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Women's conditions in working life

Carina Bildt and Lena Karlqvist (eds)

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Preface

This volume of *Arbete och Hälsa* (Work and Health) is a result of a workshop held in Brussels in September 2000. The workshop was one out of about 70 workshops that preceded the European Union Presidency Conference "Work Life 2000", that took place in Malmö in southern Sweden 22-25 January 2001. The about 70 workshops covered virtually every aspect of modern working life within the following categories: labour market, working environment, work organisation, information society, diversity in working life, small and medium-sized enterprises, as well as gender. The present workshop "Women's Conditions in Working Life" covered women's situation in terms of labour market conditions, work organisation, working environment, as well as health effects. The aim to present the state of the art about science and practice within these areas, as well as to point out possible areas for interventions, was explicit in the invitation to participate in the workshop.

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Introduction

Dr Carina Bildt and Dr Lena Karlqvist

National Institute for Working Life, SE-112 79 Stockholm, Sweden. Email carina.bildt@niwl.se, lena.karlqvist@niwl.se

Aim

The aim of the present report is to give a broad view of women's conditions in today's working life. Therefore, papers concerning macro and micro perspective, as well as papers focusing both on research and development, are included. In all contributions, areas where research and interventions are needed are pointed out, and we hope that researchers and decision-makers can make use of the suggestions made by the authors, as tools for improvement of women's conditions in working life.

Structure and main contents

The main structure of most of the included papers is that they are state-of-the-art papers, with examples from different studies with the purpose of illuminating the phenomena discussed. Two of the papers are focusing on methods for accomplishing change in order to improve women's conditions in working life.

Diane Perrons gives in her paper a broad picture of the "new economy" and the consequences for different groups of people. In general, the new economy is characterised by globalisation, the increasing use of computing and information technologies and knowledge-based sectors but also by the feminisation and polarisation of employment and new patterns and hours of work. While some women are running dot.com companies others are working from home in the global economy, designing and managing web sites. Are these opportunities for women, or do the old problems of home working continue? She discusses how the new economy influences the organisation of work and the new economy's potential for redressing gender imbalance. In the context of increasing economic deregulation the new economy has contributed to the development of non-standard, flexible and long hours working hours. As a practical example of how the new economy does influence people's working and living conditions, a preliminary case study of the new media sector in Brighton and Hove is reported. It is striking how different women and men in different situations experience, for example, work life balance and flexible working hours, but the vast majority of people enjoyed their work and some considered the boundaries between work and life rather fluid. Of particular concern is the gender imbalance, in terms of the overall under-representation of women and the lower rewards in terms of turnover and earnings.

Pamela Meadows states that discussion about the purpose and effect of labour market regulation tends to be conducted in a gender-blind fashion, even though there

are indications that labour market regulations probably do affect women and men differently. Therefore, this must be taken into consideration when old regulations are evaluated and when new are to be implemented. Regulations are introduced to improve the efficiency of the market and to produce fairer outcomes. A number of regulations are intended to produce fairer outcomes for women, but may be offset by the effects of other regulations with contrary effects. She has analysed the effect of equal opportunities legislation, protection against dismissal and regulation of the employment contract. Pamela chose these parameters to exemplify that there might be gender bias in the labour market regulations, and she states that even today, the main focus of employment protection is on the full-time permanent employee, which is a status more commonly observed among men than among women. Employment protection legislation has been examined for its overall effect on the labour market, but not for its effect specifically on women. There are grounds for considering whether it has resulted in protection for men at the expense of women. More in-depth research of the relation between labour market regulations and various outcomes among women and men are needed to make it possible for politicians and others to make decisions that will not discriminate either women or men.

The chapter about "Gendered health consequences of unemployment among young people" by Anne Hammarström is introduced by pointing out the lack of a gender perspective of unemployment in public health research. Moreover, almost all unemployment research has focused on the individual level, although the effects on the societal as well as on the family level indicate important gendered consequences. Examples are given from these levels, both by analysing the effects of unemployment in society on those who are employed and the effects of unemployment on personal relationships (how the parents, wives/husbands and children of the unemployed are affected). Furthermore, she discusses individual health consequences of unemployment from a gender perspective. The health effects are described in relation to somatic and psychological ill health, mortality, health behaviour as well as the social consequences of unemployment. In this connection, an example is given from a prospective study, started in 1981, including all 1,083 pupils (506 girls and 577 boys) in the last year of compulsory school at the age of 16. The cohort was followed up two and five years after leaving compulsory school and data about the length of unemployment were measured as well as signs of ill health. A conclusion from the study was that early unemployed young men had a worse prognosis on the labour market compared to early unemployed young women.

Kaisa Kauppinen has focused on gender and working conditions in the European Union. In 2000, women made up 42 per cent of the total EU workforce. Even though new work patterns are emerging, gender segregation on the labour market has remained strong. The segregation is both vertical and horizontal, forcing women into service, health care and clerical jobs. There is also a strong segregation within occupations, resulting in task differentiation between women and men. The changes in working conditions within the EU affect both women and men, but women are particularly vulnerable, and both preventive measures and greater gender sensitivity are needed to counterbalance these tendencies. To give an example of how workplaces can be changed to the better, towards equality, she reports a Finnish study, where (based on dialogue seminars and questionnaire results) eight equality standards

were established. The idea was that workplaces could use the standards as a self-assessment system for the promotion of equality, well-being and productivity. It is important to see how equality, or diversity, is integrated into the various work organisations and how it changes the work culture. Human resource management, lifelong learning and new challenges need to be considered from this perspective.

Lena Karlqvist discusses the importance of gender sensitive studies regarding work-related neck and upper limb disorders. The aim is to give practical examples of the gender segregated labour market with men and women working in different sectors and with different work tasks, which make risk patterns of musculoskeletal disorders different for women and men. Also unpaid work, like household work, which usually still is the main responsibility of women, results in a greater overall exposure to physically demanding activities and psychosocial strains, as well as less opportunities for recovering after the working day. Conclusions from these practical examples are that the associations of musculoskeletal disorders with gender and occupational ergonomic exposures should be assessed separately in order to determine whether women are at increased risk when exposed to the same ergonomic stressors as men. Gender-stratified presentation of data is valuable because it permits examination, rather than smoothing over differences in the exposure-response relationships.

Carina Bildt reports a study on women's working conditions and mental health in order to illustrate the relation between a variety of demands in working life and mental health. The general effect of work on the mental health of women has been investigated in a number of studies, and gainfully employed women had, in general, better health than other women. This does not prevent there being decisive factors in the working environment, which cause mental problems and lowered mental well-being in women, as well as in men. For example, high perceived workload, shift work, temporary employment, job strain and lack of education were related to poor mental health. Many of the changes in the labour market, for example the increased demands for flexibility and temporary staff, could prove to be harmful to the mental health of the working female population. There are areas where interventions are needed to provide the employees with reasonable working conditions.

In the chapter by Elisabeth Lagerlöf and Ewa Menckel an investigation of gender approaches in the EU network "Workplace Health Promotion" is presented where the aim was to find out how the European strategy of gender mainstreaming policy was applied in a European project. The EU network was set up in 1996 with organisations from all 15 member states of the European Community and three countries of the European Economic Area (EEA). A year later a project about identification and dissemination of Models of Good Practice (MOGP) was started where each member state of the network had to identify four organisations as Models of Good Practice based on special criteria. The criteria served as a guideline in the assessment of concrete models of good practice. The analysis of the 66 Models of Good Practice from different sectors of economic life revealed that gender sensitive factors to a very high degree had been neglected in the choice of the models, and that the chosen models rather mirror the predominantly male norm of working life, working conditions and health. The European network for Workplace Health Promotion has realised that their present approach has not been enough gender sensitive.

Karen Messing and Ana Maria Seifert give in their chapter examples of methods, strategies and solutions of action-oriented research in ergonomics. They stress the importance of listening to women and their often invisible occupational demands and the method integrates observation of work activity and interviews with workers and key informants in order to create a portrait of the working conditions. The method is adapted to a union-university collaboration on women's occupational health and the procedures involve, for example, effective and careful listening to women workers to establish the nature and extent of occupational health problems and their suspected causes in the work activity. The authors emphasise the importance of collaborations between union federations, women workers and researchers and give many examples from different workplaces of the methods for participative ergonomic analysis used and solutions reached.

The new economy and the work life balance: opportunities and constraints for women and men

Professor Diane Perrons

Department of Geography and Environment and Associate Fellow Gender Institute,
London School of Economics, Houghton Street, London WC22AE, UK. Email
d.perrons@lse.ac.uk

Introduction

The concept "new economy" is widely used to characterise the outcomes of contemporary restructuring processes but in varied ways. In general, the new economy is characterised by globalisation, the increasing use of computing and information technologies and knowledge-based sectors but also by the feminisation and polarisation of employment and new patterns and hours of work. These new technologies and patterns of working potentially offer new ways of managing the work/life balance, especially for people with caring responsibilities, as the move towards the 24 hours society extends the temporal range of potential working hours and internet access extends the range of locations from which paid work can be carried out. Even so, the new forms of work are highly differentiated.

Some writers and politicians emphasise the new knowledge-based "e" economy; Castells (2000:9) for example argues that we have entered "a new technological paradigm centred around micro electronics-based information/communication technologies, and genetic engineering". In particular he stresses the importance of the Internet, which facilitates the development of a diffused networked society and the network enterprise connected and dissolved as specific projects are developed and completed. Castells also recognises that the new economy is characterised by the development of flexible working, feminisation and insecurity, features which are emphasised by writers such as Beck (1992; 2000), Carnoy (2000) and Sennett (1998). These different dimensions are organically connected as the new economy consists of both highly paid "self-programmable knowledge workers" and low cost "generic" labour (Castells 2000; Stanworth 2000) as well as people who have been discarded from paid work altogether contributing to the increasing social polarisation characteristic of many, if not all, contemporary societies. This division may also be structured (although not determined), by gender, age and ethnicity. Overall it has been argued that the new economy offers risks as well as opportunities as traditional systems of social support through the state, company or community are eroded and people become increasingly individualised (Beck 2000; Carnoy 2000).

Given the diverse nature, varied understandings and different claims about the impact of the new economy this paper seeks to explore how one aspect, the new

media sector, has materialised in practice in one particular location, Brighton and Hove in South East England. It examines the gender differentiated of work and considers the extent to which it enables people to manage their work life balance more effectively. It forms part of a wider study, which seeks to explore the varied and differentiated nature of the new economy and its materialisation within this region.

The paper divides into three sections. The first explores some of the varied conceptualisations of the new economy and outlines potential risks and opportunities especially in relation to managing the work life balance. The second section briefly reviews the extent of gender inequality in Britain and outlines the UK Government's expectations of how the new economy might contribute towards reducing the gender gap. The main section reports some preliminary findings from a study of the new media sector in Brighton and Hove in South East England. It focuses on patterns of gender differentiation in employment and working patterns and the extent to which the sector facilitates the management of the work life balance. The conclusion makes some suggestions for redressing the gender imbalance that seems to be being reproduced rather than challenged within this emerging sector of the new economy.

