Drivers of the Gender Gap in STEM Motivation: Evidence from European Countries

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Introduction

Gender inequality in STEM (Science, Technology, Engineering, and Mathematics) remains a key challenge across Europe. While policies often focus on improving access and economic incentives, less attention is given to how public attitude shapes participation. Using CRONOS-3 Wave 1 data (weighted for representativeness), this study examines gender differences in motivation toward STEM education.

Findings

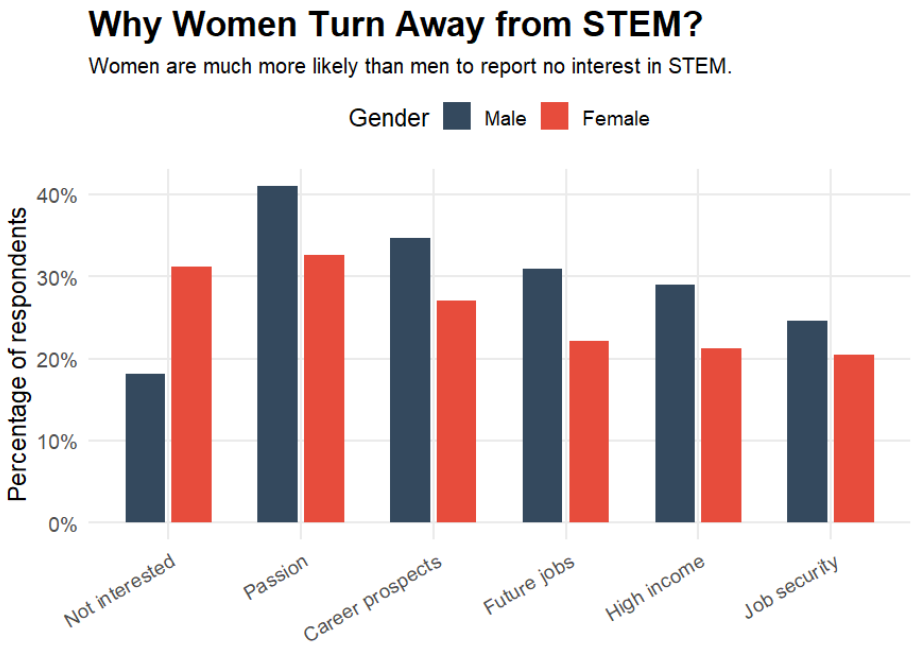

Figure 1 Gender differences in motivations toward STEM education

Men are more likely to report motivations related to career prospects, future job opportunities, and high income, whereas women are significantly more likely to report no interest in STEM education. The most pronounced gender difference is not economic but interest-based disengagement.

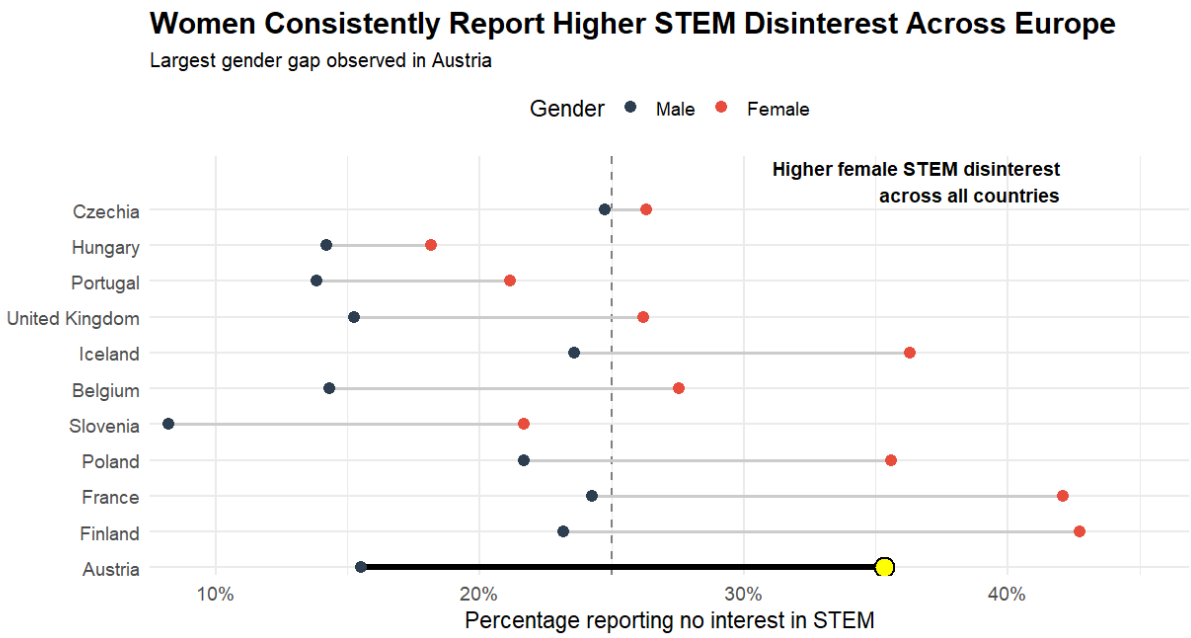

Figure 2 Gender differences in lack of interest in STEM across European countries

Across all countries included in the analysis, women consistently report higher levels of STEM disinterest than men, indicating that the gender gap is not confined to specific national contexts. Although the magnitude of the gap varies, with the largest difference observed in Austria, the overall consistency across countries strengthens the assumption that the issue is structural rather than context-specific.

These results indicate that the gender gap in STEM cannot be fully explained by differences in access or incentives. Instead, it appears to originate earlier, in the formation of interests, highlighting the role of socialization, early exposure, and cultural expectation in shaping engagement with STEM fields.

Policy Implications

Reducing gender inequality in STEM requires a shift from access-focused policies toward early engagement, such as promoting early exposure to STEM for girls, increasing female role models in STEM, encouraging inclusive teaching practices, and supporting mentoring and outreach programs.

Data Citation

European Social Survey European Research Infrastructure (ESS ERIC) (2025) CRONOS3 Wave 1 edition 1.1 [Data set]. Sikt - Norwegian Agency for Shared Services in Education and Research. https://doi.org/10.21338/cron3w1e01.1