

Abstract Submitted  
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**The possible role of resource requirements and academic career-choice risk on gender differences in publication rate and impact**<sup>1</sup> XIAOHAN ZENG, Northwestern University, JORDI DUCH, MARTA SALES-PARDO, FILIPPO RADICCHI, Universitat Rovira i Virgili, SHAYNA OTIS, TERESA WOODRUFF, LUIS AMARAL, Northwestern University — Many studies demonstrate that there is still a significant gender bias, especially at higher career levels, in many areas including science, technology, engineering, and mathematics (STEM). We investigated field-dependent, gender-specific effects of the selective pressures individuals experience as they pursue a career in academia within seven STEM disciplines. We built a unique database that comprises 437,787 publications authored by 4,292 faculty members at top United States research universities. Our analyses reveal that gender differences in publication rate and impact are discipline-specific. Our results also support two hypotheses. First, the widely-reported lower publication rates of female faculty are correlated with the amount of research resources typically needed in the discipline considered, and thus may be explained by the lower level of institutional support historically received by females. Second, in disciplines where pursuing an academic position incurs greater career risk, female faculty tend to have a greater fraction of higher impact publications than males. Our findings have significant, field-specific, policy implications for achieving diversity at the faculty level within the STEM disciplines.

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