The new economy and the organisation of work

Conceptualisations of the new economy

There are two distinct interpretations of the new economy. One focuses on the new sectors and activities associated with globalisation and use of information and communication technologies. In this perspective "the global economy is an economy with the capacity to work as a unit in real time on a planetary scale" (Castells 1996:92). Underpinning the new economy is the advanced development of information and communication technologies and particularly the Internet, through which this virtual instantaneous communication takes place. The Internet provides a new communication medium between businesses (b to b) and between businesses and consumers (b to c) and so facilitates new ways of organising the production, distribution and exchange of existing goods and services. New activities, including the computing technologies themselves (hardware and software) for managing web-based transactions and entirely new activities, processes and products, including new media products for training, marketing and public relations as well as interactive digital products¹ have been developed. In turn these activities generate new forms of employment ranging from web-based graphic design, web system/database management, video installations through to programming. The outcome is a range of new activities and jobs, which do not fit neatly into existing industrial sectors or occupational categories; new kinds of firms, virtual firms and working patterns come into existence as the parameters of the industry are very fluid, and knowledge and skills are growing all the time as new possibilities unfold. Castells (2000) argues that the new economy has developed most rapidly in those countries and those regions where capital markets are deregulated and venture capital is widely available. "I have seen it in California

¹ An example of a new web-based interactive digital product would be the development of a web site for a virtual pop group which people can visit, ask questions and interact with the virtual pop stars, another would be an interactive trivia quiz associated with a web site.

but does it have the capacity to expand elsewhere - Europe - the world"? This conceptualisation conforms with media images of the new economy which emphasise the higher-level activities, but these activities also depend on a range of lower-level jobs in distribution and consumer services as Castells (2000), himself recognises.

Changes in the mode of exchange also influence production and distribution methods. Some work is displaced from conventional retailers and banks to call centres and some is transferred to consumers who manage their own transactions directly via the Internet. The development of E commerce, designed and managed by the higher-level workers, has also generated different kinds of warehousing and delivery systems and related employment. Furthermore, given the long hours worked in the higher-level activities there has been an expansion of jobs in the personal care and consumer services sector to cater for their needs. Thus, the new economy is characterised by a duality that in practice builds upon and possibly reinforces existing social divisions of class, gender and ethnicity. Middle class, well-educated and white men tend to be over-represented in the high-level jobs, providing producer services for firms and web-based products while women, ethnic minorities and people from lower social classes, are over-represented in the less highly rewarded jobs providing services, more directly for people. These services include cleaning for offices, personal fitness trainers for desk-bound executives, and care workers for children and the elderly. Some companies even provide concierge services to their employees who spend so many hours at work they are unable to attend to their own reproduction needs (see Box 1). The employees providing these services are almost uniformly low paid and disproportionately female and from ethnic minorities.

Box 1 Concierge services

"If you want to keep staff then you have to look after them," says Hilda Barrett, group human resources manager at Microsoft. "That's why we try and create a campus atmosphere at our office. We have top quality, gourmet food always available and in the evenings we even run cookery classes. Oh yes, and you also get Waitrose Direct, a grocery shopping service. Who wants to waste their spare time pushing a supermarket trolley?" Every morning Microsoft workers are offered free fruit with breakfast, a nice touch, but one which might feel annoyingly prescriptive. At their headquarters there is an area called "the anarchy zone" where stressed out workers can play pool, watch a 54-inch cable TV screen, lounge around on squashy sofas, play video games, drink top quality lattes or read all the latest magazines. Extract from Work Unlimited - Anita Chaudhuri Guardian Wednesday August 30, 2000.

Thus, although this paper refers to higher-level workers in one emerging sector in the new economy it is important to contextualise this development within the new economy as a whole especially in order to understand the gendered dimensions. Furthermore, there are some similarities in the contractual structure and temporal demands of employment, if not in the lifestyles and levels of pay, between high-level and low-level workers that make it difficult for both sets of workers to manage their work life balance.

New economy patterns of work and the work life balance

In the context of increasing economic deregulation the new economy has contributed to the development of non-standard, flexible and long hours working hours (Harkness 1999; Presser 1999). Flexible working opens up opportunities for a wider range of people including those with caring responsibilities to become involved in the paid employment, even though employers tend to retain control over the parameters of flexibility (Figart and Mutari 1998; Rubery, Smith and Fagan 1998; Perrons 1999). Breedfeld (1998) also found that the degree of individual control over working hours in the Netherlands was less when they were "scattered", i.e. outside of the conventional working day. That is, a negative relationship between flexibility and control was found for both highly educated and lower educated groups of workers, although the relationship was stronger for the latter. However, the long hours culture certainly mitigates against those with caring responsibilities.

At the aggregate level, negotiated weekly hours for many process workers have fallen in Europe, especially in Germany². Nevertheless, actual working hours for these and other workers have often increased through rising levels of overtime. Many white-collar employees are not really covered by the EU working time directive or else "voluntarily" opt out of the agreement. The concept and reality of a fixed working day has declined for many people and boundaries and collective rhythms in working life have begun to disappear. The process is also cumulative. As more people, especially more women, are in paid work demands for marketised domestic services will increase, and some will inevitably take place outside conventional working hours. As working hours become more varied, people will expect other services to be available at a wider range of times. Further, as the working day has become increasingly opaque, many salaried workers are expected to work long hours to demonstrate their commitment to their organisations (Hochschild 1997; Massey 1996; McDowell 1997) and to match the working hours of different time zones. Entrepreneurs and freelancers often do so, owing to deadlines and the unpredictable nature and flow of work and also because of its intrinsic satisfaction which erodes the boundaries between work and life (see Massey 1996).

Time, however, is not available in equal quantities to women and men and can form a new means of differentiation just as other differences, for example qualifications and formal opportunities, are becoming more equal (EC 2000). The long hours culture poses problems for people with caring responsibilities, who are often forced to choose between jobs with career possibilities and those that can be combined with caring activities. At the same time, more varied working patterns, including shorter and unsocial hours, allow people to combine caring with paid work. The majority of jobs where this is possible, however, are found at the lower end of the hierarchy but "family friendly" working patterns, if not the quantity of work, can be constructed by the entrepreneurs, homeworkers and freelancers in the new economy who manage their own routines. The idea that home-based work potentially improves the work life balance was raised early on by Toffler (1980) in his ideas about the "electronic cottage" and the Internet has certainly increased the potential for homework.

² In 1993 Volkswagen implemented a 4-day 28.8 hour week with a 20 per cent cut in earnings (Figart and Mutari 1999:472).

However, the problems identified by writers on homeworking, such as social isolation, family tensions and so on, also have to be recognised. (Phizacklea and Wolkowitz 1995; Huws 1996; Baruch 2000).

Employers of high-level workers do respond to the immediate reproductive needs of their employees to cope with the long hours, as indicated above, but the question of longer-term security and social reproduction remains³ which relates to a second conceptualisation of the new economy. Beck refers to the "Brave New World of Work", characterised by insecurity and increasing inequality (Beck 2000) while Flores and Gray (2000:24⁴) speak of the death of the career and how lifelong identities are giving way to "brief habits" such that, "the lives of wired people are more like collections of short stories than the narrative of a bourgeois novel" (Flores and Gray 2000:24). They argue that work in the new economy is project-based, leading to a greater fluidity in terms of employment relations and geographical stability breaking the links between individuals firms and communities. While Sennett⁵ argues that these developments lead to the "corrosion of character", Flores and Gray (2000) suggests a new morality in that "personal authenticity" "in the wired form of life" depends on "spontaneity in responding to the current situation, rather than continuity of projects and relationships"⁶. The empirical evidence for these claims, however, is rather mixed and detailed comparative empirical studies are necessary in order to investigate the validity and variability of these claims in practice and how the opportunities can be maximised and risks minimised.

These concepts of insecurity, short termism or the extended present (long now) were reflected in the views of "Generation X (people between 18 and 30) in a five-country European study (Ireland, Norway, Portugal, Sweden, and the UK). Both jobs and relationships were perceived as being episodic and less secure, even though those in work tended to work long hours. Although these young people wished to "have a life now" before settling down to a more stable future with partners and perhaps children they were not at all certain, however, that this future could be realised, given the nature and demands of work. Maintaining gender equality was considered problematical, especially in Britain in contrast to Norway and Sweden, given the uneven

³ Manuel Castells refers to the problem of social reproduction. He is referring specifically to the time demands placed on the self-programmable workers - who are predominantly men. He argues that they are individualised, work hard, have innovative drive, competitive, single and have little time for fun outside work or to form relationships. Castells argues that a key question is how can this model survive without destroying itself. He argues that the Great Challenge is - how to integrate socially while opening up technologically.

⁴ What I think they are really talking about is not the death of the career but rather the death of employment with a single firm. Moving between employers does not necessarily mean that a career no longer exists. People can develop their career within a single profession through changing employers - for the individual there can still be a logical and progressive path.

⁵ {Richard Sennett (1998). In his book the corrosion of character contrasts the nature of work in a previous era - the timing of which has parallels with the Fordist era with the contemporary epoch by referring to the lives of two workers a father and a son. Whereas people had a career - [road for carriage - or a lifelong channel for ones pursuits] we now have jobs - [14th century meaning a lump or piece of something that could be carted around].

⁶ But then their illustration (that 80% of all Fortune 500 companies will have over half their employees on teams) is of teams within organisations rather than between autonomous individuals, suggesting that it is a business fashion rather than a fundamental change in social structure.

gender division of reproductive responsibilities and low level of child-care support provided by the state (Lewis and Brannen 2000). There is also support from quantitative evidence in the UK which points out that only a small proportion of new jobs coming on to the labour market are full time and permanent (Gregg and Wadsworth 1998). Similarly, Castells (2000) points out how the regular full-time year-round contract applies to only 33 per cent of the Californian labour market where there is extreme flexibility. Counter evidence, however, suggests that for the majority of the population there has been little aggregate change in the length of time that people stay with any individual employer. In the UK the average length of a man's job was 10.5 years in the 1970s and is now 9.5 years and for women there has been little aggregate change (Green, Felstead and Burchell 2000, see also Doolan 2001 who also points out that long-term employment has increased). These writers suggest that insecurity has become a topic of discussion and research because insecurity is now more strongly felt by the professional or the chattering classes⁷. That is, not all elements in society ever had a career so writers emphasising increasing insecurity are perhaps overstating the extent of change. Certainly implicitly they seem to be discussing men and perhaps middle-class men as few women or men or women outside the professional classes ever experienced the kind of security they describe. Nevertheless, the ability of people to organise their own work biographies and plan their lifetime finances varies according to their responsibilities outside the workplace and these remain highly structured by gender, ethnicity and social class. Given the way that contemporary technologies extend the range of working opportunities both temporally and spatially they potentially provide a means of redressing current gender inequalities.

The range of these developments is immense and the full ramifications very difficult to assess. It is important to emphasise, however, that these developments have not happened because of new technologies but rather because of the ways in which technological developments occur within a capitalist and increasingly global economy. The processes shaping these changes are those which motivate the decision-makers in the large corporations and nation states. Similarly, the way in which individual lives are affected depends very much on traditional individual and social factors. Social factors include the level of development, the welfare regime and prevailing labour market regulations, company size and status and individual characteristics are gender, social class, ethnicity, educational background, age and stage in life course as well as individual preferences. Thus, although everyone is affected by these developments, people are involved in different ways and to different degrees depending on their existing individual and social positions. Therefore, these issues need to be investigated empirically as there will be considerable variation in outcomes and a preliminary attempt has been made to do so in Section 3. However, first, the current state of gender inequality in the UK is outlined as well as some indication of official thinking about how the new economy might contribute to increase gender equality while maintaining a work life balance.

⁷ Furthermore, for some professions the concept of a career probably still exists - in medicine, law accountancy and academia. The notion of identity is probably more defined by individual skills/occupations rather than through specific employers and this has probably always been the case for some employees.

The new economy potential for redressing gender imbalances

Current gender inequalities

Gender inequalities in employment in the UK have narrowed in that more women, more mothers and more mothers with young children are now in paid work. However, inequalities in terms of hours of work, segregation and earnings remain (Thair and Risdon 1999; Rubery, Fagan and Smith 1998). On the most favourable measure, hourly earnings, women remain at 80 per cent of the male level but women receive only 60 per cent of male average earnings (EOC 2000) and a study projecting lifetime incomes identified a very wide gender gap, "the female forfeit", even for those women without children (Rake 2000). Furthermore, women are over-represented in part-time employment, which in some ways represents the private solution to the low levels of child care in the UK.

