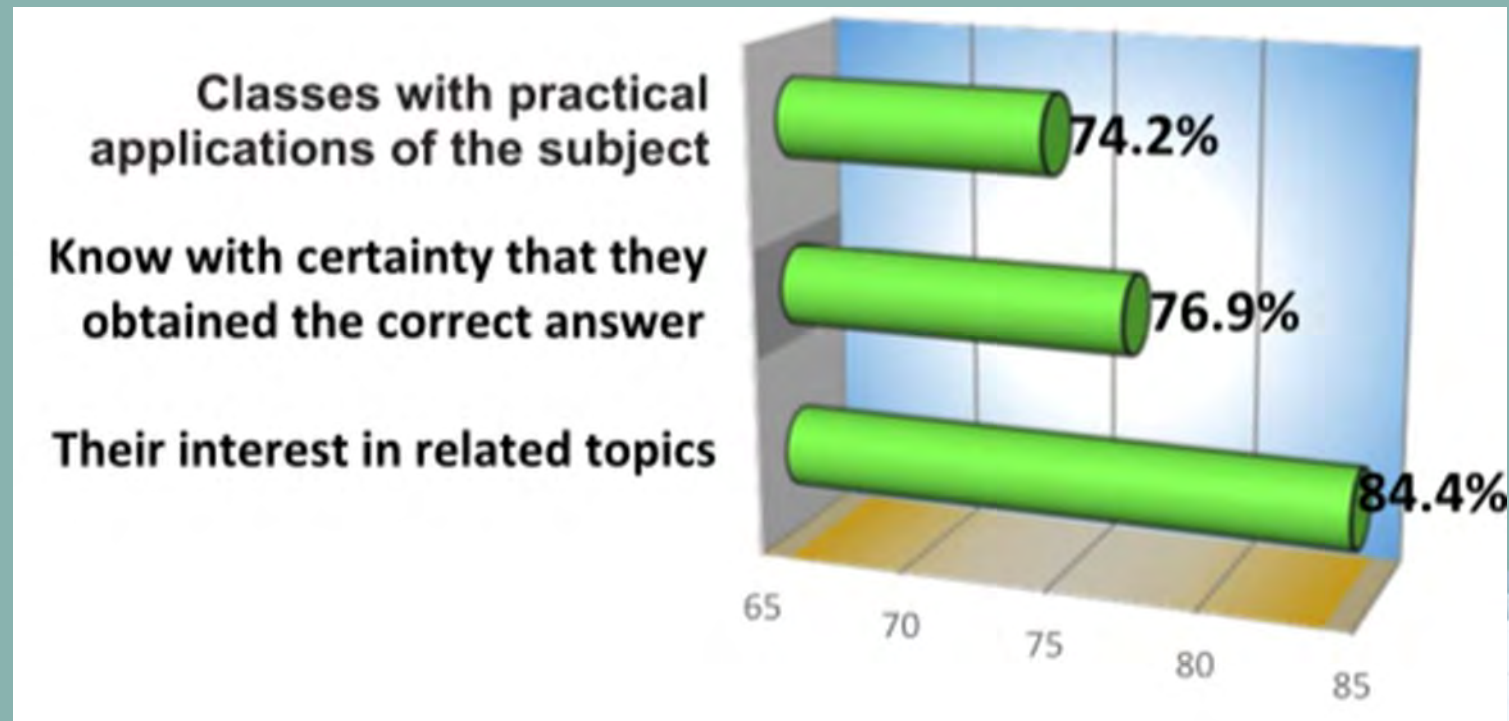


Results and discussion

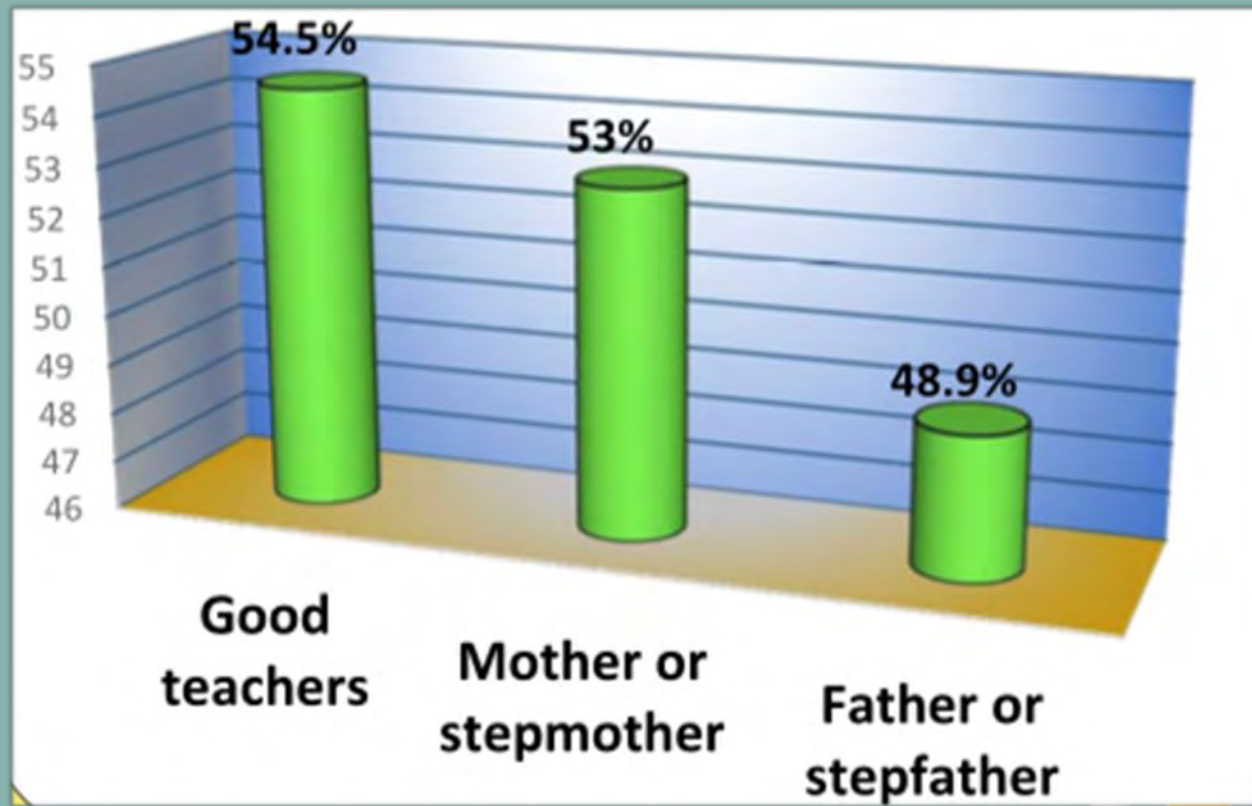
- The results indicate that the profile of the career choice is based on the importance in career pre-election beliefs, the importance of people and future employment expectations.
