



Entrepreneurship and Gender Equality in Academia – a Complex Combination in Practice

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ABSTRACT

This article takes as its starting point two current trends in academia – the promotion of academic entrepreneurship and innovation and the promotion of gender equality – and discusses how different gender equality perspectives are interwoven, or not, into academia's transformation processes towards entrepreneurial universities. On the basis of an analysis of 26 interviews conducted with personnel at two Swedish universities, the article investigates how concepts of academic entrepreneurship and innovation on the one hand and gender equality on the other hand are constructed and filled with meaning as well as how they are entangled and what effects are produced by this way of thinking and acting. Our analysis reveals tensions between the two policy goals, together with tensions within each goal. An overall conclusion is that articulations and ways of speaking about the policy goal of academic entrepreneurship and innovation were to some extent interwoven with the policy goal of gender equality, especially in the broader perspectives on academic entrepreneurship. However, the articulations of strategies and practice of the two policy goals essentially ran parallel, and were not entangled with one another. This is because strategies or substantial initiatives for merging gender equality into the agenda of academic entrepreneurship and innovation were lacking.

KEY WORDS

Academic entrepreneurship / innovation / gender equality / academia / discourse analysis

Introduction

Drawing on results from a study at two Swedish universities, this article discusses how researchers and managers relate to the promotion of academic entrepreneurship and innovation in relation to the promotion of gender equality in academia. Academic entrepreneurship and gender equality are two current trends in academia. Both can be described as substantial, thus affecting the universities both structurally and ideologically. The concepts are dynamic and sometimes discussed as interwoven, even as being each other's solutions, at least on a rhetorical level. Thus, an important question is

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whether it is possible for an academic institution to combine and pursue the two policy goals at once; both developing towards an entrepreneurial university and developing towards gender equality, or whether this combination is far too complex in practice.

Although there is an ongoing discussion, in the literature as well as in practice, about how important the trend towards entrepreneurship and innovation is and exactly what consequences it has had, and may have, on the structural, organizational and economic changes in academia, it is quite clear that academia is transforming. This is usually described as the expectation that researchers, in addition to teaching and research, will be entrepreneurial and will commercialize their research, thereby contributing to society's regional and national economic growth (cf., Andersson, 2006; Jacob et al., 2003; Packham et al., 2010). The voices and texts that mediate the discourse of entrepreneurship, and which call on universities and professors, researchers and students to commercialize their research, can be found at universities all over the world. This discourse is found in their visions, strategies and marketing, and also in calls from some national research funding agencies. Most Swedish universities have projects and administrative units dedicated to facilitating and promoting entrepreneurship and innovation among students and employees (Fältholm et al., 2010).

These increasing demands on researchers to become more entrepreneurial are part of the neoliberal market governance that has recently entered Swedish academia (Keisu & Carbin, 2014). It is characterized by its market orientation, deregulation, competitiveness and its audit culture and technologies, hence encouraging people to see themselves as individual subjects responsible for their own well being (e.g., Brown, 2002). The Swedish agency for innovation policy, VINNOVA, promotes funding for needs-driven research. Every year, they invest about SEK 2.7 billion in strong research and innovation milieus (VINNOVA, 2014: 03), thus promoting collaborations between companies, the public sector, universities and research institutes. Another example of neo-liberal market governance in academia is the increased tendency to think, measure and evaluate the scientific quality and performance of individual researchers in quantitative ways (Fältholm et al., 2010).

At the same time, academia is expected to meet expectations and demands for gender equality and the last 20 years have seen many gender equality debates and interventions at universities (Fältholm & Källhammer, 2009; Heikillä & Häyrén Weinestål, 2009). A further example of neo-liberal market governance is the strong emphasis on gender equality work to contain checklists, evaluations and mapping, that is, a custom of audit technologies, so-called 'method-driven politics' (Tollin, 2011). Likewise, Tollin has shown that, as early as the 1980s, Swedish politics on gender equality was intertwined with a neo-liberal agenda. Swedish academia, as in all the Nordic countries, is moreover required to prevent and counteract discrimination based on an increasingly broad anti-discrimination framework that includes sex, ethnicity, gender identity, sexuality, disability, age, religion or other beliefs (SFS, 2008). These changes, together with the circumstance that the Swedish government has reduced direct steering of higher education, have restricted the work of gender equality and led to its taking place within a partially new setting (Carbin & Rönnblom, 2012). The majority of the responsibility for gender equality is thus transferred to the individual academic institutions. But still the Swedish government declares itself to be devoted to the cause and has launched major initiatives through funding (Keisu & Carbin, 2014). The 'Delegation for Gender Equality in Higher Education' (DJ) has distributed approximately 60 million SEK to gender

equality projects (DJ, 2009: 7). This has not created any particularly vocal debate, unlike the method of gender quotas that was introduced during the 1990s in order to increase the number of women professors. That move was considered to threaten the meritocratic system and was seen as controversial (Törnqvist, 2006).

The attitude towards gender equality in academia seems to be positive, but perhaps this does not always extend to the interventions and, as Dahlerup (2010) writes, the effects of different kinds of gender equality policies and interventions in academia are still an under-researched area. Moreover, the ongoing transformation of academia towards entrepreneurship and innovation changes the settings and arenas for gender equality interventions. Gender analyses of entrepreneurship and innovation in academia indicate that gender equality can be an elusive goal here (Dahlerup, 2010; Fältholm et al., 2010; Lindberg et al., 2011; Rosa & Dawson 2006; Ylijoki, 2003). Most academic entrepreneurs at Swedish universities are men. Although there is a certain ethnic diversity, these entrepreneurs represent a homogeneous group of men aged between 35 and 50 years, who are well-recognized researchers in engineering or medicine, and they dominate the commercialization arena (Johannesson, 2008).