Women in the new economy

The Women's Unit of the UK government has argued that ICT represents "one of the biggest opportunities for women in the 21st century to earn more, have more flexible working practices and adapt their current business or try a business start-up". Thus, they argue that "self-employment and enterprise offer women a real alternative means of earning good income and achieving greater flexibility in their working lives" (Women's Unit 2000). It could also be argued that presence on the internet is invisible and so the precise size and composition of businesses is unclear - which gives smaller firms and people working from home some advantages. However, the Women's Unit also recognises that women face certain constraints; they are under-represented on ICT courses and the proportion working in these areas has fallen. Women also have more problems obtaining access to venture capital and capital in general which is necessary to start up and sustain businesses. Thus, they have been holding seminars and workshops to investigate and identify ways of overcoming these constraints⁸. To clarify both the nature of the new economy and the differential opportunities and constraints for women and men within it, the results of a small-scale empirical investigation of one sector in the new economy in one particular locality are discussed below.

⁸ For example the Women's Unit in conjunction with the Department of Trade and Industry and the Department for Education and Employment held a large-scale interactive seminar "Women Unlimited" at the Islington Business Design centre in February 2001. This included a day long stream "Move IT" to inform women about opportunities in the IT sector and for women to exchange their experiences of working within this sector.

Women in the new Economy and the work life balance. A preliminary case study of the new media sector in Brighton and Hove

Brighton and Hove - "the place to be creative"

Brighton and Hove is "The Place to be Creative" and Brighton and Hove has become the "focal point for creative industries in Europe" (BHC 2000). Brighton and Hove is on the South Coast of England and has a population of 250,000. It is has always been a very vibrant place where "*eyebrows are more often pierced rather than raised at eccentric behaviour*" (BHC 2000) and attracts celebrities, media, arts people as well as tourists. It is also a divided town, with more restaurants but also more people sleeping rough per head than anywhere outside London. Of 354 council areas in the UK it is the 60th poorest. Thus, while marketing itself as the "place to be creative" it is simultaneously applying for and receiving funds targeted at the poorest areas under a variety of regeneration programmes nationally and from the European Union⁹. The main employment within Brighton is in banking and finance (20 %) followed by tourism (11%). A high proportion of the local population also commute to a variety of jobs in London, where higher salaries can be earned. In the early 1990s unemployment was 15 per cent, now, it is only 6.6 per cent but that is 4 per cent higher than the average for the South East region as a whole and 2.2 per cent above the national average.

Brighton and Hove is an interesting area because it reflects the varied dimensions of the new economy within a relatively small location. It was chosen for this study because it is said to constitute an "enterprise hub" in the new economy (see also Tang 1999 and Pratt 1999). It has at least 200 new media companies with a further 170 companies in Sussex, the surrounding county¹⁰, and a number of supportive institutions including Wired Sussex and Sussex Innovation. In total about 3000 people are employed with a turnover of about £300m. Most of the companies are therefore very small, however it is this type of company that perhaps corresponds to the opportunities for women identified by the UK Government's Women's Unit. However, my preliminary research in this locality suggests that although the new media sector provides opportunities for women, significant gender divisions remain.

The results reported come from an ongoing study. There have been two stages to the project so far. Seven in-depth interviews were carried out with women who attended the Women in the New Economy seminar sponsored by the Women's Unit in July 2000. From these, key issues were identified and fifty further interviews, lasting between forty-five minutes and one hour based around an administered standard questionnaire, were carried out with owners, managers and some employees of small firms in the new media sector in Brighton and Hove.

⁹ These include the New Deal for Communities and the Single Regeneration Budget policies. The European URBAN programme for the regeneration of Whitehawk and Kemp Town £3m million to boost local economic activity.

¹⁰ This data comes from the Wired Sussex database - this database is regularly updated, registration is voluntary and free - so this is probably an under rather than over estimate of the total number of companies in Brighton and Hove.

Gender composition, and size of companies

The new media is an emerging sector comprising of wholly new companies which have developed in response to new needs in the service economy as well as existing companies that have adapted their operations to make use of contemporary technologies. Of the companies participating in the survey, 42 per cent were less than 2 years old and just over 63 per cent less than three years old. At the same time 14 per cent were over 5 years old and a further 11 per cent over ten years old.

Those responding to the survey were overwhelmingly male (38 or 70 % male and 16 or 30 % female), this despite the fact that the original interviews were selected from the women in the new economy conference. The age distribution of women and men in the industry was broadly similar with 80 per cent between 25 and 44 years. However, a higher proportion of men were in the younger category 25-34 (44 % compared to 25 % of women) and 50 per cent of women in the 35-44 category compared to 40 per cent of men. This may reflect greater confidence among men in terms of setting up their own businesses, as well as support from lending institutions or that this period corresponds with the highest age specific fertility rates among women (Women's Unit 2000). At this stage, the survey was largely carried out among owners and managers - although some of these were essentially one-person operations and not really that dissimilar from freelancers. Even so, no one under 25 was found perhaps because this is a knowledge-based industry and, with few exceptions, most participants were graduates or had equivalent levels of training or experience.

There is a distinct gender imbalance in terms of the size of the companies, measured by turnover. Overall, just over 40 per cent have a turnover of less than £100,000 and 83 per cent under £1m. Even so, profitability can be quite high as these are knowledge-based companies with relatively low capital costs. All of the larger companies had male owner/managers; 45 per cent (17) of companies owned or managed by men having a turnover of at least £0.25m (33 % over £0.5m) whereas 50 per cent (8) of female-owned companies had a turnover of less than £30,000. Nevertheless, two companies, co-managed and co-owned by women with their male partners, had a turnover of between £250,000 and £500,000.

Earnings and incomes

In the case of small companies, and especially one-person operations, earnings are difficult to evaluate, as the owners pay themselves earnings, dividends or re-invest revenue in the company. Indeed accountants often advise that it is tax efficient only to pay themselves the minimum wage. With these qualifications in mind, it is clear that the majority of people in this sector do not conform to the media image of high earners, even though just under half reported that their earnings were increasing.

A third earned less than the average male wage, which is low considering that the vast majority of people were graduates or had equivalent experience and worked long hours (see section below). Gender differences were also evident with women being over-represented in the lower earnings categories.

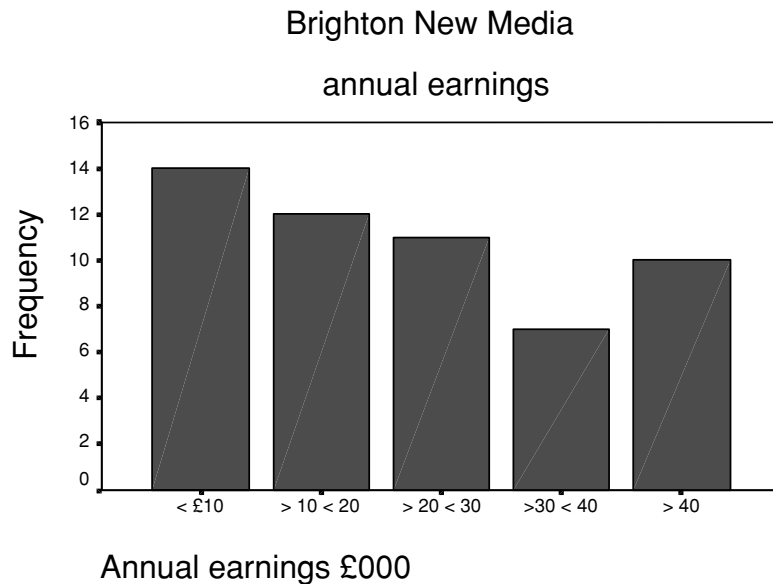


Figure 1 Earnings in the new media Sector in Brighton and Hove

Over half (62.5 %) of women in the survey earned less than £20,000 compared to only a quarter of men (42 %). Further, just over one third of men earned over £40,000 per annum compared to a quarter of women. For people on low earnings especially, a further problem arises from their irregularity:

”I earn less than £10,000 p.a. Sometimes there is a whole month with no earnings - the big companies in particular are very slow at paying out.” (ID 1 Woman web-page designer 35-44 dependent children)

Working hours and the work life balance

The hours worked in this sector are varied, often flexible but also long.

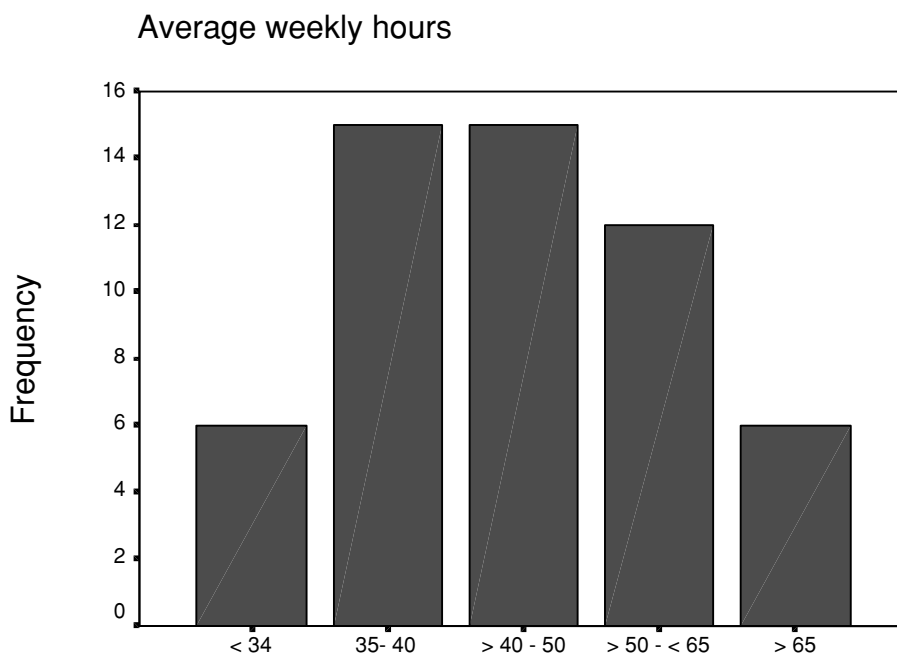


Figure 2 Average weekly working hours

Only just over 25 per cent of the sample, 24 per cent of women and 30 per cent of men, worked a standard number of working hours, that is between 35 and 40 a week. A further quarter of women and 30 per cent of men worked between 40 and 50 hours per week. Just under a quarter of those surveyed worked between 50 and 65 hours a week but 35 per cent of women and 16 per cent of men worked between 50 and 65 hours a week. Men, however, worked the very longest hours with 13.5 per cent of men working over 65 hours a week including 11.8 per cent who worked over 70 hours a week on average. Only one women in the survey worked over 65 hours a week for their new media business. At the opposite end of the distribution 3 men worked between 20 and 35 hours a week because this work was in addition to their full-time employment and one man and one women worked less than 20 hours because they were unable to attract more work. Just under half of the people reported that their working hours had been increasing a lot or a little, with only 12 per cent reporting trends in the reverse direction. A higher proportion reported that the pressure at work had been increasing either a little or a lot with only 9 per cent reporting trends in the reverse direction.

There are four main reasons why people work long hours: the unpredictable nature and flow of work; the uncertainty associated with a business start-up; the need to continually update skills and knowledge, and the intrinsic satisfaction derived from the work itself so that the distinction between work and life is blurred.

