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Gender Equality in Interface Organizations between Science, Technology and Innovation

Marja Vehviläinen¹, Pia Vuolanto², Oili-Helena Ylijoki³

Abstract

The article addresses the question of gender equality in the context of interface organizations between science, technology and innovation, focusing on gendered work practices in science parks. Drawing upon the notions of gendered work practices, feminization of work and feminist science and technology studies, the article explores: 1. Key aspects of work practices in science parks; 2. Gender segregation embedded in these practices; and 3. Practices which help to promote gender equality in intermediary work. The study is empirically based on interviews with top managers and female experts of four Finnish science parks, complemented by one focus group interview with representatives of funding agencies, ministries and intermediary organizations. The study demonstrates that work in science parks is simultaneously future-oriented knowledge work and service work characterized by features of feminization and care (i.e. sensitivity to the needs of clients). Gender segregation commonly seen in the science, technology and innovation sector is reproduced in novel ways in the work practices of the science parks, especially due to the gendered patterns of professional recognition and male networking. This implies that - in spite of the feminised work practices - women do not find easy careers in science parks. The data show, however, that there are also several practices which are used to counteract segregation and promote gender equality, including a number of positive actions developed by women themselves in order to promote recognition and networking in science parks.

Keywords: feminization; gender equality; gendered practices; intermediary organization; networking; science parks.

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1. Introduction

Science, technology and innovation are known to employ more men than women and to be structured in a way that advances men's careers better and faster than those of women. This is apparent in the strong vertical and horizontal segregation of the sector in Europe, North America and Australia. For instance, in universities men's numbers are larger at the professorial level and as heads of units, even in life sciences, where women outnumber men in Master's and doctoral degrees in most European countries (She Figures 2009).

Gender segregation has been a target for various gender equality actions and practices. For example, the European Technology Assessment Network (ETAN) reporter Teresa Rees (e.g. 2001) has outlined three commonly used approaches in gender equality actions: equal treatment (i.e. equal rights), positive action (i.e. addressing women's disadvantages through special training projects to improve their skills and employability), and mainstreaming (e.g. gender-impact analysis of legislation and policies as well as structural societal changes, which aim to make society more open to both women and men). Thus, the mainstreaming approach deals with the broad societal and institutional aspects of equality, positive action emphasizes the practices of equality for specific groups, while equal treatment focuses on individuals and the rights of the liberal feminist tradition.

The consequences of gender equality actions in Europe and in the United States have been widely discussed (e.g. Lagensen, 2003; Rees, 2001; Etzkowitz *et al.*, 2000; Wyatt *et al.*, 2000). It is generally agreed that while equal rights are a necessary prerequisite, sustainable improvements in women's position in science and technology are achieved only through changes in institutional and organizational practices. However, most gender equality projects in technical fields, for example in Finland, have followed an equal treatment approach, and women's numbers have grown only slowly (Vehviläinen, Brunila, 2007). In information and communication technologies women's share has even declined in Finland in the 1990s and early 2000s (Vehviläinen, 2009b). Therefore, gender segregation and gender equality in science, technology and innovation needs further attention, especially in terms of exploring gendered practices in work organizations (Acker, 1992; Rantalaiho, Heiskanen 1997).

In this article, gendered practices are examined in Finnish science parks, that is, organizations located at the interface between science, technology and innovation aiming to bring together actors from academic science, private companies and public administration to promote innovation in the society. Gender aspects in interface organisations have generally received little consideration (cf. Ranga *et al.*, 2008). Although the studies on the gender dimensions of innovation (e.g. Lindberg, 2009) and commercialization of science (e.g. Frietsch *et al.*, 2009; Rosa, Dawson, 2006; Whittington, Smith-Doerr, 2005) provide knowledge on particular parts of the interface field, too little is known on gendered practices of interface organisations and science parks in particular. It has been suggested that -- differently from academia, which has remained male-dominated -- interface organizations offer more favourable conditions for women experts (Ranga *et al.*, 2008). In order to find out how this positive scenario fits to the Finnish case, a fine-grained qualitative analysis was conducted with the aim to examine gendered work practices in science parks and identify gender equality measures and actions that support women experts in their work.

