The Situation of Women In Physics In Egypt

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The number of female students enrolled in science and technology fields in various parts of the higher education system in Egypt amounts to one third of the total female students. The preferred majors of the women are in medicine-related disciplines, such as pharmacy and dentistry. In basic science the women students tend to enroll in life science and chemistry.

Figure 1 shows the number of male and female graduate students enrolled in 2003/2004 in six different Egyptian universities in each of the basic science disciplines (physics, chemistry, and biology). This Figure confirms that female interest in basic science is highest for biology, intermediate for chemistry, and lowest for physics.

Figure 2 shows the gender distribution of staff members in the basic science departments at the same six universities for the academic year 2004/2005. The same trend was found in all the universities: female physics staff are the least in number while the female life science staff are the most. In biology at Ain Shams University (ASU) in Cairo, female life science staff even outnumber their male counterparts.

Figure 3 shows the number of physics graduates in 2003/2004 in comparison with 1999/2000 at 12 Egyptian universities. At nine of the universities there was an obvious increase in the number of female physics graduates during this period. The only decreases occurred in two universities in the south of Egypt. The decreases may be due to the lack of jobs in physics in the south of Egypt.

Figure 4 shows the distribution of students enrolled in physics double-major programs (e.g., physics plus computer science, chemistry, mathematics, or life science) at five universities. It is quite obvious that the enrollment in physics double majors is much higher than in single physics majors.
For this study we also interviewed female students in different disciplines at some of the Egyptian universities. The interviews revealed that girls believe that physics and mathematics are tough and therefore are usually male subjects. Girls tend to study life science, which they consider more feminine than physical sciences. Many girls share a misconception that males usually prefer spouses of nonscientific backgrounds, especially not physics and mathematics. Stable marriage takes a priority over a career for women in our society.

We have in Egypt a faculty affiliated with Ain Shams University where only girls are allowed as students. It has a science section, which offers physics, chemistry, biology, and mathematics programs. This special situation was established in response to the demand of the community that girls get their education without mixing with boys. The dean of this faculty is always a female and she is at present a physicist colleague.


**FIGURE 4.** Enrollment in 2004/2005 of students in physics, and in physics plus a second discipline as a double major. From left to right for each university, the bars show females in physics, males in physics, females in a physics double major, males in a physics double major.

**CONCLUSIONS**

We conclude that among the basic science disciplines, physics is the least attractive to female students in Egypt. The girls who choose physics for their careers do so mainly due to their interest in physics. If one adds a second major subject to physics to create a dual major, making the degree more interdisciplinary, the number of enrolled students increases by a large amount. Finally, the number of female physics students at universities in the north of Egypt is much more than in the south for cultural reasons and the availability of employment.