- When students were asked about their decision to make a career in engineering, they contributed their opinions, most of which are linked to family, cultural background and aspirations.



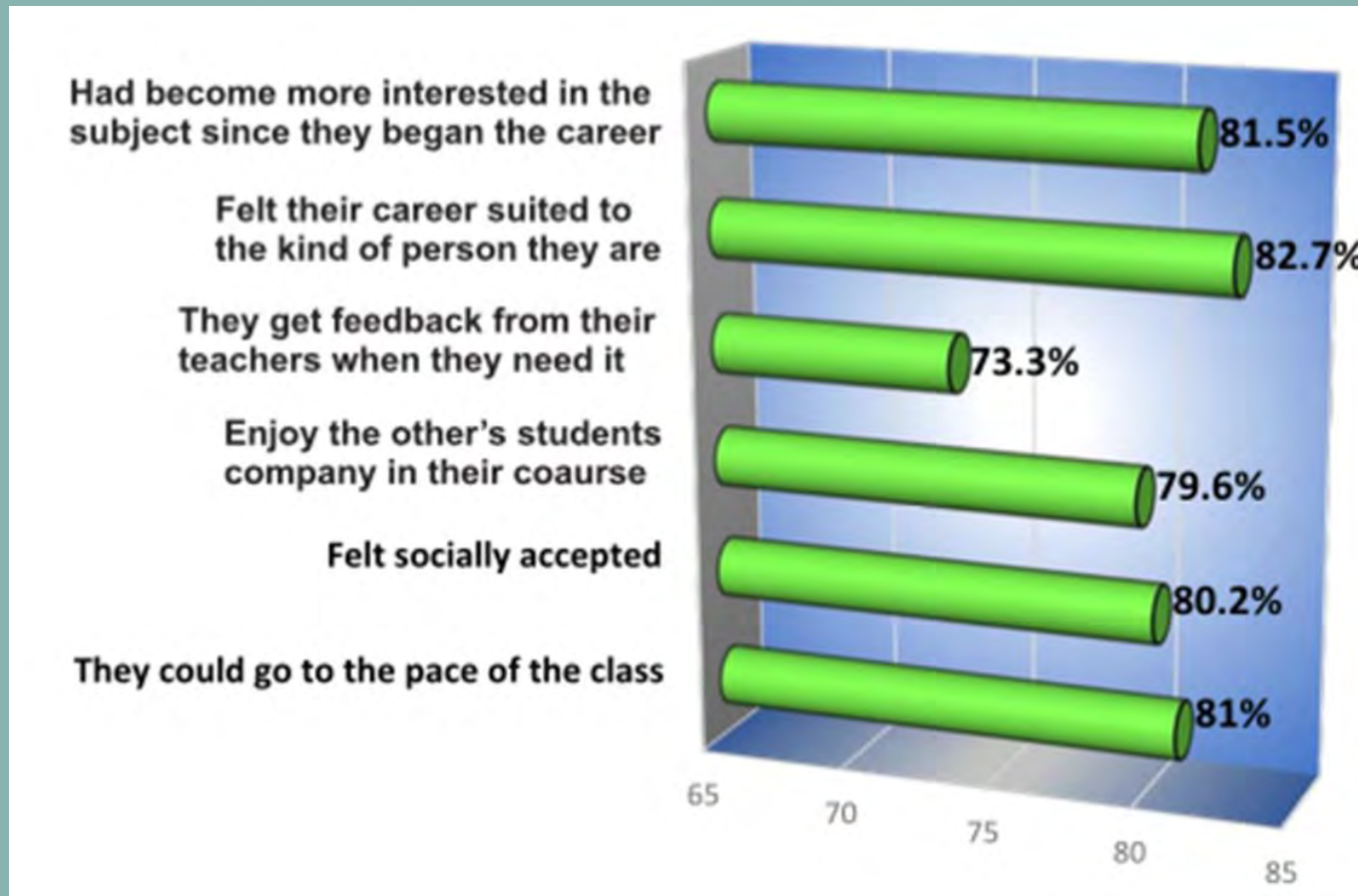
The importance of the education experience for the career choice defined as