The research is based on the theoretical notion of gendered work practices, where gender is seen as practices and doing, organized by orders such as gendered division of labour, gender hierarchies and cultural and symbolic understandings of gender (Acker, 2002; Rantalaiho, Heiskanen, 1997). In addition, the research relies on feminist science and technology studies concerned with the gender gap in this area (e.g. Wajcman 1991; Wyatt, *et al.* 2000) and on research on feminized work (Adkins, 2001; Adkins, Jokinen, 2008). Women enter the labour market more than before, and moreover, and perhaps more importantly, features of traditional women's work, including the focus on care (i.e. sensitivity to the needs of clients, caring for the well-being of people) and fixed-term work contracts, spread everywhere in working life. For example, the emotional skills traditionally associated to women are nowadays current work requirements. On the one hand, feminization of work may offer women with the appropriate skills, even better possibilities to enter the labour market. On the other hand, it has been claimed that feminization of work gives credit only to the feminized skills possessed by men and bypasses women's skills as self-evident (Veijola, Jokinen, 2008). This implies that the old gender gaps continue to be perpetuated in the labour market.

The starting point of the article is that interface organizations such as science parks can be seen as typical examples of the feminization of work (Vehviläinen, 2009). Their work is societal service work for actors in science and industry, aiming to promote new commercial science-based innovations. They work with a variety of actors and need to be able to 'take care of' and serve each of these actors so that the innovation is profitable to each of them. Drawing upon this perception of intermediary work, this article explores four main research questions: (i) firstly, key aspects of work practices in science parks; (ii) secondly, gender segregation embedded in these practices; (iii) thirdly, organizational practices which help to promote gender equality; and (iv) fourthly, the impact of gender mainstreaming policies on gender equality in science parks. The article starts with a presentation of the role of science parks in the context of the Finnish science and innovation policy and continues with a description of the research design. Next, the empirical findings of the study are presented and the article concludes with a summary and analysis of findings.

2. Science Parks in the Context of Finnish Science and Innovation Policy

Science parks are one form of intermediary organizations that are expected to reinforce and spur the development of innovations in society (Howells, 2006). Their objective is to generate collaboration between diverse actors involved in creating and disseminating innovations, to develop innovation structures and to provide specialist services for different phases of the innovation processes. Some science parks in Finland are entirely public, others are purely commercial, while yet others lie between these extremes. They collaborate with regional development centres, intellectual property agencies, funding agencies, ministries, local venture capitalists and business angels (Halme, 2005, p. 81). Their scope of activity varies, ranging from global and international to national, regional and local levels (Koskenlinna et al., 2005). Although not all companies in the knowledge-intensive sector need intermediary services, there is a growing demand for them, at least at some stage of companies' life span (Konttinen et al., 2009; Koskenlinna et al., 2005, p. 11).

The establishment and development of Finnish science parks follow the science and technology policy guidelines which, since the 1980s, have increasingly emphasized the

economic and social relevance of science for the needs of the knowledge-intensive economy (Nieminen, Kaukonen, 2001; pp. 30-31, Pelkonen, 2003). Since the early 1990s, three main policy lines have sought to enhance networking between companies, universities and society: 1) promoting and developing co-operation between industry and universities; 2) developing better conditions for knowledge utilisation and strengthening the abilities of industry to absorb new knowledge; and 3) improving the use of intellectual property rights (IPR) by universities (Kutinlahti, 2005, p. 75).

Science parks have established their role in the Finnish research and innovation system as mediators between universities as knowledge producers and businesses as knowledge users. However, organizations often have overlapping tasks, i.e. the same functions are addressed by several organizations (Konttinen et al., 2009, 28). Sometimes science parks are considered to be at the centre of the national innovation system, other times their role is seen as marginal (Edquist et al., 2009, p. 24). The main reason for the fuzzy definitions of their tasks and instability of their institutional structures is that these organizations are comparatively new, and following the changes in policy guidelines, they face constant restructuring of their funding, tasks and position in the innovation system.

Due to the fluidity and instability of the interface sector as a whole, very little is known about the working practices and work experiences of interface employees both in Finland and elsewhere. Although there is a growing number of empirical investigations into the roles and functions of interface organisations within the innovation system (e.g. Geuna, Muscio, 2009; Krücken, 2003; Krücken et al., 2007; Pelkonen, 2003), these studies tend to focus on the wider institutional, structural and policy levels, not taking into account the internal working culture and its gendered patterns. It is this void that the research aims to fill.

3. Research Design

The research is based on a qualitative study of gendered practices in Finnish interface organizations (Vuolanto et al., 2009). The study was conducted within the European Commission-funded project *Women in Innovation, Science and Technology (WIST)*, which examined the participation of

women in technology transfer in four European countries: UK, Germany, Finland and Romania.