In order to capture the diversity and variety in universities' articulations and practices of academic entrepreneurship and innovation and gender equality, it is of interest to study this topic at different hierarchical levels and in different research settings (e.g., Martin & Turner, 2010). In this study, both the concepts and the practice are regarded as being produced in local settings, settings that also need to be contextualized in relation to more overarching discourses of (academic) entrepreneurship and gender equality. This article explores gendered aspects of entrepreneurship and innovation in an academic context by focusing on how problems are formulated and how the different ways of relating to the new expectations and demands of academic entrepreneurship and innovation, both on a conceptual level and in practice, lead to different consequences from a gender equality perspective at two Swedish universities. On the basis of the results of a qualitative study that included employees from three categories— top-level managers, innovation office managers and researchers— this article explores potential tensions between these two policy goals. The main research questions are how are innovation and entrepreneurship on the one hand and gender equality on the other hand constructed as meaningful concepts among the interviewees? What are the assumptions or presuppositions underlying these articulations and what effects are produced? Furthermore, how are the concepts entangled?

The article will be organized in the following way. Firstly, we will address the study's objectives and begin with a review of previous gender studies research on academic entrepreneurship and innovation and on gender equality in academia. Secondly, we will describe our data and outline our materials and methodology. Thirdly, the findings are presented and, through the analysis, we will seek to discover how these issues are filled with meaning before we finally conclude with a discussion of our findings.

Gender studies on academic entrepreneurship and innovation

The research on entrepreneurship and innovation related to academia is extensive and many studies build on the *Triple Helix Model*, which captures the reciprocal relationship between academia, the state and industry (see, e.g., Etzkowitz, 2002; Etzkowitz &



Leydesdorff, 1997; Etzkowitz et al., 2001; Gibbons, 1994; Guenther & Wagner, 2008; Jacob et al., 2003). These studies are focused on the benefits of these relationships and this strand of literature stresses universities' regional economic, social and civic development (Warren et al., 2010). One characteristic of mainstream research in this area is the normative message that entrepreneurship is central when it comes to innovation, economic development and growth. But there is also a growing interest in and theory development about social innovations (see, e.g., Lindberg, 2015; Seravalli, 2014).

There are studies that critically examine the transformations and neo-liberal ideals that are entering academia (see, e.g., Bacchi, 2008; Hasselberg, 2009; Slaughter & Leslie, 1997). Lindberg et al. (2011) criticize VINNOVA's and similar funding agencies' large joint-action networks designed to enhance innovation: '[They are] paradoxically consolidating old structures rather than opening up for creative change. A narrow range of actors and areas has been prioritized, ignoring the contribution from other sectors and alternative constellations to the growth of the knowledge economy' (p. 37). Another example is the work of Fältholm et al. (2010), who discuss the alternative and contradictory discourses that meet entrepreneurship in academia, such as ideas about independent research, free from business or political preferences, that is research that is governed only by the needs of the research community itself. In an overview of Swedish universities' views on knowledge transfer and commercialization (Johannesson, 2008), as well as in some critical research, 'the entrepreneurial university' is seen as endangering the core values of academia. The ideas of unfettered research and collegial autonomy are challenged by more management control emphasizing entrepreneurial activity and other types of managerial ideas and short-term market perspectives (Czarniawska & Genell, 2002; Mautner, 2005).

The mainstream research fields of entrepreneurship have been criticized for gender blindness, as they focus on men and male-centered workplaces and industries, where male employees and entrepreneurs dominate (Pettersson, 2007). As a result, women's roles in entrepreneurship are often made invisible regardless of their efforts in business. Furthermore, it has previously been difficult to develop knowledge about women as entrepreneurs because of the lack of available statistics (Holmqvist, 1997; Sundin & Holmqvist, 1989).

Moreover, gender research has revealed that entrepreneurship is co-constructed together with masculinity (Hedberg & Pettersson, 2006; Holmqvist & Sundin, 2002). For example, the mainstream research fields of entrepreneurship have been quite heavily influenced by Schumpeter's (1934) definition of an entrepreneur: a solitary *man* (sic!) involved in activities like introducing new products, new raw materials, new methods of production or organization, or opening up new markets. Entrepreneurship is seen as a process of employing creativity, innovation and ingenuity, and an entrepreneur must be determined, strong-willed, persistent, devoted, self-centered and a risk taker. Ahl (2004) argues that since these are seen as natural, almost biological, traits of a man, an entrepreneur is seen as a man. This perception can also be found in how mainstream entrepreneurship research constructs the anomaly of women entrepreneurs. In the research texts Ahl studied, she found that women entrepreneurs are being constructed as very different to men, as 'unusual women' or as 'good mothers'.

When it comes to gender studies on innovation and innovation systems in Sweden, there are some recent reports and books published by VINNOVA, the Swedish governmental agency for innovation systems (see, e.g., Andersson et al., 2009, 2012; Nyberg,

2011) and by the Nordic Research Program (Pettersson, 2007). These texts show how the dominant images of innovation and innovators build on stereotypical notions of gender. The images almost exclusively promote men and certain forms of masculinity as the norm (cf., Blake & Hanson, 2005). These texts also criticize innovation policy for being exclusive, giving priority to a narrow range of participants who follow a distinct gender pattern and, by doing so, promoting social exclusion, strengthening traditional masculine gender-marked areas and thus failing to identify promising innovative areas for the future. By using Sweden as an example, Lindberg (2012) highlights how gender, masculinity and innovation are mutually constructed within innovation policy, especially when the pattern of prioritization coincides with a gender-segregated labor market. Lindberg (2015) argues that social innovation can challenge and change segregating and hierarchical gender patterns in business and innovation support activities. A similar but slightly different strand is the idea that gender-theoretical perspectives can be used to enhance innovation processes and practices to produce products that are more profitable; this is sometimes called *market feminism* (Kantola & Squires, 2012). Pettersson McIntyre (2014) analyzes the VINNOVA project 'All Aboard – a concept boat' and describes how women designers, women's preferences and gender equality perspectives were used during the innovation and design processes. Although 'All Aboard' challenged and questioned constructions of gender at a general level, on a more concrete level, there were also limitations, for example, in the use of gender stereotypes and a special type of gender equality that fitted heterosexual and neo-liberal norms.