Importance that had some people for the election of the career



Opinion on aspects of everyday life as a student



Conclusions

- Women are better informed and increasingly choosing a career based on expectations of future work.
- In the family aspect, a large percentage of students gained support when they decided to pursue a STEM career. This is due to the conviction by the families of the development opportunities of women in the areas of science and technology.



Conclusions

- 75% of students express missing a female role model and only a small percentage have a woman engineer in their family. According to Hill et al (2010), one of the factors most inspiring is the example of successful women in this field of knowledge.



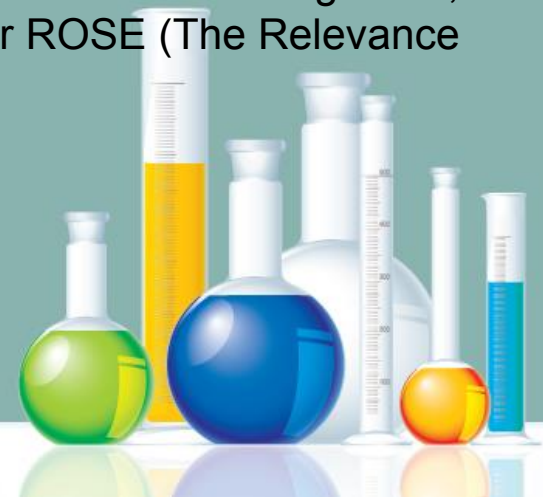
Conclusions

- Among the recommendations for Latin America OECD states must implement STEM models with the aim of improving gender differences and recruit more students talented women in science-related as a platform for economic development of countries fields.



References

- Archer, L., DeWitt, J., Osborne, J., Dillon, J., Willis, B., & Wong, B. (2012). Science aspirations, capital, and family habitus: How families shape children's engagement and identification with science. *American Educational Research Journal*, 49(5), 881–908
- Felder, Richard M., Brent, Rebecca. (2016) Publisher Wiley. *Teaching and Learning STEM: A Practical Guide* ISBN: 978-1-118-92581-2
- McConnell, Tom, Parker, Joyce & Eberhardt, Janet. (2016) SSTA press. *Problem-Based Learning in the Life Science* ISBN: 978-1-941316207
- Organización para la Cooperación y el Desarrollo Económico [OCDE] (2015). *The ABC of Gender in Education*. ocde: s.l.
- Schreiner, C. y Sjöberg, S. (2004). *Sowing the seeds of ROSE. Background, Rationale, Questionnaire Development and data Collection for ROSE (The Relevance of Science Education)*. Oslo: University of Oslo.





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