In order to capture the variety of gendered practices in science parks, four different science parks operating in the fields of biotechnology, engineering and social innovations (i.e. referring to service innovations and organizational process innovations) have been examined. The assumption behind the three-field choice was that the gender patterns in science parks resemble those of the nearest academic field (see Statistics Finland 2007). Accordingly, the science park focused on engineering was the most male-dominated work place, while the science parks in biotechnology and social innovations had a more balanced gender division. Apart from the science parks, two technology transfer offices (TTOs) at two universities have been also examined. The data were further complemented with one focus group with representatives of funding agencies, ministries and intermediary organizations. The data of this article have been collected through:

- 1) Interviews with four top managers of four science parks (three male, one female), conducted during spring 2007, which addressed the tasks, ownership, history, personnel and management of each organization;
- 2) Interviews with 17 female experts working in the four science parks, conducted during summer and autumn 2007, which covered the themes of employee's working history, contents of science park work, science parks as working places, networks and contacts, and work-life balance – questions on gender being integrated with all of the themes;
- 3) One focus group interview held at the beginning of 2008 with five representatives of funding agencies, ministries and intermediary organizations (all women), aimed to identify gender equality actions that could be adapted to promote gender equality in science, technology and innovation in general and in intermediaries in particular.

In all cases, interview questions were sent in advance and the interviewees were well prepared and motivated to participate in the study. The interviews lasted from one to two hours, the average being one and a half hours. The

interviews were recorded and transcribed. The method of analysis was content analysis.

4. Findings

4.1 Work Practices in Science Parks

In this section the specificity of science park work is presented in detail. The focus is on work practices as perceived by both the top managers and the female experts interviewed.

Work in Science Parks is Future-Oriented Knowledge and Service Work:

1) It is *future-oriented* since science parks define their work as development work directed to something new, not yet existing in the society, with the basic aim to promote innovation by matching science actors with business actors, thus transferring scientific knowledge into products and services. One top manager interviewee described work in his organization as follows:

A major part of our work comes from bringing different actors together, which means that we bring partners together or we collaborate in such a way that something new is discovered in the actual development processes... When we have brought researchers and companies together, we consider for a while and then see whether a new firm is needed or whether a particular technological competence needs to be strengthened. In our work we need to recognise the opportunities and needs of different partners in these development processes. By bringing in something new or some new ideas we try to improve the [science, technology and business] environment as a whole.

A female expert further explained that one is "successful in this work if one manages to notice things which do not appear in a straightforward way and which would be good to accomplish. Taking the initiative is very important."

2) It is also *knowledge work*, relying on employees' personal subjective knowledge and expertise. Many of the interviewed top managers said that they need people who are fluent in two or even three different bodies of knowledge, know well the local researcher networks and have perhaps worked at university and earned a doctor's

degree. Furthermore, their employees should have a business or industry background, ideally complemented by experience in funding mechanisms. They need to know well the local, as well as relevant national, European and international networks in all these areas. They need to know the business logic, understand research to distinguish the most interesting scientific results and their potential commercial value, and know how the collaboration between research and companies is to be financed. Furthermore, science park experts' networks and personal relationships with research and business actors are necessary in the work, as expressed by a female expert:

This work is based on personal contacts. When new plans are made, it is very important to know the right people. You cannot call the telephone exchange of a company and ask who is responsible for this or that, it is not the way to do it, it will not lead to a good result. It is better to know them personally.

Science park experts are able to promote new innovations if the collaborators recognize them as capable actors who can be relied on. They benefit of fame, as one of the top managers explained:

Some kind of fame and being well-known are the important things. We do not know how much it has to do with publicity; it is hard to evaluate it. It is equally important to have networks and people who recommend us, people who know other people, and in that way fame and recognition grows strong.

Recognition of expertise is not only based on core competence and knowledge received in education and work. It is further built in social bonding, including emotions. Several interviewees explained that in the meetings inside science parks and with clients they focus strongly on the core competence matters. Outside the formal meeting agenda, the employees arrange informal gatherings and activities, in which they joke, have leisure and become familiar to each other, in other words they learn to know each other and learn to trust each other.

3) Work in science parks is also *service work*. Science park workers need to be sensitive to the needs of both research and business partners, bring them together and then give partners the credit for the emerging results.

Thus, science park workers intervene in the development processes for a limited period and withdraw as soon as the partners have established their collaboration and have started to work toward a common development goal. Science park workers themselves, similarly to the partners they bring together, know that they have contributed to the process, but it is difficult to articulate their contribution or transfer it to exact measures.