In the new media sector, work is very much project-based and many products and services "bespoke", i.e. designed individually for each client. There is a lack of knowledge on the part of clients about what they actually want and what to expect. Over one third of respondents reported that their main source of stress derived from "bad clients", i.e. ones who did not really know what they wanted and furthermore kept changing their minds or making additional demands. So there is often a lack of clear boundaries around project content and uncertainty about the volume of work involved, at the same time as inflexible deadlines - in the case of a web site for example this would be a defined launch day. As many of the companies were new and still building their reputations they considered it necessary to produce high-quality products, and did not charge for all of the amendments made. Furthermore, they were reluctant to turn down work, because of the uncertainty of future contracts. All of these factors led some companies to take on more work than they could reasonably manage.

For owners and one-person operators, working long hours was often seen as a temporary situation, a form of investment in the company and in their own futures.

"I am working long hours now (110 a week) but this will not be forever. I want to earn a lot now so that I can **do** things later on - like travelling." (ID 7 Male 25-34 Specialist web programmer no caring responsibilities)

"This is a critical moment it will not continue forever. I expects to see benefits in about two years time, then I would like to work a reduced day and enjoy a Directors lifestyle." (ID 33 Male)

"At present I am building the company up, - the harder I work the more I enjoy it". As a Director, at present the company's interests come first." (ID 13 Male 25-34 on average working 74 hours a week - prior to the Christmas break had worked "50 days on the trot")

"Well, I'm in a start up role at present and we have been expanding a lot so I'm still trying to get structures in place. Last week I worked about 70 hours but this will go down. I aim to work standard hours. I do aim to "get a life". But work is part of life - I enjoy it. The company is covered by the Working Time Directive and they agree with it." (ID 39 Woman no caring responsibilities)

Many of those unhappy with the current volume of work had considered expanding the number of employees or utilising freelancers more intensively. However, there was also some reluctance to take this route, partly because taking on more people created problems of its own such as managing staff, ensuring that there was sufficient work and that their work could be trusted, given that there is little or no formal accreditation for the new skills in this sector. There was also a reluctance to grow

beyond a "reasonable size" in case this led to a loss of control and a qualitative change in their working lives.

"We plan to expand to about the size of 25-30 after that we would have to think carefully about the costs and benefits of further expansion. If we expanded too much it would "change the atmosphere". We might set up another company instead." (ID 15 male 25-34 collective company)

This perspective confirms Beck's image of new independent operators as a "cross between employer and day labourer, self-exploiter and boss on their own account... with the objective of moulding their own lives rather than conquering world markets" (Beck 2000: 54-55). Some companies had, however, expanded dramatically over the year and others planned to do the same. Having control over the nature of their work was widely considered to be important and in several cases there was a desire to escape from office politics and from male power structures. One woman found that having been independent:

"after a while you can't go back - you think why should I be doing this for them and they aren't doing it very well anyway. Power has to be earned by respect for competencies - not imposed. The IT world is still a very male world and some men have difficulty in treating women as equal." (ID 12 Woman Internet PR 35-44 one dependent child)

For this woman working independently enabled her to escape the glass ceiling, which she felt continued to exist in the new economy (see Stanworth 2000). A male respondent paying himself only 25 per cent above the minimum wage (having allowed for dividends) had previously been earning approximately £100,000 p.a. When asked why he was doing this he replied that:

"well its like prostitution isn't it. I set up my own company so that I have freedom and can control what work I do." (Male no caring responsibilities ID 53)

For employees, the situation of long working hours was more problematical and employees were often treated in a rather paternalistic way. Employers, just as owners, face an unpredictable volume of work and tight deadlines and although they could, and in fact do, take on temporary or freelance workers, this cannot always be done at short notice, so existing employees find themselves working extremely long hours.

One company as a matter of policy *requires employees to voluntarily* opt out of the EU Working Time Directive but if employees do work long hours they are compensated by time off in lieu and also by special bonuses.

"If they "throw an all nighter" {work through the night} I pay for them to have a "stressbuster - at the Grand." {a one or half day special massage and health treatment at a major hotel}(ID 13 Male 25-34)

Another company provided a free breakfast to employees at 8.30 a.m. because

”It encourages people to be here on time and so we can start work fairly promptly at 9 a.m.” (ID 43)

Thus echoing the concierge strategy of Microsoft, discussed earlier. This company also had various bonuses such as fully paid company trips to social events or long weekends away as well as having a company football team, but was also in conflict with employees over the implications of the EU Working Time Directive in relation to paid holiday. Thus, there was a curious mixture of concern for employees’ well-being on the one hand but an unwillingness to endorse regulations to enhance employees’ rights on the other; the company preferring paternalistic strategies instead. Furthermore in practice, these perks would not be equally available to all employees, given their differential home responsibilities.

Time is especially important in this emerging sector where skills and knowledge need continual updating and networking is necessary to find out about contemporary developments and to acquire work. The vast majority of companies stated that they provided time at work for employees to engage in self-learning via magazines and the Internet. Some also had informal systems of work shadowing and workshops for exchanging ideas. Single operators would clearly have to provide this time for themselves. Some employees also saw their time with an organisation as a period in which to acquire new skills prior to setting up on their own.

”I have always worked long hours - it is self imposed I have a tendency to be a workaholic. When I worked for an organisation I was trying to gather work experience. I would stay late to work with the software experimenting etc. At home I would no longer want to see a computer - I tried to incorporate study hours into the working environment but it was difficult - you were often so busy - working every minute. Different projects would dovetail with one another it was like a continuous production line - I wanted to get away from feeling a cog in a process I wanted more autonomy.” (ID 35 Male 35-44)

The most striking finding, however, was that the vast majority of people surveyed ”loved” their work with 79.6 per cent strongly agreeing or agreeing with the statement that ”generally speaking I am very satisfied with the nature of my work” (Table 1). Gender differences were not very marked except that the 10 per cent that disagreed with this perspective were all male and women tended to be a bit more ambivalent.

Table 1. Generally speaking I am very satisfied with the nature of my work.

	Frequency	Percent	Cumulative percent
Strongly agree	29	53.7	53.7
Agree	14	25.9	79.6
Neither agree nor disagree	7	13.0	92.6
Disagree	3	5.6	98.1
Strongly disagree	1	1.9	100
Total	54	100	

The following quotations encapsulate this experience.

"I enjoy work - the barriers between work and non work are very blurred." (ID 12 Women web designer dependent child 35-44)

"Work and life merge - work is my hobby work is myth." (ID 9 Male 45-54)

"Work excitement and pressure are opposite sides of the same coin." (ID 24 male Internet consultancy and web designer 35-44 with dependent children)

Work life balance

While enjoying their work, just under half of the people surveyed either agreed or strongly agreed with the statement that "my work takes up time beyond a reasonable working day that I would rather spend on other activities". Further, a high proportion of respondents found their work very demanding with 57.4 per cent of respondents either strongly agreeing or agreeing with the statement that "I am often too tired when I get home from work to do other things".

This view was shared by more men than women and as in the case above women tended to be a bit more ambivalent. But even so, half of the people surveyed either strongly agreed or agreed (54 % men and 47 % women) with the statement that "generally speaking I am very satisfied with my work life balance", with one third of men and 40 per cent of women either disagreeing or strongly disagreeing. The reasons underlying the negative response differ, however, between women and men, as a higher proportion of men than women would prefer to spend more time at home and vice versa in relation to time spent at work providing some empirical support for a renegotiation of the gender division of labour between paid and unpaid work.

For the third, who were unhappy with their work life balance the long hours and the sense of being torn between work and family were particularly important.

"I have to cut down work in the school holidays because I cannot do that much when the kids are around. I feel very torn." (ID 1 Woman web page designer 35-44 dependent children)

"I only managed to take one day off with my daughter during the whole her Summer holidays." (ID 12 Women web designer- dependent child 35-44)

Another woman, a single parent when asked what she did if her school-aged child was unwell said "I am sodded big time".

Two main strategies were used to try to harmonise work and life, flexible working and home working, neither of which affected the volume of work but both potentially enabled working time to be organised around domestic responsibilities, or vice versa. Both strategies were also employed for other reasons; "flexible working", i.e. working in the evening, at night and during the weekend was inevitable, as the number of

hours worked exceeded a standard day and the home often formed the site of a business start-up.

Flexible working

Only a minority of people in the survey regularly worked standard hours and women were less likely to do so than men. 68 per cent regularly worked flexible hours and only 2 per cent never did so. Nearly 60 per cent of people regularly worked evenings and 35 per cent did so sometimes and just under a quarter of people reported that they regularly worked at night (between 10 p.m. and 6 a.m. in the morning). Relative to their representation in the survey, women expressed a slightly higher tendency to regularly work in the evening and a lower tendency to work at night than men. However, the proportion saying that they worked at night sometimes was relatively higher than for men. Nearly half of the people reported that they regularly worked on a Saturday and Sunday with only 25 per cent never doing so.

Slightly under half of the sample had dependent children living with them. Overall, parents spent less time on their work in the new media than non-parents. Even so, 23 per cent of parents with dependent children living with them worked over 50 hours a week on average compared to 54 per cent of those without children. The size of the sample, especially the number of women involved, is too small to see whether there is a significant difference between women and men. Of the thirteen people who worked over 60 hours six had dependent children living with them and seven did not. There were two women in this category, one single parent and one without children in the household. The presence of dependent children did not seem to affect the overall number of working hours, especially in the case of fathers, which corresponds with the tendency in the UK for fathers to work very long hours (Ferri and Smith 1996; Harkness 1999).

For those with senior positions or running their own companies even when the hours of work are long the pattern can be arranged so as to enable them to spend some time with their children as one respondent explained:

”I would like to be able to spend more time with the children”. ”Being an MD {managing director} however enables me to work flexible hours so I can go to school events.” (ID 36 Male 35-44 Managing Director)

Another man with three young children regularly spent the time between 6 and 8 in the evening having dinner with and helping his children with homework but this was just about the only time, other than a few hours on Sunday and sleeping that he spent away from his computer:

”all I do is work, I have no concept of not working The job rules me - I started as a programmer but I am now a manger, litigation, marketer. All the pressure is on me and I don’t pass it on. I don’t have holidays or any social life” ”I absolutely hate it.” (ID 14 male working in excess of 75 hours a week with 3 young children)

Some people found the current pressure of work incompatible with family life.

"We have no intentions of starting a family until we can get to grips with the business." (ID 10 Male 35-44 project manager)

For some people, especially mothers, being able to work flexibly was critical given the continuing low level of publicly provided and high cost of private child care in the UK, despite recent initiatives.