Studies on academic entrepreneurship and innovation from a gender perspective are less extensive than on entrepreneurship and innovation in general, but this seems to be a growing field of knowledge (see, e.g., Dahlerup, 2010; Fältholm et al., 2010; Lindberg et al., 2011; Rosa & Dawson, 2006; Ylijoki, 2003). One starting point for these studies is that most academic entrepreneurs at Swedish universities are men. Gender blindness also seems to be prevalent within research in academia. In a meta-study based on 173 reviewed articles about academic entrepreneurship, only three mentioned gender and in these cases gender was used as a numerical variable (Rothaemel et al., 2007). As Fältholm et al. (2010) discuss, women and other groups in academia who do not fit in with the image of the typical (male) academic entrepreneur risk finding themselves in 'entrepreneurial ghettos'. Gender perspectives challenge the traditional concept of innovation on a large scale. However, one important point arising from these studies is that a gender perspective is not only about promoting and encouraging women; rather, it is argued that theoretical gender perspectives can also be used as a tool for leveraging innovation and as an impetus in promoting a paradigm shift in innovation science (Andersson et al., 2012; Ghaye & Gunnarsson, 2009; Gunnarsson, 2011). In order to develop innovations, it is necessary to be able to question everything that is taken for granted and is perceived as the natural order so as to facilitate the discovery of new pathways. Challenging the 'natural order' requires a critical perspective and taking a gender perspective can thus be helpful (Danilda & Granat Thorslund, 2011).

In Sweden and the other Nordic countries, policy-level support for women's entrepreneurship is well established, but research and knowledge around this topic is still limited (Pettersson, 2012). Nevertheless, one conclusion is that state support programs and interventions tend to put women in a subordinated position, hence sustaining the male as norm (see also Sundin, 2012). To sum up, the amount of gender analysis on academic entrepreneurship and innovation is increasing within a university context, but it



is still lacking in relation to gender equality interventions and more is therefore urgently needed (e.g., Dahlerup, 2010).

Gender equality and academia

Swedish academia has been the subject of much analysis and problem descriptions based on gender theory and these studies have revealed inequalities in the meritocratic systems. One famous study is that of Wennerås and Wold (1997), which showed that women had to be 2.5 times better than their male colleagues in order to be granted funding from the Swedish Medical Research Council. Similar results have been demonstrated in other contexts (see e.g., Benschop & Brouns, 2003). There are studies showing that men receive larger research grants than women (SOU, 2011: 1) and, not surprisingly, men have also received a greater sum for research that was part of the recent billion-krona investment into strong research environments in Sweden (Sandström et al., 2010: 14). Lindgren et al. (2010) have shown that women are discriminated against in the research application process, and those who do receive funds then encounter difficulties in their working environments. There are studies discussing hidden discrimination within this academic work environment (Berg et al., 2012; Husu, 2001, 2005) and studies showing that men still have better opportunities than women for career advancement (Danell & Hjerm, 2012; Silander, 2010). A key dilemma that was raised in many of these studies is that if meritocracy were a functioning system, then gender inequality would not be an issue (Alnebratt & Jordansson, 2011). According to the political scientist Drude Dahlerup (2010), there is a strong belief that gender does not matter because the structures within the academy are believed to be based on meritocratic and gender-neutral principles. When culture and gender are considered irrelevant, and the organization is believed to be equal and free from sexual harassment and discrimination, then any occurrences of these issues become difficult to measure and can be considered an imposition of responsibility (Carstensen, 2004). When academic meritocracy is just an ideal and not fully practiced, then other categories besides gender are also of importance, as suggested by Paula Mählick and Beverly Thaver's (2008, 2010) analysis of gender, race and equality in South Africa and Sweden.

This pool of research has given rise to several debates, which have formed the basis for many gender equality interventions at universities over the last 20 years (Fältholm & Källhammer, 2009). In Heikillä and Häyrén Weinstäl's (2009) summary of these interventions, we can find targeted recruitment, networking, mentoring and leadership development programs as well as a variety of courses for women, initiatives to support women's qualifications and career advancement, technical input for girls and graduate schools for women. Many projects and campaigns whose purpose is to increase the proportion of women in the engineering sector and in leading roles have been strengthened. Some have focused on increasing the proportion of men involved in vocational training in schools, health and social care. There are also examples of training in gender theory for various groups of employees and of gender-sensitive pedagogy in teaching.

Gender research environments and the feminist movement in Sweden have a long joint history (Barry et al., 2012). Today, gender research is an established and diverse field. Gender theories are also natural parts of many other areas of research. Interestingly, we can see that Swedish academia, like employers and work organizations, shows

an emerging interest in gender equality interventions based on social-constructionist and radical-structuralist gender theory [i.e., something quite close to what Meyerson & Kolb (2000) call ‘changes from the fourth frame—resisting and revising the dominant discourse’]. The inspiration is coming from industrial companies and trade organizations, and is promoted by VINNOVA and similar research funding agencies. In Sweden, this is called action-oriented or applied gender research (cf., Andersson & Amundsdotter, 2010; Franzén et al., 2010; Wikberg-Nilsson et al., 2010). This approach involves both critiques and experimentation and builds on incremental local change work where members of organizations identify gender unequal social practices and revise them (Ely & Meyerson, 2000). This approach often includes the idea that it is possible to make interventions that enhance both gender equality and business goals (Benschop & Verloo, 2011; Franzén et al., 2010; Kantola & Squires, 2012; Petersson McIntyre, 2014). This approach can be seen as partly based on the *radical feminist* discourse that focuses on power relations between men and women (a discourse that was also part of official Swedish policies on gender equality during the 1990s, cf., Carbin, 2010), but has also recently added new perspectives inspired by *market feminism* and neo-liberalism. Market feminism is based on the idea that gender equality is something that can be driven by market forces and that growth and innovation are favored by gender equality. However, as Kantola and Squires (2012) and Petersson McIntyre (2014) argue, even if it can be a fruitful method of change, it may be problematic to hang gender equality on concepts such as productivity and profitability, or innovation and entrepreneurship. Gender equality is not always profitable directly or in the short term for companies and organizations and it does not always function as a booster for innovation and entrepreneurship. Such an approach may result in only glimpses of gender equality, and when there are new fluctuations in the market or in management fashion, there is a risk that gender inequality will be restored (Abrahamsson, 2014). Moreover, as mentioned earlier, a radical feminist critique that questions norms and power systems can be difficult to maintain, and there is a high risk that gender stereotypes will be used, both deliberately and unconsciously, in such approaches, because of their ‘easy to sell’ characteristics.