Based on the interviews, science park work is similar to most women's work in services and even in care (in the sense of women supporting the wellbeing of their clients), and they do it through being sensitive to the clients' needs. Their work is successful if the clients do well, but it is hard to measure it, and women seldom get recognition from their work. To conclude, it can be claimed that science park work is feminized service work of the knowledge economy (cf. Adkins, Jokinen, 2008).

4.2 Gender Segregation in Science Parks

This section presents some features of the gender segregation in science parks described in the interviews with female experts. Work practices in science parks appear to following the typical gender patterns in the science, technology and innovation sector. Gender segregation is embedded in the work practices described in the previous section.

- Firstly, *science parks present the same familiar patterns of gender segregation identified in academia and industry* (e.g. Etzkowitz et al., 2000; Husu, 2004). The gendered division of work in science parks repeats the gender patterns in the closest research fields. Bio-sciences and medicine, as well as social sciences are female-dominated, while engineering and ICT are male-dominated (ref. Women and men, 2007; She Figures, 2009). In addition to this horizontal segregation, science parks also present vertical segregation since managers are mostly men - this was the case in three of the science parks examined.
- Secondly, nearly all interviewed women described *the influence of male networks* in their daily work. In this way, gender segregation intertwines with trust relations and emotions, which are central in service-oriented science park work. Gendered patterns of trust and recognition of competence are built within

the segregated networks of experts, as one of the female interviewees explains:

When we think of the chief executive officers of the science parks, it is quite an old boys' network in itself. In this region, most of the CEOs are men; so many issues are pinned down and settled while sitting in the sauna. Like the other day, we had a strategy day and afterwards there was sauna, well...the disproportion is great, a woman can feel that the most important things are told when going to the lake or sitting in the heat... the evening can continue much longer into the night with men and among them.

- Thirdly, *male bonding* takes place on several layers from local and regional to national and global settings. The interviewed female experts told especially about the local male networks. One of the interviewed women described: "there is a small circle, and we have learnt to know who plays with whom, those boys. (...) Here clearly certain people invite each other." There are various clubs where men meet, in sports, hunting, Lions and Rotary club activities. Men have also often studied engineering together. It seemed common that all relevant people in science park work know each other and co-operate, while at the same time they "have brotherly competition" for resources, as one male top manager pointed out. The global competition tends to further intensify local co-operation and networks. Although there are certainly various bonding and networking processes going on simultaneously, even world-wide, as Connell and Messerschmidt (2005) suggest, the local old boys' networks seem to retain their utmost importance in science park work.

To conclude, the interviews suggest that gender segregation appears persistently at the interface between science, technology and innovation. It continues the old track of both vertical and horizontal segregation. The segregation is maintained and further strengthened by the numerous male networks, creating mutual trust and partnerships among the participants (Vehviläinen, 2009).

4.3 Gender Equality Practices in Science Parks

This section presents gender equality practices that have been developed within the science parks to counteract the

gender segregation described in the previous section. Data from the female expert interviews are used to exemplify these practices. Special attention is paid to interviews from one science park and a feminist expert group.

Gender equality was a commonly shared goal for all of the interviewed men and women, which shows that gender equality as a goal is not questioned in the Finnish society. However, this does not mean that everybody's practices promote gender equality. Quite the contrary, the typical gender segregation prevails in Finland, too, which means that people and organizations also act against the goal. Many of the interviewed female experts – similarly to Finnish professors in Husu's (2004) study - were able to reflect the concrete practices that have consequences for gender equality, including those of recruitment, promotion, exclusion from networks and work-life balance issues. Many women told about several gender equality practices that they were involved in in their daily work, and that they used in a complementary manner.

As networking is a core activity in science parks, many women had established or joined various women's networks where they discussed everyday work settings in their respective localities and developed women's mutual support, as one of the female expert explains:

In our region, we have consciously built up sister networks, and now there are two groups. We set our own work in comparison with the work of others and our own organization with other organizations. It is a good thing: it is such tacit knowledge, which is very beneficial... As in old boys' networks, we concentrate on work issues and do not discuss our free time. We might mention it at some point, but work issues are the main focus. But it is somehow lighter because we bring emotions with us. In some meetings one can discharge one's feelings and in other meetings we try to discuss a specific theme. One person will introduce it and then we will discuss it. I recommend [these women's networks] because men have traditionally had more of them and they must consciously be built up.

