

## AFFECTS AND BELIEFS IN SCHOOL MATHEMATICS: GENDER DIFFERENCES

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The TIMSS study found significant gender differences in achievement only in a few of the participating countries (grades 7 and 8). In general attitudes towards mathematics were positive for most countries, however gender differences in favour of boys were found in 31 out of the 40 participating countries (Beaton et al 1996). Norway was one of countries with the largest gender difference (Lie et al 1997). The largest gender difference in achievement in the mathematics test in TIMSS' population 3 (grade 13) was found in the Norwegian population.

Leder and Forgasz (2000) have presented a rational and methods which they used to develop a scale for investigating to what extent mathematics continues to be considered as a gender domain. The study presented here concerns issues from a large-scale project could offer another to this discussion.

Since 1995 the project has collected national data on students' understanding of key concepts in the national mathematics curriculum. A questionnaire that contained a wide range of issues related to the teaching and learning of mathematics (125 items) was administered to 1482 students in grad 6 (11.5 y) and 1183 students in grade 9 (14.5). Forty-two of the items were related to students' beliefs about mathematics, mathematics teaching and self, as well as attitudes towards the subject. A factor analysis of the 42 items formed five groups, *Interest*, *Usefulness*, *Self-confidence*, *Diligence* and *Security*.

In another eight items the students were asked to consider assertions such as: "*To enjoy asking questions in the mathematics lessons is most typical for: boys, girls, equal*". The responses to these items gave important information on how such gender stereotypes develop in different age groups.

A subgroup of the students, respectively 273 and 243, responded to a test which investigated students' conceptions of measurements and units. This made it possible to study relationships between scales above and gender, and in addition to investigate relations between students' performances to these scales.

### References

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