"During school holidays its a bit tricky, but otherwise after dropping kids to school, I do 0.5 hrs housework and then work through until I pick the children up at 3 p.m. Then I will work in the evening, sometimes at night and usually one of the weekend days." (ID 1 Woman web page designer 35-44 dependent children)

But even so she went on to point out that:

"The school hours limit my day - it ruins concentration. I would like something like an au pair to pick up children from school. The children go to an after school club (open until 6 p.m.) on two days a week but it does not always work and it costs quite a lot - £8 for the two children for each session." (ID 1 Woman web page designer 35-44 dependent children)

Home working and work life balance

Of those working from home most felt that it enabled them to combine work and family life. Some were extremely positive in this respect and the proportion of women expressing this view was greater than men; 55 per cent of women who worked from home viewed homeworking positively in this respect compared to 44 per cent of men. One respondent was particularly enthusiastic:

"IT's WONDERFUL!" {her emphasis} "As I own and run my own business in the home, my work/life balance could not really be improved. I have the flexibility I need which is why I set up the business in the first place." (ID 46 Women 35-44 1 dependent child)

Another respondent (similar to ID 1 above) commented on the way school hours can interrupt the flow of thought but also pointed out the value of children: "you just get motoring on a project and you have to pick them up on the other hand sometimes the enforced break is needed. I enjoy looking after them - I don't resent it." He went on to say:

"I don't mind if they (the children) come in the office I sometimes work there while they play - children do not need a high input all of the time they just like you to be there." "People in the west worry too much. I think children like to see you working and being with you - the notion of a special period of childhood is a particularly western concept." (ID 35 Man 25-34 Artistic Director 2 dependent children)

This comment was unusual, more often mixed responses and tensions between home and work were reported together with strategies for overcoming them:

"You need to create a workspace, then working at home is enjoyable. If the job is difficult then being at home can be difficult - if she cries and my partner is looking after her its hard to concentrate and not to interfere". "Otherwise at present I enjoy the flexibility because I can take her to the park etc and be around." (ID 28 Woman web designer 25-34 one dependent child)

"Home work does create some tensions with the children but I don't feel isolated - I have increased the number of contacts through the web." (ID 31 Man consultant and trainer 45-54 two dependent children)

This comment also reflects the way in which the web itself has become an important medium for social contact, one respondent having met her partner via a chat room although this view was by no means universally shared (see ID 1 below). For other respondents the tensions created by homeworking were quite severe:

"I work from home, so am continually kicked out of the office and accused of ignoring my family and being a workaholic and preferring the computer to real people." "It's too easy to just go in for 30 minutes and spend 3 or 4 hours without noticing the time slipping away." (ID 12 Woman Internet PR 35-44 one dependent child)

There were also tensions for the homeworker themselves, as they could never really escape from work even when they wanted to.

"Even when I **do** have some spare time, I sometimes find it difficult to relax in my home as I associate it with work and the PC and the "to do" list always beckoning." (ID 34 Woman web designer and writer 25-34 no caring responsibilities)

"after working at home I was a wreck ...it is not healthy there are enough pressures at home already - it is much better now - when I close the door I can forget work. I would never do it again - not as a business - I worked longer hours at home because it is quite compulsive - you are constantly reminded of work, - you could never escape it." (ID 18 Man web designer 25-34 no direct caring responsibilities)

Some respondents also reported that working from home had negative effects in terms of the work itself, although positive from the point of view of managing a work life balance.

"The main problem with working from home is both social and work isolation - there is no one to bounce ideas off. Otherwise working from home enables me to

combine work and family life and have a higher net income than if I worked elsewhere. There are tensions though and I can't always concentrate when there are piles of washing lying around for example." (ID 1 Woman web designer 2 dependent children)

Other respondents reported that although much could be done through the Internet, face to face meetings were vital both to convince potential clients of their own merits, considered difficult from the home, and so that they too would have some idea of who they were dealing with.

"I moved into the studio because I needed a space to meet clients -I could not meet them in my flat because it was too small. Face to face contact still matters so I need a space in which to meet clients so to convince them that you can do the job." (ID 7 Male 25-34 Specialist web programmer no caring responsibilities)

Other home workers met clients in the numerous cafés or hotel restaurants in the town thereby facilitating the necessary face to face contact without disclosing the actual size of the company. Contemporary telephone technology can also be used to divert calls or provide an answering service that also provides a professional image for small organisations.

This study really confirms that there are mixed responses to homeworking, and whether it enables people to manage their work/life balance is really contingent on their overall context. The key difference between this sector and others forms of homeworking is that potential incomes are significantly higher as the new technologies allow single operators to operate very efficiently in highly professional ways from home as one woman explained.

"The Internet - this is just what I was waiting for." "I can now run my own business from home and have much more flexibility and control over my work than when I was a free lancer." (ID 12 Women web designer dependent child 35-44)

Conclusions

The new media sector in Brighton and Hove provides one small illustration of the way some aspects of the new economy materialise in practice. In some respects, the new economy and use of ICT has enabled people and especially women to combine work with family life. Some women had found it very difficult to obtain work in companies, given their age (perceived to be too old for this sector), and lack of formal qualifications. Setting up their own companies had provided the necessary flexibility and control over their working time and the nature of their work, even though tensions between work and life remained. With a small number of exceptions, both men and women owners, managers and self-employed had few concerns about job security or their ability to acquire work. In general, the problem was more likely to be overwork arising from its unpredictable nature and flow, and even that in part was seen as an intellectual challenge. There appeared to be little concern with questions of

health and safety. Earnings, especially for women, considering the hours worked, and their qualifications and experience appear comparatively low but these are quite hard to assess, especially in the case of independent operators. The vast majority of people enjoyed their work and some considered the boundaries between work and life rather fluid. About half of the people surveyed were satisfied or highly satisfied with their current work life balance. For some the new economy, the Internet and the way in which it extended the temporal and spatial boundaries of work really had enabled them to manage their work life balance more effectively, and some fully encapsulated the positive image of teleworking in the global economy, as in the case of a woman working from her front room and sub-contracting some of her work to a programmer in India. For those dissatisfied with their current work life balance reasons varied, with more men than women expressing a desire to have more time to spend at home and more women than men wishing to spend more time on work.

Of particular concern is the gender imbalance, in terms of the overall under-representation of women and the lower rewards in terms of turnover and earnings. This issue will be pursued in further work, based on a more longitudinal study of matched pairs drawn from this sample. Clearly to redress this situation would require fundamental change in the overall gender division of labour, from subjects studied at school to the balance of caring responsibilities. However, some short-term to medium-term financial support from the state for equipment or income to sustain a livelihood during the early phases of development would be helpful, as often these companies are too small to attract the interest of venture capital or banks.

From this one small case study, my intention has been to provide some empirical insights that might contribute towards a theoretical understanding of the nature of the new economy. I have also tried to highlight issues of concern so that policy-makers might find ways of assisting the development of the sector in ways compatible with, rather than counter to, a better work life balance for women and men.

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Women and labour market regulation

*MSc Pamela Meadows*¹¹

National Institute of Economic and Social Research. 2 Dean Trench Street, Smith Square. London SW1H 9NF. email: p.meadows@niesr.ac.uk

Introduction

Discussion about the purpose and effect of labour market regulation tends to be conducted in a gender-blind fashion. In other words it implicitly assumes that the impact of regulation is the same for both men and women. On the other hand, analysis of the gender dimension of the labour market tends to assume that regulation, concerned with gender equality or family friendly working practices, has a positive outcome for women. In both cases these assumptions are not proven.

This paper does not claim to be a definitive examination of the subject, but its purpose is to raise the question, is labour market regulation generally beneficial to women. It considers the general theoretical arguments for the potential impact of regulating particular aspects of the employment relationship, and illustrates these with examples from three areas: employment protection, equal opportunities and the regulation of part-time work. The illustrations are one-dimensional, in that they do not attempt to take into account the effect of all possible explanations for the phenomena observed. They are not statistically complete descriptions of the world. What they do is highlight areas where further investigation of the observed patterns is called for.

Part of the background is the commitment by all EU member states to both encourage greater labour market flexibility and to promote equal opportunities as two of the four main means for tackling unemployment. At the European Council held in Luxembourg in December 1997, the Member States of the European Union agreed to co-ordinate their employment policies, and to draw up National Action Plans, under four headings:

- Improving employability
- Developing entrepreneurship
- Encouraging adaptability
- Strengthening equal opportunities for women and men

Another part of the background is the recognition that women account for a growing share of the labour force, and also that the nature of the employment relationship is changing. The need to respond to, and where appropriate facilitate, changes in labour

¹¹ This paper draws in part on work done by the author and others who acted as an expert group advising the European Commission on the issue of regulation and the future of work in Europe. The Group's report has been published in French (Supiot et al 1999) and in English by Oxford University Press (Supiot et al 2001)

markets and employment through appropriate labour regulation is therefore closely bound up with the issue of women's position in the labour market.

What is the purpose of labour market regulations?

In many countries some limited regulations, inspired by social reformers, were introduced during the 19th century to tackle instances of abuse by employers. However, a large part of present-day European labour market regulation has its roots in the economic conditions of the 1930s, when the economic balance of power tilted sharply in favour of employers, but at the same time, political power was growing among workers and their representative organisations (Polanyi 1944, Offe 1984, Marshall 1950). However, part of the agenda for these movements was the withdrawal of women from the labour market and the restoration of the recognition of the primacy of the male breadwinner. Hence the demand for a family wage for men.

Governments were therefore introducing regulations with two purposes in mind: to satisfy the aims of the social reformers, and to reduce the likelihood that workers would turn to communism. These systems of labour market regulation were based around a standard worker, who was full-time, male and employed in a production role in large scale manufacturing on an open-ended contract. This was the paradigm worker up until the 1960s, and legal frameworks are always slow to adjust to changes in social and economic realities. Where regulations (and ILO conventions) recognised that women had paid employment, they generally sought to protect them from some working practices such as shift work and night work. They were thought to be in need of protection not because they were discriminated against, but because they were physically weaker.

Even now, the main focus of employment protection is the full-time permanent employee, which is a status more commonly observed among men than women are. This approach is still found in Articles 6A, 2 and 3 of the EC Treaty, amended by the Amsterdam Treaty. Women's employment has often diverged from the standard paradigm. In the past, as now, women have often been self-employed (for example taking in lodgers or doing laundry). They have often relied on casual or part-time employment, and they have tended to have shorter job tenures than men do.

From an economic perspective, regulation is usually seen as a solution to market failure. This can take two broad forms: failure of markets to produce an efficient outcome, and failure of markets to produce an equitable outcome. Where market failure results in economic inefficiency, regulation can lead to outcomes that are better. Thus, regulation can improve transparency, speed up and improve the process of adjustment, increase productivity and encourage people to take risks. Where markets are efficient, but deliver outcomes that are socially unacceptable on the grounds of equity, then regulation requires a trade-off between equity and efficiency.

However, the labour market does not work in the same way as the market for say bananas or fish. Thus, some of the most common forms of market failure such as public goods are not relevant in the case of labour market regulation. However, because it is a social institution as well as an economic one, a greater proportion of its

regulations address aspects of fairness than is often the case in the regulation of other areas of economic life. The fish does not suffer if nobody buys it, or if too low a price is paid for it, but the worker does. (See Solow 1990 for an elegant elaboration of this point.) Similarly, the fish is unlikely to provide a better meal if it is well treated by its purchaser, whereas workers who are well treated are likely to be better motivated and more productive. Wages are determined partly by supply and demand, but partly by a sense of what society regards as fair (see Solow 1990, Agell 1999). This means that the sources of labour market regulation are more likely than regulation in other markets to be about redressing inequity as compensating for inefficiency.

The extent of market failure is also an important factor. It may add to inefficiency, and even to inequality to introduce a far-reaching regulation that results in even more inefficiency into the system. Therefore, for regulation to lead to improved economic outcomes it must act to compensate for a market failure without also reinforcing or encouraging another source of such failure. The most important forms of market failure in the labour market are inequality of power between workers and employers (monopsony) and differences in the information available to workers and employers (asymmetric information). There are also externalities in the supply of training, so that those who pay the costs of training do not necessarily obtain the return on the investment, which tends to produce a level of training that is lower than optimal in the economy as a whole. (For a fuller account of these issues see Blank 1994 and Alogoskoufis et al 1995.) In addition, uncertainty and risk in the labour market can lead to sub-optimal outcomes for other areas of economic life. For example, consumers may be less willing to commit themselves to making major purchases that require them to take out loans that have to be repaid over a period of time in the future (see Beck 1992, Blank 1994).