Overall, we can agree with Dahlerup’s (2010) conclusion that there is a need for more research on the effects of gender equality policies and interventions in academia. Even though there seems to be a growing interest in interventions based on gender theories and it seems clear that the concept of gender, to some degree, is not unknown within academic organizations, for the most part, interventions have not been based on gender theories (Heikillä & Häyrén Weinestål, 2009). Fältholm et al. (2010) claim that this is why many gender equality interventions have been based on an ‘equip the woman’ idea of diversity. This is not something that is unique to academia. Several studies have shown that most gender equality interventions in working life, at the practical level, are still based on liberal individual or liberal structural or diversity approaches (cf., Billing & Sundin, 2006; Isaksson, 2010; Kelan, 2007; Lorber, 2000; Meyerson & Kolb, 2000). Even though individualistic and diversity approaches are lagging at least 20 years behind current research development, they still seem to represent popular messages on gender. Kelan (2007) describes how modern management literature, although seemingly progressive, presents women as the new ideal workers while maintaining traditional notions of femininity and gender inequality as free choices for women. Even if individualistic and diversity approaches are good for some women, they do not ‘change the systemic factors within organizations that create an uneven playing field for women



in the first place' (Meyerson & Kolb, 2000: 561). An optimistic thought would be that the interventions will eventually catch up with theory but, as Isaksson (2010) points out, in Swedish working life there has instead been a strengthening of the individualistic and diversity approaches. Perhaps this can be seen as a result of tactics—the companies do what will be possible and popular. Deutsch (2007) and Hirdman (2001) even suggest that socio-biological and diversity approaches to gender can be interpreted as a temporary counter-balance or counter-reaction to the increasing structural gender equality and widely permeating gender equality discourse based on radical structuralism and social constructionism.

We can conclude that most gender equality interventions in academia have focused on gender equality as such. Only a few have combined this with other structural and organizational changes or trends, such as entrepreneurship and innovation (cf., Fältholm et al., 2010). To our knowledge, no discussion exists about the tensions around how to interweave gender equality into academia's transformation processes towards an entrepreneurial university in which employees commercialize their ideas and research.

The two studied universities, materials and methodology

In a Swedish context, the two universities included in this study can be described as medium-sized. Each of them has between 20,000–30,000 students and 2000–4000 employees. They are both well established and considered to be successful in both research and higher education. They are situated in two different regions. One of the universities is slightly larger than the other and has a few more subjects and larger faculties.

Both universities have made large investments in projects and ventures promoting academic entrepreneurship and innovation. For several years, they have been strategically developing policy documents, action plans and also organizational structures and extensive initiatives for becoming more entrepreneurial. For example, the deans are now divided into areas of responsibility such as research, education and innovation. At department level, there are special positions with a remit to establish contacts outside academia, and act as a link between the institutions and faculties. At university level, there are support structures and systems such as grants offices and incubators where researchers get professional support for the development process of their entrepreneurial ideas and innovations. One major investment was a large joint project established at the universities during 2007–2015, aiming to strengthen the process of commercialization of research, promoting collaboration between academia and society, and hence strengthening regional and national economic growth. Thus, the two universities have made quite large investments in personnel within this area. Furthermore, integrated into the organizational hierarchy there are expectations and demands on individual researchers to become entrepreneurial. Collaboration and innovation are today among the main criteria used by the employer when negotiating researchers' salaries.

Nevertheless, many of the informants we met for this article were unaware of these investments and expectations. They considered entrepreneurship to be a trend or phenomenon they perhaps needed to relate to, but they believed that if they were not interested, they were not obliged to get involved. On a local level, the sense-making processes varied. This is because researchers in other research settings, mainly within

the technical and natural sciences, as well as having a positive attitude were more aware of their institution’s investments in becoming an entrepreneurial university.

The study is based on a total of 26 interviews with researchers, top-level managers and innovation office managers, 13 women and 13 men (shown in Tab. 1), in order to study these activities at the universities.

Table 1 Informants from the three professions included in this study

6 top-level managers	3 innovation office managers	17 researchers
3 vice-chancellors, 2 deputy vice-chancellors and 1 dean—1 woman and 5 men	one from each university’s innovation office and one project leader—2 women and 1 man	7 from social sciences and humanities, 4 from public health and clinical medicine, and 6 from technical and natural sciences—10 women and 7 men

Data collection took place between 2010 and 2012. Six individual semi-structured interviews were conducted, three at each university, with top-level managers, as well as three interviews with innovation office managers. Additionally, four focus groups were held with researchers and, finally, one individual interview. In all, 17 researchers were interviewed from different research settings within the universities (see Tab.1). Criteria when selecting the research settings were that they should represent different research fields and that they should be involved, to different degrees, in collaboration with industry or the social and/or public sector. In order to capture the diversity of the universities’ research when selecting the settings and contacting the researchers, we sought help from each university’s multidisciplinary research networks.

Our analysis was inspired by Bacchi’s WPR approach (Bacchi, 1999, 2009). Instead of more traditional approaches to policy analysis, where the policy problem itself is taken for granted and the research focuses on how to solve it, Bacchi questions the underlying notions of policy through asking the question, ‘How is the problem represented?’ In this way, policy analysis will become focused on how problems are produced in policy:

A ‘What’s the Problem? Approach’ agrees that policy is ‘strategic and political processes’ but sees the battles not simply at the level of wanting or resisting a particular policy initiative, but at the level of constituting the shape of the issues to be considered. (Bacchi, 1999: 9)

The WPR approach is thus a useful tool in the analysis of how a political area or group of questions becomes filled with meaning. By taking the WPR approach as our analytical point of departure for interview data, we are also able to formulate the issues of gender equality, academic entrepreneurship and innovation as a form of policy, launched both by the state and the local university and also as a part of a globalized discourse. Hence, we can focus on how gender equality, academic entrepreneurship and innovation are *produced* or filled with meaning within a local setting. All interviews were recorded and transcribed verbatim. The software Maxqda2 was used to facilitate the qualitative



analyses using the analytical questions from the WPR approach, focusing on the following questions:

- How are the problems of academic entrepreneurship and innovation on the one hand and gender equality on the other hand represented?
- What gender equality interventions are implemented or strategically considered?
- What are the effects produced by the problem representations and solutions described?

