Application for participation at the Doctoral Forum

Last name: Henriksen

First name: Dorte

Institutional affiliation: Aarhus University/ Department of Political Science, Danish Centre for Studies in Research & Research Policy/ http://pure.au.dk/portal/da/dh@ps.au.dk

Address:
Bartholins Allé 7
DK-8000 Aarhus C
Denmark
T: +4587165232
M: dh@ps.au.dk

Names of the supervisor(s): Jesper Wiborg Schneider (http://pure.au.dk/portal/da/jws@ps.au.dk);
Kaare Aagaard (http://pure.au.dk/portal/da/ka@ps.au.dk)

Description of doctoral research project

The aim of this PhD project is to examine the characteristics and challenges of co-authorship and research collaboration in the social sciences. The project will examine how the characteristics of co-authorship and research collaboration have changed over time, how it may be affected by research assessments and discuss its potential consequences for the practice of research assessments. Since we have little systematic knowledge of these phenomena in the social sciences, it is important to examine them, compare them with the developments and evidence from the other sciences, and to discuss the consequences for publication behaviors, scientific communication, the reward system and research assessments in the social sciences. This research project will offer a more systematic and encompassing understanding of the mechanisms at play in the social sciences and their challenges to the existing assessment practices.

The average number of authors has been increasing since the end of the Second World War (Birnholtz, 2006; Cronin, 2001), and this challenges the general notion of "authorship". Authorship has multiple functions in academia, and it is used to assign ownership and responsibility of knowledge claims, as well as attribute credit and enable the accrual of reputation for one's contribution. These are important functions, since status in academia primarily is determined by one's reputation and this reputation is applied in hiring, promotion and funding decisions, as well as performance evaluations (Weingart, 2005). Thus, the academic reward and reputational system is based on the assumption that it is possible to identify and assign the individual intellectual responsibility of a piece of scientific work. This is straightforward, if one is dealing with single authorship, but it gets more complicated as the number of authors per paper rises. Hence, the developments in research collaboration and co-authorships generate interesting and serious challenges for the traditional notions of authorship, as well as its instrumental use in research assessments (Biagioli, 2003, p. 274; Birnholtz, 2006; Rennie, Yank, & Emanuel, 1997). In academia we detect an increasing tendency to measure and assess researchers' based on their quantitative research output rather than the content of this output. This creates incentives to "game" the system to improve one's reputation by co-producing publications, and it is particular attractive when the performance-based research funding systems uses whole counts instead of fractionalizing (e.g. Butler, 2003), so the reward for producing a publication does not have to be shared. Hence, the instrumental uses of performance-based funding systems affect the researchers' publishing behavior, including their definitions, perceptions and practices of authorship (e.g. Ossenblok, Engels, & Sivertsen, 2012). Furthermore, from the reward perspective, it is difficult to account for the individual contributions in collaborative research. Consequently, this increases the adverse effects, such as motivational loss to fully engage in research collaboration or plain strategic authorship "gaming" (Birnholtz, 2006; Wray, 2006).

However, the rises in co-authorship and research collaboration are also affected by other factors that influence the research community. The rise can be a result of the increasing tendency to use large scale research projects, larger data collection, more advanced technical and statistical analyses, as well as a

greater tendency to specialization and division of labor in the research process (Beaver, 2001; Birnholtz, 2006; Fisher, Cobane, Vander Ven, & Cullen, 1998; Moody, 2004; White, Dalgleish, & Arnold, 1982). Furthermore, studies have pointed at the increasing mobility of researchers that has made it possible and desirable to expand inter-institutional collaborations (Melin, 2000; White et al., 1982) while the development of communication technology have enabled geographically disperse researchers to collaborate, by making it easier to communicate, analyze and exchange data (Beaver, 2001; Fisher et al., 1998; Melin, 2000). Furthermore, the growing number of people working in academia has created more collaboration opportunities (Fisher et al., 1998; Lee, 2000; Melin, 2000), especially the increase in PhD students have created more opportunities for research advisors to collaborate and co-author with their students (e.g. Fisher et al., 1998). However, this tendency has given rise to issues regarding honorary or gift authorship in academia and some studies suggest that research advisors may be inappropriately demanding co-authorship with their students (Rennie et al., 1997).

In order to investigate the challenges and characteristics of authorship in the social sciences the four research questions stated below will be examined in this project.

> **RQ1:** To what extent has there been an increase in co-authorship in the social sciences? And what factors have caused this increase in co-authorship?
> **RQ2:** How are research collaboration and co-authorship in the social sciences defined?
> **RQ3:** How do social scientists perceive and utilise academic authorship? And how do it corresponds to the utilisation and perception used in research assessments?
> **RQ4:** To what extent are these perceptions and uses of authorship in the social sciences affected by performance-based indicators?

RQ1 focuses on the development in co-authorship in the social sciences. This study will document the extent of the increase in co-authorship, and examine if the fields with the highest increase have some common characteristics, that could explain these increases. The RQ will be examined by conducting a bibliometric study of co-authorship in the fields of social sciences. The analysis is based on bibliographic data collected from the Web of Science. This study has been submitted as a full paper to the ISSI 2015.

RQ2 will be answered by doing a review of the previous studies of authorship (in progress). Multiple studies have examined the authorship requirements and how research collaboration and co-authorship are defined in the sciences and life sciences, though only a few studies have included or focused on definitions of co-authorship and collaboration in the social sciences. Thus, it is necessary to do an exhaustive review of the literature and thoroughly investigated what authorship requirements can be found in social science journals.

RQ3 examines researchers' perception and use of authorship in the different research fields of the social sciences. Earlier studies of authorship in the sciences show a divergent use of authorship that is not in accordance with the classical assumptions of authorship. This study uncovers whether or not some of the same mechanisms are affecting the perception and use of authorship in the social sciences as in the sciences. RQ3 is linked to RQ4, where the objective is to investigate how external publication incentives, such as performance-based publication indicators, affect research collaboration and researchers' use of co-authorship. The analysis of RQ4 will investigate the extent to which external measures distort the scientific communication process, the reward system, intensifies perceived publication pressure and make adverse behavior emerge in the social sciences. RQ3 and RQ4 will be investigated by doing a survey.

Motivation:
The issues of my PhD project I would like to discuss and receive feedback on are how I can improve the content and construction of my research questions. Furthermore, I would like to discuss the construction of the survey and different approaches I could take in the examination of collaboration, co-authorship and publication practices. Finally, I'm considering how I might extend the bibliometric study by mapping the research areas and illustrate the research areas with the greatest increase in co-authorship.

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