There is also the possibility of adverse selection where employers who offer good terms and conditions find that they have a disproportionate share of those who are likely to make use of contingent benefits such as sick pay, so that regulation which ensures that all employers have sick pay schemes would remove such distortions. In the case of the issues considered in this paper, this might refer to employers who offer better conditions in terms of maternity leave and in terms of flexible working arrangements for parents. In practice, many of these market failures are interrelated, and the result of all of them is to give employers more power than workers. The main exception is the issue of training, where the impact is divided between employers and workers, but where there has only ever been limited government intervention by way of regulation as opposed to exhortation.

Restrictions on recruitment and promotion: equal opportunities legislation

Anti-discrimination legislation is probably the most important restriction on employers' ability to choose whom they recruit, promote or dismiss. These are good examples of regulations that have the prospect of raising overall output, if discrimination results in people from an excluded group being forced to work in jobs which are below their productive potential. However, anti-discrimination legislation,

particularly if it involves affirmative action, could add to inefficiency if it means that members of the excluded group are given jobs for which they are not the best-qualified candidates.

During the 1970s, following the introduction of legislation which prohibited the payment of different wage rates to men and women doing the same job, it became apparent that one of the key sources of earnings inequality between men and women was that women did not have equal access to better paying jobs, either in terms of recruitment, or in terms of promotion. (Moreover, although the position has improved in the interim, these two sources of pay inequality remain important throughout Europe.) As a consequence, many countries introduced laws which required employers not to discriminate on the grounds of gender. (Many countries also prohibit discrimination on other grounds. These can include disability, race, religious affiliation, political opinion or age.)

Equality of opportunity, a principle of Community law, is now laid down in the Amsterdam Treaty (Art. 119.4). It is, however, still weakly formulated and considered as an exception to the general rule, in which the intention is merely to ensure that Member State legislation on affirmative action conforms to Community law. It imposes no binding objectives on Member States nor does it require Community institutions themselves to adopt measures favouring the implementation of such action, despite the provisions of the new Art. 6A in the EC Treaty, which vests the Council with the power to 'take appropriate action to combat discrimination based on sex...'. The purpose of equal opportunities is to ensure 'full equality in practice between men and women in working life' and to that end, according to the new wording of Art. 119.4 of the ECT, 'the principle of equal treatment shall not prevent any Member State from maintaining or adopting measures providing for specific advantages in order to make it easier for the under-represented sex to pursue a vocational activity or to prevent or compensate for disadvantages in professional careers'.

Discrimination in pay and remuneration on grounds of sex persists despite the acknowledgement, more than twenty years ago, of the principle that men and women performing the same work or, in the new version of the Amsterdam Treaty, 'work of equal value' should be remunerated equally (Art. 119.1 ECT and Directives 75/117/EEC and 72/107/EEC). A recent Eurostat report (Eurostat 1997) shows that the gap between men's and women's pay is larger among the highly skilled, older age groups and professionals with university education. The average female wage at the normal hourly rate is 84 per cent of the male wage in Sweden, 73 per cent in France and Spain and 64 per cent in the United Kingdom. On average, according to Eurostat figures, the difference in pay between men and women with a comparable level of education and holding the same job in the same industry or business sector in 1995 was 13 per cent in Sweden, 22 per cent in Spain and nearly 25 per cent in the United Kingdom. Overall, women's hourly earnings seem to have stabilised at around 80 per cent of men's. However, because men work longer hours than women do, women's average weekly earnings are only 73 per cent of men's.

It is possible, via econometric studies, to "account for" part of the difference between men's and women's pay (see for example Blau and Kahn 1996, Makepeace et al 1995) in terms of their qualifications, age and work experience (and sometimes

also type of job). However, these studies, because of their statistical methodology, are obliged to ignore any circularity in causality. Thus, if women do not try for qualifications because they believe that the returns they will get are not sufficient, any pay differences might be attributed to their lower qualifications. However, their lower qualifications were due to their lower pay level, so they do not account for any observed differences. Moreover, it is particularly difficult to establish where regulation, as opposed to market developments, has had a positive impact. Some studies have found that parental leave prevents women from dropping down the pay ladder when they have children (Waldfogel 1998). Blau and Kahn concluded that women's relative earnings position is dependent on the shape of the overall earnings distribution. Where earnings are relatively compressed, women's earnings are higher as a proportion of men's than they are in countries where the overall distribution of earnings is more uneven. In other words, women benefit from the elimination of very low wages.

There are legal as well as economic debates about both the legitimacy the appropriateness and the effectiveness of legislative policies designed to promote affirmative action. The Kalanke Judgement of 17 October 1995 delivered by the Court of Justice of the European Communities¹² is a significant example of developments in this debate, along with the reactions and criticism levelled at the interpretation and application of Community Law (Art. 2.4 of Directive 76/207/EEC) in the ruling. The Kalanke interpretation was subsequently partially revised by the Marshall Judgement of 11 November 1997,¹³ according to which the establishment of preferential promotion for women if equally qualified, is compatible with Directive 76/207/EEC, providing such preference is neither absolute nor unconditional.

If there were no discrimination in recruitment we would expect to observe relatively equal unemployment rates for men and for women. We should not expect to observe complete equality given women's greater propensity to leave their jobs, and therefore be at risk of a transitional spell of unemployment. We should, however, expect men's and women's rates to be of the same broad order of magnitude. However, as Chart 1 shows, this is not always the case. In Austria, Ireland, Germany, Sweden and the UK the male and female unemployment rates are within a percentage point of each other. In Greece and Spain the female rates are more than twice as high as the male rates. In the other countries female rates are markedly higher than male rates. This suggests either that there is discrimination in recruitment, in which case the legislation is ineffective, or that the effectiveness of the legislation on equal opportunities is being affected by other conflicting legislation, for example on part-time work or job security.

¹² Case 450/93

¹³ Case 409/95

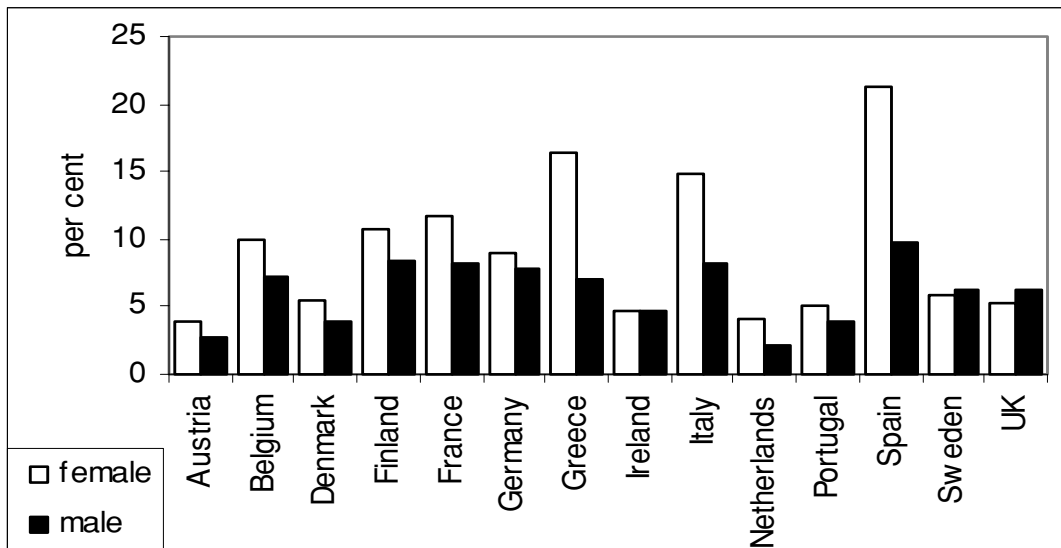


Chart 1. Unemployment rates by Gender

Source: Eurostat Press Release, May 2000. Figures are for latest month in all cases, generally May 2000, but sometimes relating to earlier periods. In all cases female and male figures relate to the same date.

Protection against dismissal

The most important power an employer has is the ability to hire and fire workers. The last thirty years have seen restrictions imposed on this ability in all European countries. However, the restrictions in the UK remain less onerous than in many other countries (OECD 1999).

The economic impact of restrictions on dismissal remains complex. The restrictions can take the form of outright prohibition, of administrative procedures that must be complied with before dismissal can take place, or of rules relating to the circumstances in which workers can be dismissed or on the order in which workers should be selected for dismissal.

For the worker the main advantages of such protection are that they have security of income for the foreseeable future. This in turn means that they are able to enter long-term financial commitments, such as house purchase. It may also improve psychological well-being by a greater sense of belonging. For the firm job security can promote a greater degree of commitment from workers and thereby enhance productivity (Akerlof and Yellen 1986). It also makes it more likely that an investment in training will generate a positive return and that employees can have the skills and the willingness to perform a wider variety of tasks (Gallie et al 1998).

Employment protection also addresses some potential sources of market failure. For example, for the economy and society as a whole it is preferable to have workers producing something rather than nothing. However, this may not be true for the individual firm. By protecting employees against dismissal, the economic trade-off for the company is brought closer to the economic trade-off for the community as a whole (Lindbeck and Snower 1988). It also enables workers with weak bargaining positions

to be protected against stronger employers who would otherwise exercise monopsony power (Boal and Ransom 1997; Gregg and Manning 1997).

However, employment protection may not be wholly beneficial for workers or for the wider community. On the one hand a less restrictive regime means that there is less of an incentive for employers to seek out alternative solutions in the event of downturn in demand. However, it also means that the risks involved in recruitment are relatively small. Where dismissal is difficult, the potential cost to an employer of a new employee who is not effective in the job is very large. Therefore, freedom to dismiss with a valid cause is likely to increase recruitment (see Blank and Freeman, 1994) and this effect may be greater for groups within the population, for example women, who are perceived by employers as carrying greater risks.

Thus, employment protection may improve the position of established workers (particularly full-time men) but it may result in deterioration in the opportunities available to those who are not already established in permanent work, notably women and young people. Moreover, it is also likely to reduce the prospects of changing jobs for those already employed, because fewer open vacancies become available.

By imposing costs on employers (either in terms of compensation payments, or in terms of continuing to employ people even though their output may not be enough to cover their wages) employment protection increases labour costs, and may therefore result in a lower overall level of employment. This will tend to reinforce the potential impact on long-term unemployment and social exclusion.

There have been a number of studies of the impact of protection against dismissal on labour market outcomes. A review of the most recent can be found in the 1999 OECD *Employment Outlook* (OECD 1999). However, none of these focus on the impact on women.

Table 1 Indicators of the difficulty of dismissal

	Regular procedural inconveniences		Notice and severance pay for no fault individual dismissals		Difficulty of dismissal		Overall protection against dismissal	
	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s
Austria	2.5	2.5	2.0	2.0	3.3	3.3	2.6	2.6
Belgium	0.5	0.5	2.3	2.3	1.8	1.8	1.5	2.5
Denmark	0.5	0.5	2.0	1.9	2.3	2.3	1.6	1.6
Finland	4.8	2.8	1.9	1.4	1.5	2.3	2.7	2.1
France	2.5	2.8	1.5	1.5	2.8	2.8	2.3	2.3
Germany	3.5	3.5	1.0	1.3	3.5	3.5	2.7	2.8
Greece	2.0	2.0	2.4	2.2	3.3	3.0	3.5	2.4
Ireland	2.0	2.0	0.8	0.8	2.0	2.0	1.6	1.6
Italy	1.5	1.5	2.9	2.9	4.0	4.0	2.8	2.8
Netherlands	5.5	5.0	1.0	1.0	2.8	3.3	3.1	3.1
Portugal	4.0	3.5	5.0	5.0	5.5	4.5	4.8	4.3
Spain	4.8	2.0	3.1	2.6	3.8	3.3	3.9	2.6
Sweden	3.0	3.0	1.7	1.6	3.8	3.8	2.8	2.8
UK	1.0	1.0	1.1	1.1	0.3	0.3	0.8	0.8

Note: The summary scores can range from 0 to 6, with higher values representing stricter regulation. Source: OECD (1999)

Table 1, which is drawn from OECD (1999), provides a summary index number of the difficulty of dismissal, based on notice period, administrative procedures and compensation payments. The scale goes from 0 to 6, with higher values indicating greater difficulty in dismissing an employee. In Chart 2 these values are plotted against the ratio of the female/male unemployment rates in each country. The purpose is to consider whether there appears to be any disproportionate adverse effect of dismissal regulations on women. It should be stressed that this chart is not attempting to provide conclusive evidence. However, it does suggest that there is a need for further examination of the gender dimension of this issue. The observations tend to lie around a line that rises from the lower left to the upper right segments of the graph. The UK in the bottom left hand corner has both low levels of regulation against dismissal, and a low female to male unemployment rate (the female rate is actually lower than the male rate). The Netherlands, Spain, Italy and Greece all have relatively high levels of protection against dismissal, and relatively high female/male unemployment rate ratios. Portugal is unusual in that it has a very high level of protection combined with a relatively low female to male unemployment rate. The other countries tend to cluster in the middle on both indicators.