Gender equality, academic entrepreneurship and innovation can all, individually, be seen as important issues and global discourses, providing ‘rules’ for ways of understanding, speaking and writing about entrepreneurship and innovation in academia. Academic entrepreneurship discourse can certainly affect the opinions of researchers, universities and funding agencies regarding the type of research that should be done and how it should be conducted and valued, both within and outside academia (see, e.g., Deem, 2001; Ogbor, 2000; Perren & Jennings, 2005).

Discourses can be described as streams of ideas and social practices, rules for ways of speaking and writing and understanding the world. They can be about specific or generalized topics, be conducted locally or globally, and within the same setting there can exist alternative and contradictory discourses. The discourse of academic entrepreneurship faces both contributory and contradictory discourses. Moreover, discourses are always changing, as they are continually being influenced by other ideas while simultaneously influencing them (Perren & Jennings, 2005), as when they meet local contexts, in this case academia and research groups or managers. Ignoring local and organizational levels might lead to the risk of ignoring the different ways in which various researchers and research fields, female and male academics and managers align themselves with and internalize ideas about entrepreneurship, innovation and gender equality.

Findings

The aim of our empirical analysis is to address the question of whether it is possible to pursue gender equality as an integrated element of the development towards the entrepreneurial university. In order to do this, the variation of meaning ascribed—by the top-level managers, innovation office managers and researchers—to the notions is mapped out along our three analytical questions from the WPR approach. The identified problem representations are hence described in three sections, entitled: *academic entrepreneurship and innovation as a creative phenomenon*, *gender segregation as an obstacle* and finally *equipping the women as a solution*. In this section, we describe our findings, which are each divided into the three categories of profession.

Academic entrepreneurship and innovation as a creative phenomenon

The analysis of the top-level managers’ constructions of academic entrepreneurship and innovation as representations of a meaningful concept revealed what they called

an alternative form of academic entrepreneurship, in comparison to that which they perceived politicians to expect. They believed that scientists generally do what they do best, that is, research, making new discoveries and others do the business—for example, business leaders, business economists and other stakeholders outside the universities. These top-level managers also thought it was important that universities retain their role as a base for knowledge that will be put to use and delivered to the public community and industry. Among these managers, there was also some critique of the way in which business culture and its language have entered the academy. From their perspective, an expensive bureaucracy has been built around the innovation systems, and they gave a critique of what innovation office managers stand for.

The representations of academic entrepreneurship and innovation among top-level managers is sometimes constructed and characterized by a pragmatic approach: this is what is demanded and the university will have to adapt. It is not a new phenomenon, only new words in the language. Academic entrepreneurship is considered to be something that universities have been doing for a long time. This includes applied research and communicating knowledge to society. To be entrepreneurial is simply to be an energetic and outgoing researcher who does not have to be involved in commercialization or starting a business. These findings should be considered against the fact that several of these managers have backgrounds in technical research, where it is more common to be entrepreneurial and, therefore, they may find it easier to embrace the transformations taking place within the academy.

The analysis shows that the top-level managers and innovation office managers construct representations of the concept of academic entrepreneurship and innovation in a broad and inclusive way, in which both products and services are included. The top-level managers articulate and advocate service innovations, as seen in the quote below, when one manager says that it would be inappropriate if only technical scientists and medical industries were to get money from the ministry:

If this strict criterion is used, there's a bias in terms of resources within the university. I think that's very important. Both social scientists and humanities have a much greater impact on growth than they themselves might understand.

Innovation office managers explained that it is in the areas of engineering, natural science and medicine that commercialization of research is most common. In comparison to the top-level managers and innovation office managers, our analysis of the researchers' conceptions shows that several different representations of academic entrepreneurship and innovation as a concept are constructed. The most common was that academic entrepreneurship and commercialization are about product creation and that researchers should start their own businesses (during their leisure time), patent their results and methods or otherwise sell the research and make money:

For me, it means that from the results of your research, you create a business or cooperate with another company to commercialize your research.

Within the research groups consisting of technical and natural scientists, there were two different representations of academic entrepreneurship constructed. The first (comparable with the above) was that it was seen as important, natural and easy to



integrate into their research fields. In the second representation, academic entrepreneurship was something that not everyone could or should be required to do. There should be some exclusive researchers and groups who do this. They explained that not all research is suited to commercialization and that research should not be compelled to be commercialized, as it requires a long-term perspective. Academic structures, research qualifications and education do not really fit together with the world of business, but there are different cultures in different research groups. Some researchers who were not involved in business described a group in the research department that dealt with this—an exclusive, high-status group that does not invite others to join. There was also a pragmatic problem representation of entrepreneurship and commercialization as a way to highlight research groups and their results and thus make it easier to get more money from the research councils. In a joking way, the researchers said that starting their own businesses was also a way to adapt to Sweden's innovation agent, VINNOVA or the EU structural fund whose requirements include articulating that their projects will create jobs.

In parallel with these findings, another representation of academic entrepreneurship emerged from the analysis of interviews with researchers within technology and the natural sciences. This was about communicating your research results. The most important factors are to convey the importance of your ideas, to set up and manage research projects, to begin building a research setting, to network, find research money and make your research setting grow. Here, the representation of academic entrepreneurship is constructed through a broader definition. This form of entrepreneurial skill was characterized by abilities such as high energy, outgoing personality, charisma, credibility, independence, initiative and leadership. It is also about daring to take risks and to believe in yourself, according to these researchers.

Researchers within the social sciences and humanities consider technology and medicine to be the obvious areas of entrepreneurship. Initially, representations of academic entrepreneurship were constructed as congruent with the commercialization of products. Their articulations of the problems within academic entrepreneurship are characterized by a very negative and critical attitude towards this concept and it is primarily interpreted as a tool based on the discourse of neoliberalism. The researchers from the social sciences and humanities made political statements and said that they did not want to work to order. Furthermore, the problem was represented as an unwillingness of the researchers to be controlled by a company or by what they demanded or what was assumed to be profitable. The researchers did not consider their research to be directly beneficial to the society, as it was more about increasing understanding and knowledge or criticizing existing social patterns or providing input to public debate. Important research findings should be distributed as widely as possible to other researchers and to politicians and practitioners, and therefore, it has to be widely available. This type of research should not be commercialized because there is a great risk that values such as free research and free education, upon which academia is built, will become exploited for commercial purposes:

If it's impartial it may be something that the world can trust and can use. If you abandon this you will abuse the concept of academic entrepreneurship. That's creating a trademark and taking advantage of academic values.