One senior woman in a male-dominated science park further said that she also introduced younger women to her own networks. Women's groups and mutual support have been broadly developed earlier in women's

movement. The interviewed women did not, however, often refer to the tradition of women's movement. Instead, it is the management theories, for example, from Iijikuro Nonaka (Nonaka *et al.*, 2000) which emphasise the dialogue between the tacit knowledge and explicit knowledge, that make women look for spaces where they can share and reflect over tacit knowledge embedded in their work and work institutions. They also see men's networks as a problem to be faced in one's work, and they thus need other women to discuss about it.

In one of the science parks examined, there was also a feminist group that had made a special effort to reshape the gendered practices of recognition in male networks. The group systematically analyse gender in everyday work practices by using feminist research as a resource. They make exercises, for example, to recognise hatred towards women in the accounts of their collaborators, and they propose ways to react to it right away. They look for suitable wording to take advantage of the brief opportunity for a response:

Gender is a complex issue. But you can prepare for the situations where you get intimidated; you need to have the right words ready ...your reaction has to be prepared. If you are not prepared, the disappointment may overwhelm you in those situations. I do not mean that one should be prepared to humiliate or silence the other. I mean one should prepare a constructive reaction for these intimidating situations. This is why we in our organization prepare, so that we will say to the other employee: 'well, what would you say if someone...' And the other employee has to have words prepared for the situation. So, I mean that you can prepare yourself and the others for this, so you will not be overwhelmed or disappointed, instead you will have a constructive reaction.

This group also makes other women visible by recommending them for expert tasks. If they were asked for a name of an expert, they, for example, postpone their answer until they find a suitable woman for the task. They acknowledged the community of knowledge and the technological work practices jointly developed by working together as a community:

It happens quite often that an acquaintance, a professor from the university, for example, calls us

saying: 'We need a preliminary examiner or something like that here, do you have anyone in mind?' If we cannot right at the moment remember a woman's name, if we do not have the names prepared, then we will say that okay, we have to think about this now, we will come back to you tomorrow, by e-mail or by phone. Then we will think fiercely and find a woman's name. We want to at least get a woman on their list of potential names.

To sum up, the research data showed that women experts in science parks had developed many practices of gender equality that deal with recognition and networking in particular. Women gathered together in women's own networks to build mutual trust, to articulate their local practical knowledge and to strengthen their own fame and capability to become recognized as potential future partners. They introduced other women as experts and invited them to their own networks. They made exercises to immediately find the right reactions in situations where they observed discrimination. These practices of gender equality were familiar to most interviewed women and they employed them as tools in their everyday working life. It seemed that they had developed adequate competence and knew which situation required which tools of gender equality.

4.4 Gender Mainstreaming and Science Parks

In addition to gender equality practices developed by women experts, the Finnish state has developed a number of gender equality practices that gave significant support to women and men. Gender equality has become mainstreamed in a broad range of policies, practices and welfare state services in Finland (Holli, Kantola, 2007), which has had crucial effects on working life. This section discusses the societal gender equality practices that support women experts' work in science parks. Data from female expert interviews and especially from the focus group interview are in the foreground in the following analysis.

Welfare state services that support gender equality were important also in the science park context. Many female experts in science parks had small children, similarly to other academic women in Finland. They used the full time child-care services guaranteed to them by their municipalities, and differently from many other countries,

they worked full time, as women commonly do in Finland (Women and men 2007). Although the right to child-care is so self-evident for the interviewed women that they did not talk about it, the day care facilities still are a major prerequisite for women's broad participation in science, technology and innovation.

Furthermore, there were organizational practices for gender equality facilitated by legislation. All Finnish organizations – both public and private - with at least 30 employees are obliged by law to prepare gender equality plans. In the science parks under study this tied the work communities to the planning and articulation of gender equality. One of the science parks was in the process of preparing a gender equality plan. Although gender is commonly reflected in the modern societies (Adkins, 2003), including Finland (Jokinen, 2004), there are male-dominated work places that have not learnt to discuss and analyse gender issues. One of the interviewed female experts explained how she had learnt gender sensitivity in the process of building up a gender equality plan. Policies matter and make a difference at least in some situations:

We are now sketching the gender equality plan, because the law obliges it. We have been thinking about gender equality in our organization. We have gone through our organization's gender equality, because recruitment, family life and work and also these gendered things such as career advancement and equal working environment are required in the plan. We have been wondering whether we are blind in our firm; whether we think that we are equal and in reality we turn out to be unequal. We also have a gender equality group, there are six of us: a young man, a young woman, a middle-age woman and a middle-age man, an older woman and a relatively aged man. The gender equality plan can be made without further thoughts, but what we have done is that we have really gone through whether we have been blind to our own organization.