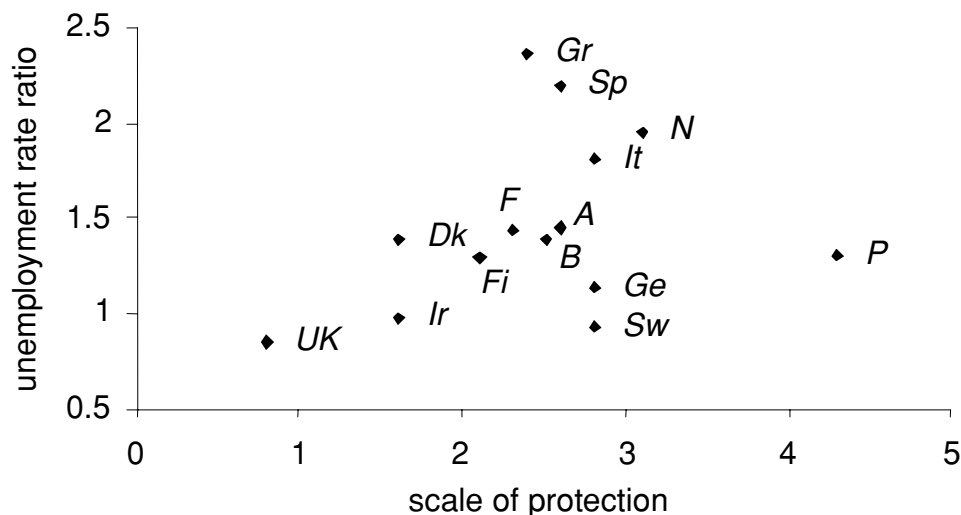


Chart 2 Scale of Protection against Dismissal and Female/male Unemployment Ratio
Sources: Protection scale: OECD (1999); Unemployment rates: Eurostat May 2000

It may be that the apparent correlations are explained by other factors. However, there is a clear need for further investigation.

Regulation of part-time work

The extent to which part-time work is regarded as second class and therefore a source of some concern varies between EU member states, as does the importance of part-time work in overall employment. The legal position is that discrimination against

part-time workers is prohibited in terms of pay, many non-pay benefits, working conditions and selection for dismissal (Directive 97/81/EC of 15 December 1997).

The hourly pay rates are often lower than those for full-timers and part-time jobs rarely embrace the entire occupational spectrum. Rather, part-time work is concentrated in lower skilled jobs in the service sector, especially those in hotels, catering, cleaning and cares work. The regulation of part-time work in different countries has reflected this status, but has taken different forms. In Scandinavia and the Netherlands there has been positive encouragement of the development of part-time work across the whole of the occupational spectrum. Part of the purpose of this policy was to ensure that part-time work was regarded as a matter for free choice rather than something accepted under duress.

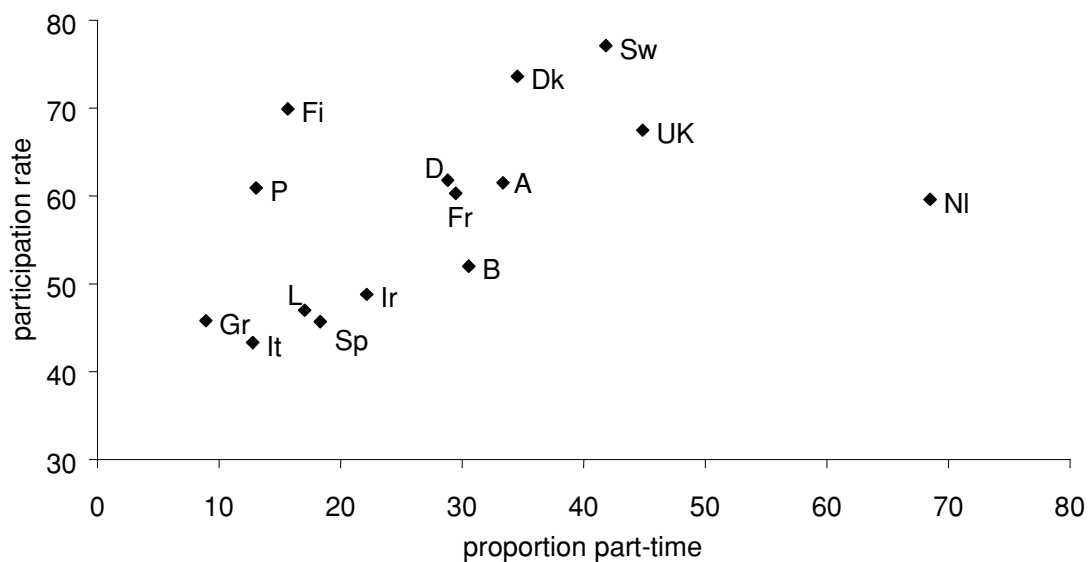


Chart 3 The Relationship between Female Participation Rates and the Proportion of Women working Part-time, 1996. Source: Eurostat

Generally speaking, a higher female labour force participation rate is associated with a higher proportion of women working part-time. With the exception of the Netherlands, which has a relatively low participation rate in relation to its part-time employment rate, the relationship runs on a diagonal from Greece and Italy in the bottom left hand corner to Denmark, Sweden and the UK in the upper right. The chart suggests that regulatory regimes that both encourage part-time work and ensure that part-timers receive equal treatment with full-timers can have a positive effect on female employment levels. The UK is something of an exception here. The regulatory regime has been permissive, but until the 1997 EU Directive did not require employers to offer equal terms to part-time workers.

In southern Europe, on the other hand, particularly in Italy, there were until recently very strong restrictions on employers' ability to recruit employees on

anything other than full-time contracts, the argument being that this protected workers from inferior employment packages. In other countries the approach to part-time work has generally been broadly permissive. The extent to which part-time work has developed as an option, however, has been related in part to other areas of intervention, including the incentives offered by the tax system to employees and by the social insurance system to both employers and employees. For example in France the level of minimum flat rate charges in the social insurance system has meant that part-time work is a relatively expensive option, whereas in the UK the minimum weekly earnings threshold in the social insurance system has led to an expansion of part-time jobs paying below the threshold.

Regulation of the employment contract: Armour or straitjacket?

Although the employment relationship is legally prescribed, it is governed to a large extent by social and cultural norms of what is regarded as reasonable or desirable (see Solow 1990). And like all social norms these are subject to change over time. Part of these norms come from the desire on the part of employers to have employees with stable and supportive home environments, and also from the desire of firms to have stable markets for their goods and services. Moreover, these social norms also make sense in economic terms. Given that it is impossible for employers to monitor what employees are doing throughout their working day, it is important that there is an element of mutual trust in the employment relationship, and this is more likely to develop in the course of a long-term association. In addition, if both employers and employees are to invest in the development of skills, they need to feel that they are likely to be able to benefit from that investment by remaining with the firm and practising them (see Blank, 1994, Solow 1990 and Alogoskoufis et al 1995).

Given the reliance of the employment relationship on social norms, however, means that there may be changes in the social or psychological contract underlying the employment relationship that may not be reflected in any changes in the legal or contractual relationship. This implicit contract has been defined as: “A set of unwritten reciprocal expectations between an individual employee and the organisation” or as “The perceptions of both parties to the employment relationship, organisation and individual, or the obligations implied in the relationship” (Guest and Conway 1998).

Many of the newer, more flexible kinds of employment are more common among women than among men. They offer real opportunities, as well as some disadvantages. As the discussion on part-time work above showed, in many cases women would prefer to have atypical jobs. This includes part-time work, temporary contracts, agency work, telework and working from home. The approach to regulation of these new types of employment must recognise the gender dimension. It is the specific regulations that affect these kinds of work that influence the rights available to women, rather than the generality of labour law, which still remains predicated on full-time permanent work.

Employer and employee demands for flexibility offer both opportunities and threats. Employees face growing requirements in terms of initiative, independence,

skills and adaptability. Work increasingly takes place outside what was previously regarded as the standard working day. The stable standard of working time is also growing weaker, under the influence of the development of the service sector, the introduction of new technologies, increased competition, changes in worker behaviour and new consumer demands. The flexibilisation of working time serves business needs, but also appeals to some workers who are looking for greater individual choice. Traditional, standard working time was well adapted to men, but excluded women from the labour market or placed them at a disadvantage. Working time was established around a wholly male reference point. The prohibition of night work for women is a clear illustration of this male approach to working time.

The demands for flexible adaptation of working time can enhance women's working potential by allowing them greater leeway with respect to their individual preferences and their ability to control their own working conditions, but may at the same time clash with family responsibilities. Women's employment and promotion potential will continue to be adversely affected by such situations while the traditional social model of the division of work – under which they are expected to assume the main responsibility for the family – persists. The growing demands in terms of adaptation and flexibilisation of working time may lead to discriminatory results, since it puts people with children or those who have other relatives in their care at a disadvantage. This is a particularly serious problem for women, who, in most cases, are the ones that care for children and other relatives, although as indicated above, a growing number of men are also affected by such demands. But all the evidence suggests that men still do not share fully in domestic responsibilities, so that the challenge of producing compatibility between family life and working life tends to fall on women. Yet labour market regulation that relates to workers' family responsibilities may lead to discrimination against parents generally. It is these issues that the Employment Guidelines arising out of the Luxembourg process are seeking to address.

Women and trade unions

Some of the concerns about the potential trade-offs between opportunity and protection would be lessened if there were greater confidence in the ability of the trade union movement to represent women and their interests. The origin and development of trade unions and employers' organisations associated with the Fordist (industrial and masculine) production model seems to hinder addressing and accepting the profound changes in production, women's growing participation in the labour market, and taking into account the gender dimension of their actions. Some unions still believe that women should not be working while men are unemployed. Others fail to adopt issues of concern to women workers as part of their agenda for action. Similarly, an imbalance occurs between the proportion of women in the working world and female presence in collective bargaining and decision-making bodies in such representative organisations.

Moreover, the very history of trade unions, their organisation and culture may limit more active membership on the part of women. Where due account is not taken of the

persistence of the old model for the social division of labour and no serious effort is made to change the distribution of family responsibilities in terms of gender, union representation activities will themselves constitute an extra burden for women, to be added to the time devoted to work and other occupations, making it extremely difficult if not impossible for them to participate in such activities.

In European countries, women's membership of trade unions is, generally speaking, proportional to their presence in the active population, although it is particularly high in countries such as Finland and Denmark and low in France, Greece and the Netherlands. However, even in countries where women's union membership is high, they are severely under-represented in executive bodies (Kravaritou 1997).