Despite this critical stance, researchers within the social sciences and humanities also had positive feelings towards the practice of academic entrepreneurship. In this type of representation, entrepreneurship was constructed as an active, creative, outgoing attitude, as one researcher expressed it:

I've been thinking that I've probably been an academic entrepreneur, though I don't want to call myself that because there's something negative about it, but, if you think about what I've done, I've been entrepreneurial within the field of gender and gender equality since the 90s.

They also said that many of their research groups were entrepreneurial, even though they did not realize it. They thought that it was not only important to seek publicity as a speaker or a consultant and to communicate research but also to advertise their own research in academia and create projects, find new areas of research and create new forms of cooperation, in order to get more funding. They were also positive about starting a business within the fields of social science and humanities. This type of construction of the concept was seen as important for social development and innovation in order to broaden the university's relationships within industry so that it also included social science research.

So far, we have described how the researchers', top-level managers' and innovation office managers' problem representations of academic entrepreneurship and innovation are constructed as meaningful concepts. We have also shown that this differs not only between these three occupational categories but also between the different research settings. In the following section, we will focus our analysis on how representations of gender equality are constructed through the interviewees' ideas about the gender-segregating division of labor.

Gender segregation as an obstacle

In the analysis of how gender equality interventions are implemented or strategically considered, a prominent theme was the question of numbers and gender segregation in academia. The analyses hence not only reveal how the concept of gender equality is constructed and given meaning but also how the concepts of academic entrepreneurship, innovation and gender equality are entangled.

The two levels of managers considered it to be a gender equality problem that women are less entrepreneurial than men. Often, but not always, the managers explained that they were unaware of gender issues, or convinced that gender is irrelevant. However, one explanation for the gender equality problem that women are less likely than men to be entrepreneurial, innovative and to commercialize their research is because they do not work in settings that commonly utilize their research, as stated below:

There are not many women working in the fields of research that are the easiest, or that most often end up with patents and such things. There's no conscious discrimination against women in these processes. That's not the case, I think.



This innovation office manager explains that there is no discrimination against women. A solution to these problems is highlighted as promoting gender equality through gender-balanced research settings, as this quote shows:

But, I mean, if you have a base of male activity, it's difficult to get a few women popping up from the base. If you have a base where it's more or less equally distributed, then there should be opportunities for it to be equally distributed on the next level too.

From these quotations, it becomes clear that the concept of gender equality is represented as a matter of numbers, and that when the number of women increases in male-dominated research settings, then the problem will solve itself. A dilemma inherent to this kind of assumption is that, even if you believe that you have a problem, the solution is located outside of the organization, too distant for management strategies to capture. Our analysis reveals that the top-level managers locate the problem outside of academia. Women should work within other research subjects. In this way, the gender equality problem representation seems to be a social issue, as if it depends on the difficulty of recruiting women to male-dominated areas.

In the analysis of the two categories of manager, an inconsistent logic is also visible. The gender equality problem is that women are less entrepreneurial because of gender segregation in the labor market, and at the same time, a broad definition of innovation is favored, as already described. This means that innovation is not only about manufacturing products but it is also assumed that certain services can be commercialized. Social sciences and humanities are considered to be research settings with potential for economic growth. But if women commercialize service innovations in their research settings and men produce innovation within theirs, then gender segregation would not be perceived as a problem. A view in line with this is when one top-level manager argued that women should see a potential for economic growth within the innovation-service sector, as seen in the quote: 'The dream is to be able to develop a system of innovation, knowledge sharing and cooperation within social science and humanities, and that it would be commercialized'. The assumption made by this top-level manager is that, when more women get power, the collegial process will 'reset' and become more equal.

As described, the two levels of manager do consider it to be a gender equality problem that women are less entrepreneurial than men, but among the researchers, there is a clear distinction between the social science/humanities scientists and the natural/technical scientists. In the interviews with the first groups, several people (both women and men) were well informed about gender theory. The discussion on equality and inequality in this group was fairly advanced and touched upon themes such as discourse, social structures and power structures. They noted that academic entrepreneurship is conducted in primarily male domains and they highlighted an unequal academic history as a major explanation, or that women have other problems that set them apart from men. This was assumed to be an important argument in favor of targeted interventions for women. However, even among these researchers, some ambivalent attitudes and contradictory comments were noticed. An interesting example is that, despite the assumption that gender is socially constructed, sometimes biological explanations for sex differences were presented in the analysis in relation to the subject of academic entrepreneurship. Men were seen to be more risk-taking, daring and less concerned about educational tasks, while women are assumed to take on more responsibility and

therefore become stuck in teaching. 'This is so loaded with gender', was one comment made in a focus group.

Representations of gender equality and academic entrepreneurship among researchers within the natural and technical sciences are more ambivalent, than the other groups. The most common comment was nevertheless that women and men are equally entrepreneurial and that they are treated in an equal way in academia. Some of the women in male-dominated focus groups and research settings clearly stated that there was no inequality problem and that they had had no such experiences. One of the women was openly critical of gender equality discussions. She thought it was unnecessary and too abstract, yet she also wanted to learn more. The men had a more thoughtful attitude towards gender equality measures.

The representational problem with academic entrepreneurship showed that gender was assumed to be significant when starting a business or persuading people within their own research setting about the importance of an idea, because it is male dominated. One other example is the assumption that, as innovation and entrepreneurship are based on the individual's credibility in sales, it may be more difficult for women, as they are considered to be less trustworthy than men. The following section will illustrate issues around how academic entrepreneurship and gender equality are entangled where the solution to the problem is seen to lie in female entrepreneurial behavior.

Equipping the women as a solution

In this section, we focus the analysis on the solutions to the problem of gender equality/academic entrepreneurship and innovation that are described, and the representations in the various groups are compared. Traditional stereotypical perceptions of women and men proved significant among the innovation office managers. They explained that women are not daring, they are more cautious and take fewer risks than men. This caused them to be seen as less entrepreneurial. The assumptions underlying these ideas are that problems with gender equality and academic entrepreneurship derive exclusively from the universities and their hierarchies. They located the problem outside their own organization. In their commercialization process and during interactions between researchers and business coaches, they assume that everyone is treated equally throughout the incubator process. This reasoning is highlighted in the following quote, which arose when discussing innovation office work with researchers in the commercialization process:

No, I see no difference. So, if you want to commercialize your research, I don't see that sex has anything to do with it, not at all. It's just to get started.

