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In search of future excellence:

Bibliometric indicators, gender differences, and predicting research performance in the early career

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Akademisk avhandling

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Abstract
The governance of higher education institutions and science have endured significant changes during the last decades, emphasizing competitiveness, performance, and excellence. Embedded in this development is an increased use of bibliometric indicators as decision support tools in contexts of e.g., employment, appointment, and funding. These changes have gradually extended to the early career phase and the doctoral education.

The aim of this thesis is to make a contribution to an ongoing discussion about the predictability of research performance and the reasonability of using bibliometric indicators in the early career, with a focus on gender differences. The thesis revolves around three overarching research questions focusing the early career and the doctoral education: (1) the degree to which research performance, as operationalized with bibliometric indicators, is predictable; (2) the degree to which gender differences in early career performance can be explained by research performance during the doctoral education; and (3) to what degree factors such as collaboration and supervisor behaviour, might affect gender differences in research performance.

The main results suggests that research performance in the early career, as operationalized by bibliometric indicators, is predictable. Individuals who publish larger volumes, publish more in high prestige journals, and more excellent research early in their career, are more likely to attain excellence later on. The results also indicates that gender differences in performance can be observed as early as during doctor education and that these differences partly explain the observed performance differences between males and females in the early career. Finally, the results suggests that gender differences in performance during doctoral education can largely be explained by the doctoral student's collaborative networks and supervisor behaviour.

It is concluded that while research performance, as operationalized by bibliometric indicators, during the early career is predictable, there are gender differences in performance that have to be taken into consideration. If they are not, the use of these types of performance indicators in science policy and management might increase the gender gap in science.

Keywords
bibliometric indicator, gender, early career, doctoral education, excellence, decision support tool, prediction, research performance, doctoral student

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