The focus group interview took up an interesting new practice of gender equality, which would be most effective, if it only were used: the performance-based management that is commonly used in the Finnish public sector. Public funding is allocated on the basis of the organizations' performance (the better the results, the bigger the

funding), and gender equality in addition to indicators such as the amounts of external funding, articles or patents could be made a performance indicator in the performance-based management:

Participant 1: "Performance-based management is one option for promoting gender equality. The Ministry of Social Affairs and Health has required certain gender equality actions from its organizations. They have required quite many gender equality actions, they are written in the performance agreement."

Participant 2: "Performance-based management would really work. For example universities, they really take the performance agreement seriously, they read it, do the required actions and report and everything. They could have gender equality paragraphs there, it could be a prerequisite for funding."

Science parks deal with and further distribute public funding. Funding agencies would be able to make gender equality as one of the major criteria for science parks' funding, thus spreading the idea of gender equality as an important performance indicator to the innovation and technology field more generally. However, so far this is not happening in Finland.

Thus, based on the interview data, gender mainstreaming practices had effects in science parks. Welfare state care services allow full-time work equally to women and men. Gender equality plans that are obligatory by law in work places with at least 30 employees turned out to be effective in increasing gender sensitivity in male dominated work communities in technology. Gender equality could be mainstreamed in an even more effective manner if included as criteria for public funding that has a crucial role in the functioning of the innovation system. Public funding agencies would be able to make science parks follow gender equality in their own practices and mainstream it to the practices of their collaborators.

Conclusions

In this article work practices and gender equality have been explored through a qualitative analysis of empirical data collected in Finland. Science park work, aimed at enhancing commercialization of new research findings and advancing

innovations, appeared as future-oriented knowledge work and service work that is based on understanding the logic of science, business and collaboration in numerous networks. Recognition of the partners' capacity in the innovation processes is a key activity in these networks. This is line with the results of Siegel *et al.* (2003) which show that technology transfer between university and industry requires "boundary spanning" and skills to act like a bridge between "customers" (companies) and "suppliers" (scientists), operating under distinctly different environments and cultures.

Gender segregation patterns found in science, technology and innovation are retrieved in science park work. The heads of science parks are men and especially the science parks connected to university engineering departments are strongly male-dominated, as typical to the technology sector. Furthermore, the gender segregation of the networks is also transferred to the patterns of recognition and trust that are at the very core of the interface work (see Krücken, 2003). The feminisation of science, technology and innovation work seems to create novel forms of gender segregation. This implies that feminization does not implicitly make the field easy for women's careers (cf. Veijola, Jokinen, 2008), although it probably supports women's entrance there, as Ranga *et al.* (2008) suggest. The research on the gendered work practices describes the complexity of gender segregation and enables a refined analysis on women's careers in interface organisations.

The gender equality practices found in the interviews cover most importantly positive action and mainstreaming activities. It is crucial to emphasise that the female experts interviewed in the study were not passive "victims" of the gendered structures they encountered in their work environment. On the contrary, they were active actors who themselves had developed a number of positive actions to promote women's networking and thus also the relations of trust and appreciation needed in the future oriented service work conducted in science parks. It is also noteworthy that in technology, equal treatment has been previously the most dominant gender equality action, while mainstreaming has been at the forefront in Finnish society at large. Based on this research, it seems that positive actions are now most relevant practices of gender equality in science, technology and innovations and women experts have integrated those with their daily work. Positive

actions do not replace the mainstreaming approach, but complement it effectively in everyday work practices.

The findings presented in this article are based on research data collected in Finland. Since there are substantial differences across countries in terms of interface activities (e.g. Frietsch *et al.*, 2009; Krücken, 2007), national characteristics of the Finnish society most probably have an impact on the results obtained. Finland is one of the Scandinavian welfare states and a member of the European Union, following a strong gender mainstreaming policy. Gender equality is an aim that is commonly known and shared in the society and this gives resources for a variety of practices of gender equality and the broad participation of both women and men in all areas of working life, perhaps more than in many countries that do not follow such policies. Gender equality, though, has not been achieved, and the new forms of gender segregation observed at the very core of the knowledge and service work are global tendencies. This suggests that the gender equality practices found in Finnish science parks could be present in other national contexts too.

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