Top-level managers suggested instead that women in academia might get 'stuck' in particular positions within assignments. The assumption is that the university is expected to have equal numbers of women and men employed in the various work groups. This is basically something that the universities strive for; on the other hand, it affects the workload of women, as there are fewer women (than men) in leading positions who can fulfill these assignments. The effect of this procedure, the top-level managers explained, is that women may have less time to focus on their research careers, which is an important pathway in a scientific career. Other problems that were described as hindering gender equality were



sexual harassment and master suppression techniques, or the belief that men's networks are structures that prevent women from advancing in their academic careers. Some top-level managers and innovation office managers said that they do not think very much about these issues. Some said that there are no problems, but then paradoxically advocated gender equality interventions, in order to encourage women to become entrepreneurial. Additionally, they argued that women are equally as competent as men.

Representations of gender equality and academic entrepreneurship among innovation office managers consisted of positive attitudes towards targeted interventions for women. Attitudes were similar among the researchers within technology and natural sciences, even though they considered the issue of how few women worked in their research field to be a more immediate problem. Among researchers in the social sciences and humanities, thoughts emerged about gender equality and targeted interventions for women that were analytical and reflexive in expression. In this example, a researcher said:

What I think is most difficult with targeted interventions is when they're based on a stereotype that women are victims, and assume that women are so and so, and they cannot do this and they cannot do that and that we have to teach them. This way of thinking is almost always wrong because it becomes generalized and stupid. If we make targeted interventions it should be based on a clear analysis of needs.

Although the representations of gender equality and academic entrepreneurship among researchers within the social sciences and humanities often highlighted the importance of targeted interventions, in contradiction they would simultaneously speak against them, as highlighted in this quotation:

The assumption is that it will be unfair for men and an insult to women, as if they're weak and in need of support. I think it represents someone who will not survive on their own, and we know it, and therefore you will get support: 'but now with the support of a crutch and cane, and hi and ho you will manage'. This doesn't feel right. I have no interest in that actually, no.

Overall, the discussion on targeted interventions directed towards women was a subject that involved researchers more than managers, especially those working within the social sciences and humanities.

We have now outlined some different representations of the problems of entrepreneurship, innovation and gender equality. The contributions from the managers and researchers within the technical and natural sciences located the responsibility and solutions solely on women, their skills and attitudes. In contrast, the problems expressed by researchers in the social sciences and humanities are more complex when the different arguments are compared. In the following section, we aim to sum up our study and conclude this research.

Discussion

There is a growing body of knowledge that emphasizes the gendered aspect of entrepreneurship and innovation in general and interest in this within the academic context

is increasing. But how best to interweave a gender equality perspective with interventions into academia's transformation towards an entrepreneurial university has not been investigated and is therefore urgent. Is it even possible for an academic institution to pursue these two policy goals at once?

In our study, we have firstly been investigating how representations of academic entrepreneurship and innovation on the one hand and gender equality on the other hand are constructed and thus given meaning, through conducting interviews in two universities with their top-level managers, innovation office managers and researchers. We thought that ideas around this topic might differ within local contexts, at different hierarchical levels and in various research settings. This assumption was confirmed. Our analysis shows some differentiation in researchers' representations of academic entrepreneurship and innovation even if the most common construction was connected with the traditional ideas that researchers are expected to commercialize products, patent their research results or methods, start their own businesses and make profits (cf., Schumpeter, 1934). In parallel with these articulations, another type of representation of academic entrepreneurship emerged from the analysis of interviews with researchers within technology and the natural sciences. This is about communicating your research results. In contrast, the analysis also reveals that representations of entrepreneurship and innovation were constructed in a broader and more inclusive way among the two types of managers (see also Rönblom & Keisu, 2013). This was especially true when compared with the more traditional view that characterizes the researchers' articulations of academic entrepreneurship and innovation, saying that only products count as 'real' innovations. The top-level managers questioned these traditional understandings of what constitutes an innovation and they articulated and advocated social and service innovations.

The perceptions of academic entrepreneurship and innovation expressed by most of the researchers, both within the technical and natural sciences and within the social sciences and humanities, were in line with the traditional view of entrepreneurship (Schumpeter, 1934), which is associated with the stereotypes of men and supposedly masculine characteristics and skills (Ahl, 2004; Hedberg & Petterson, 2006; Holmqvist & Sundin, 2002). The researchers' articulations hence reveal, more or less in a conscious manner, how entrepreneurship and innovation are gendered and co-constructed with masculinity, whilst the managers' articulations could instead be interpreted as a way of challenging the norm and existing power system, at least when it comes to entrepreneurship and innovation. Whether this is actually the case in practice, and how academic entrepreneurship and innovation are entangled with gender equality, we will now scrutinize further.

Here, we are interested in the assumptions that lie behind these accounts, and in addition, we have explored how the interviewees relate to gender equality approaches at their universities and also what effects are produced by this way of thinking and acting. That is, who will benefit from the articulation of the problems that emerged in our analysis? The analysis reveals that the main representation of the problem of gender equality regarding academic entrepreneurship and innovation is that women are less entrepreneurial and innovative and less frequently commercialize their research than men. Other problems are related to the segregation of women and men in different areas of research and different types of research. The managers in particular saw women's entrepreneurship as an important prospect for economic growth and they therefore saw the problems as being crucial to solve.



Our empirical analysis shows that three types of solution arise in relation to these problem representations. The first idea of a solution is connected to the broader definition of entrepreneurship and innovation as a creative phenomenon, and to the problem with gender segregation in academia. As there are many women researchers within social sciences, if they were to create social and service innovations, then more women would become entrepreneurial researchers.

The second idea of a solution is also connected to the problem of gender segregation in academia but relates to the more traditional way of seeing entrepreneurship and innovation. Here, the solution is that if more women researchers were to work in the male-dominated areas of research that are already entrepreneurial, we would get more women academic entrepreneurs. Some of these researchers saw some practical problems for women because of the research areas' male dominance.

The assumptions underlying these two types of solution are based on the belief that gender equality can emerge, almost spontaneously, through academic collegiality in a meritocratic university if only the number of women and men who commercialize their research becomes equivalent. It is clear that this strategy and the managers' explanations did not contain a power analysis. The belief in gender-neutral principles is strong (see Dahlerup, 2010) despite several gender analyses of Swedish academia showing gender inequalities in the meritocratic system (see, e.g., Danell & Hjerm, 2012; SOU, 2011: 1; Wennerås & Wold, 1997).

The third idea of a solution, often used in combination with the first two, is that women researchers, in general, should undertake training to become more entrepreneurial in order to be better equipped for the academic work of the future. In particular, the researchers in the male-dominated research field of technology and natural science explained the lack of women academic entrepreneurs using the 'fact' that innovation and entrepreneurship are based on the individual's credibility in selling and marketing. They meant that, as women are considered to be less trustworthy than men, innovation and entrepreneurship are more difficult for women. The articulated problem that women are less entrepreneurial than men was located outside academia by the top-level managers. The innovation office managers, however, located the problem within academia and its hierarchies, that is, outside their incubators and innovation systems. The researchers within the technical and natural sciences located the problem solely in women's skills and attitudes, while on the other hand, researchers in the social sciences and humanities located the problem within academia, its gendered structure and inequalities within its meritocratic system. Similar findings have been shown in a horizontal analysis of gender equality within Swedish academia (Silander et al., 2013).

Our analysis shows that, among innovation office managers and researchers within the technical and natural sciences, ideas of how to handle gender inequality are lacking. In their articulation, gender equality is the individual subject's responsibility. This liberal individualistic perspective, that the solution is to equip and encourage women, is in line with many other gender equality interventions within working life (Meyerson & Kolb, 2000; Kelan, 2007). As in many other studies of gender equality in different types of organizations, our findings show that the responsibility for change was directed primarily towards women. We question whether interventions will eventually catch up with theory (Isaksson, 2010) and find it striking how well this logic fits into neo-liberal market governance, where people are encouraged to see themselves as individual subjects responsible for their own well-being and their own careers (Brown, 2002). This ideal is

also in line with *market feminism* (Kantola & Squires, 2012). At the same time, women as entrepreneurs were constructed as less competent than men, as entrepreneurs in need of education and counseling (Sundin, 2012), and hence the existing power system will not be challenged.

The representations of top-level managers' constructions of both academic entrepreneurship and gender equality showed a greater knowledge of gender inequality issues, both within the academy in general and in relation to academic entrepreneurship, innovation and commercialization, although deeper reflections were rare. However, even if they articulated problems with a narrow view of entrepreneurship and innovation that excluded large parts of the universities, they did not have any specific strategies for how to stimulate researchers within the social sciences and humanities towards more entrepreneurship and innovation. Despite the good intentions of most of the managers, theoretical gender analysis seemed to be something that they were not used to managing. This was perhaps because of their own research backgrounds (mainly natural sciences and technology), or their lack of theoretical understanding of human and organizational behavior. Therefore, top-level managers' representations of gender equality did not include any management strategies or ideas about how to increase gender equality around these issues. Instead, they related to the mechanisms offered by the market to promote gender equality. The top-level managers' articulations hence consisted of ideals in line with *market feminism* (Kantola & Squires, 2012).

Our analysis of how the representations of gender equality were constructed and entangled reveals that there was a generally positive attitude towards gender equality among the interviewees, both when it comes to gender equality in general in academia and in relation to academic entrepreneurship and innovation. We can note that the national gender equality discourse that has been part of official Swedish gender equality policies (Carbin, 2010) was clearly a part of local discourses in the academic contexts, especially among researchers from the social sciences and humanities. Here, the representations of gender inequality problems were constructed in line with more *radical feminist* ideas, directing the gaze towards academic structures and culture instead of women as individual subjects. The variations in the local context may be due to the fact that researchers within the technical and natural sciences were probably not used to discussing and reflecting upon these concepts. The innovation office managers also seemed to have a hard time discussing these issues and their arguments revealed a lack of gender awareness, and poor knowledge of academic structures and working conditions.

To conclude, the ways in which academic entrepreneurship and innovation and gender equality were constructed as meaningful concepts reveal tensions between the two policy goals as well as tensions within them. The discourses of neo-liberal market governance in Swedish academia and of academic entrepreneurship were present on a local level, especially in articulations by top-level managers and innovation office managers, who also had a broad perspective on academic entrepreneurship and innovation. Here, the articulations on gender equality were, to some extent, in line with radical feminism in rhetoric, but mostly with market feminist ideals and its ambiguous perspectives on gender. The innovation and entrepreneurship discourses were also present, in a slightly different way, that is, displaying a more narrow and verbatim perspective, among researchers within settings such as technical and natural sciences. Here, we were also able to find market feminism, but the gender equality articulations mostly circulated around the lack of women and women's lack of competence and interest, a perspective that



probably allows quite limited possibilities for change. Whilst these groups had incorporated this way of thinking and acting in different ways, researchers within the social sciences and humanities had not. They were instead more critical of this transformation and the new ideals of academic entrepreneurship that have entered academia. Furthermore, we can conclude that the discourse of radical feminism was present at the local level mainly in articulations by researchers within the social sciences and humanities. However, while critical, they were, paradoxically, at the same time using the narrow perspective on academic entrepreneurship and innovation and thus strengthening the links between entrepreneurship and stereotyped masculinity.

Accordingly, an overall conclusion is that *articulations and ways of speaking* about the policy goal of academic entrepreneurship and innovation were to some extent interwoven with the policy goal of gender equality, especially in the broader perspectives on academic entrepreneurship and market feminism. However, the *articulations of strategies and practice* of the two policy goals essentially ran parallel, and were not entangled with one another. This is because strategies or substantial interventions for merging gender equality into the agenda of academic entrepreneurship and innovation were totally lacking. Despite the positive attitudes towards gender equality, it seems to be a complex undertaking in practice to interweave gender equality issues into the transformation processes stemming from the major investments in academic entrepreneurship and innovation.

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