Questions for further research

The evidence on part-time work suggests that the regulatory regime has both facilitated women's choices and has ensured that the quality of part-time work is underpinned. There is clearly still some room for improvement, most notably on pay, but it would appear that supportive regulation has probably protected women from monopsonistic employers. Regulations that restrict part-time work, on the other hand, seem to have presented many women with a choice between full-time work and no work, and they have been obliged to choose the latter.

Equal opportunities legislation has not led to an elimination of discrimination against women in pay, job opportunities or in promotion. The question for further research is whether it has achieved anything of substance that would not have been achieved by the effects of economic growth and growing demand for labour.

Employment protection legislation has been examined for its overall effect on the labour market, but not for its effect specifically on women. There are grounds for considering whether it has resulted in protection for men at the expense of women, particularly in the light of the relationship between the level of protection and women's relative unemployment rate.

Finally, the issue of whether alternatives to regulation are a more effective way of improving women's power in the labour market, and whether or not they might lead to better outcomes has not been investigated at all.

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Gendered health consequences of unemployment among young people

Professor Anne Hammarström

Department of Family Medicine, University of Umeå, S-901 85 Umeå, Sweden. Email-address anne.hammarstrom@fammed.umu.se.

Introduction

Most research about the health consequences of unemployment has been performed on men, especially on white, middle-aged men in blue-collar occupations (Leane & Feldman 1991). Thus, theories and research on unemployment have often not taken women's perspectives into account. The leading unemployment researchers in the 1970s and in the 1980s, including some of the few female researchers within the field, have claimed that unemployment is not as destructive for women as for men (Jahoda 1982; Ovesen 1978). The supposed explanation is that women can compensate for the negative effects of unemployment by returning to their positions as housewives. It has thus been the belief that housework can satisfactorily provide compensation for paid work. Similar opinions are heard even today as men - even in countries with a high female employment rate - are still regarded as the main breadwinner of the family. For example, a Swedish qualitative study of the gendered rehabilitation process among working-class young men and women with work-related disorders showed that paid work was assumed to be less important for women than for men (Ahlgren & Hammarström 2000)

However, studies focusing on women show that their health is greatly affected by unemployment (Davies, Esseveld 1988). Furthermore, these effects are as serious for women as for men (Iversen et al. 1987; Hammarström 1994b; Hammarström & Janlert 1997) given that the same criteria are used to define unemployment (Leeflang et al. 1992). This suggests that unemployment is as serious a problem for women as for men.

Thus, because of the lack of research within the field, there is an obvious need to raise new research questions and open up for new perspectives based on women's experiences, as a gender perspective is rare in unemployment public health research.

In this paper, I will discuss health consequences of unemployment among young men and women from a gender perspective. In the end I will discuss possible explanations for the gender differences based on gender theories. However, first of all I will give a short theoretical background to gender research.

The terms sex and gender are often used as synonyms in medicine, but in gender research the two concepts have fundamentally different meanings. While "sex" refers to the biological differences between men and women (such as chromosomes, internal and external sex organs, hormonal makeup, secondary sex characteristics, etc.), the

term “gender” was employed to separate the biological sex from the social, cultural and historical construction of femininity and masculinity (Hammarström et al 2001). Gender was introduced in order to visualise that differences between men and women are not constant or unimpressionable. Gender relationships are also influenced by other circumstances, such as age, social class and ethnicity (Hammarström et al 2001).

Gender is not only an individual phenomenon but permeates the whole society. According to Robert Connell (1987) the relationships between men and women can be seen as a part of a larger pattern of gender relationships in all sectors in society, the so-called gender order, in which the male domination is created and maintained. The gender order means the structurally organised relationships between men and women in society, in relation to the distribution of work, resources as well as power.

The gender order permeates the labour market in different ways. Occupations become gendered as they are characterised by qualities, attributes and behaviours assigned to men or women. The horizontal segregation of the labour market means a gender division of occupations so that men mainly work in male-dominated sectors while women work in female-dominated sectors (Lagerlöf 1993). The gender division of power is expressed in the vertical segregation of the labour market, where men are over-represented on the highest levels with regard to status, power and income, while women dominate the lowest levels with low-status jobs, lack of power and few financial resources (Lagerlöf 1993).

Health effects on different levels

The effects of unemployment can be analysed on different levels in society; the societal, the family and the individual level. Almost all unemployment research has focused on the individual level, although the effects on the societal as well as on the family level indicate important gendered consequences (Hammarström 1994).

The health effects of unemployment on the societal level

The effects of unemployment on the societal level have been studied in longitudinal, aggregate level research where unemployment over time is used instead of individual experiences of unemployment (Brenner 1980). A disadvantage with these kinds of studies is that no conclusions about possible causal relationships can be made. Besides, aggregate studies lack robustness, which means that when the studies are repeated with the same variables on the same population but during a different time period, the results will not be the same.

The advantage of aggregate studies, on the other hand, is that they can reveal societal effects, hidden in individual approaches. One example is violence against women, which would hardly be recognised with traditional individual methods (Hammarström 1994). Brenner (1980) has showed that a one-percent increase of the youth unemployment rate in the US will lead to a 12 to 13-percent increase of so-called violent rapes and prostitution among 20 to 24-year-olds.

A more recent study by Gillham et al (1998) on child abuse supports these findings about the correlation between unemployment in society and sexualised violence. By using archival data (regarding 1450 registered cases of child abuse and neglect as well as unemployment rates in Glasgow from 1991 through 1993) the authors found substantial correlations between particular physical child abuse and rates of male unemployment in the living area. As the study was made on an aggregate level, no conclusions about who are abusing the children can be drawn.

Another example of research on the societal level is to analyse the effects of unemployment in society on those who are employed. In a study comparing the health of a cohort of young people in boom and in recession it was found that while the health of the unemployed did not change between boom and recession, the health of young people studying or occupied in work and labour market measures deteriorated during recession compared to boom (Novo et al. 2001). The trade cycle was correlated with ill health among women only. One explanation for these gender differences could be that during recession, male-dominated sectors could be more easily rationalised than the female-dominated branches, in which the work load will be the same irrespective of the reduction of staff and therefore the stress-related ill health among the remaining staff will increase.

The study suggested that the effects of unemployment in society on young people's health may be mediated through pessimism about the future, high demands, financial problems and among women also lack of control over the work situation.

The health effects of unemployment on the family level

The effect of unemployment on the family level is perhaps the most neglected area of research. The kind of questions that could be asked are: What are the effects of unemployment on personal relationships? How are the parents, wives/husbands and children of the unemployed affected?

Some empirical studies have been performed in order to analyse whether unemployment among men lead to increased wife battering and child abuse as well as increased consumption of prostitution and pornography. The major conclusions from these studies are summarised here.

In a study of confirmed reports of child abuse in a large American city (n=30,901) during a seven-year period, Rosenthal concludes that unemployment of the father is a predictor of severity of child abuse (1988). Another study of child abuse referred to one paediatrician during two six years' periods (n=209) concluded that loss of a job in otherwise stable families would not lead to an increase in child abuse (Taitz et al. 1987). However, the design of the study makes it difficult to draw any conclusions.

In a two-year prospective study of the mental health effects of husbands' lay-offs on their wives (149 women with young children), Penkower et al. (1988) showed that there were no short-time effects of the husbands' unemployment. However, the wives of those men who became unemployed had higher levels of distress at the end of the study, compared to the wives of men continually employed. Besides, three risk factors (financial difficulties, low social support and family history of psychiatric disorder) significantly increased the risk for psychiatric distress among wives of laid-off

workers. A consequence of this stress might be an increased rate of ischemic heart disease among wives of unemployed men.

The OPCS longitudinal study has been used to study the mortality patterns of men and women directly and also indirectly affected by unemployment. An analysis of the mortality in ischemic heart disease revealed excess mortality among wives of unemployed men aged 15-64 (Moser et al. 1986).

These studies indicate the need for more gender research to be directed towards the health consequences of unemployment on a family level, with special focus on males' violence against their wives and children.

The health effects of unemployment on the individual level

The topic of this chapter will be a review of the health effects of unemployment on the individual level from a gender perspective. In particular the situation of young people will be discussed. As young people generally are healthy and clinical end-points therefore unusual, most research so far has dealt with self-rated symptoms and disorders rather than diagnosis. The health effects will be described in relation to somatic and psychological ill health, mortality, health behaviour as well as the social consequences of unemployment. The mechanisms behind the relationships described will not be discussed because so far, no gendered analyses have been made. For the same reason, the question of selection or exposure will be left out of the presentation. However, the reader should be aware of the fact that when I write about the effects of unemployment on health, the reverse is also evident that unfavourable health and health behaviour increase the risk for unemployment. Several studies have shown that although the association between unemployment and ill health/ health behaviour is a question of both selection and exposure, the exposure effects remain after control for selection (Winefield 1995, Claussen 1999, Hammarström & Janlert 1997).

As most studies regarding youth unemployment, health and gender found in the Medline database have myself as an author, my own research will be described to quite a large extent. The study being presented below, which here is referred to as the Luleå study, is a short description of one of my research projects.

A prospective study was started in 1981, including all 1,083 pupils (506 girls and 577 boys) in the last year of compulsory school at the age of 16. The study was carried out in the municipality of Luleå, an industrial town situated in the northern part of Sweden, with comparatively high unemployment for many years compared to the national average. The youth unemployment rate in Luleå was 8 per cent during the first three years of the study and thereafter it fell to 5.5 per cent (with minimal gender differences).

The cohort was followed up two and five years after leaving compulsory school with a comprehensive self-administered questionnaire as well as with measurements of blood pressure at the baseline study and the five-year follow-up study. Besides, interviews were made with teachers and school nurses at the baseline study. The data about the length of unemployment were measured with a specially constructed battery of questions and if necessary supplemented in an interview or with register data from the county labour board.

The study also contained a qualitative part in which thematically structured, taped interviews were carried out at the last follow-up study with those who had been long-term unemployed during the five-year period. The themes of the interviews were mostly directed towards health and health behaviour, as well as mediating factors. Thus, 72 young women and 97 young men were interviewed during between 10 minutes and one and a half hour, depending mainly on the length of the unemployment and what the interviewees wanted to tell. No one refused to participate. The interviews were transcribed, after which they were coded according to Grounded Theory.

Extensive work was carried out in order to reduce the non-respondent rate to a minimum. The total non-participation rate in the study (including the original non-participation in 1981, as well as those who died during the five-year period) was two per cent.

The study has been described more in detail elsewhere (Novo, Hammarström, Janlert 1999, Hammarström & Janlert 1997, 2000).

Psychological ill health

The psychological consequences are probably one of the most well-studied health effects of unemployment (Winefield 1995, Warr 1987, Morrell et al 1998). It has been shown that there is a consistent relationship between unemployment and minor psychological disorders in studies of young people and adults, from different parts of the world, with different ethnic backgrounds as well as of both sexes (Hammarström & Janlert 1997, Kieselbach, 1988, Warr, 1987). In for example the Luleå study, a dose response correlation was found between the length of unemployment and the odds ratios for an increase in nervous complaints and depressive symptoms (Hammarström & Janlert 1997). The longer the experience of unemployment, the higher the odds ratio for increases in symptoms. The dose response correlation pattern was similar for the young men and women.

In general, girls and young women are over-represented in relation to psychological and somatic ill health (Hammarström 1996). Unemployment seems to decrease the gender gap in relation to psychological symptoms, which are even slightly higher among unemployed young men compared to unemployed young women (Hammarström 1996).

In a one-year prospective multicenter survey in France unemployment and psychological distress one year after childbirth was studied (Saurel-Cubizolles et al 2000). The authors conclude that even after a birth, when women are very much involved in their maternal role, those seeking a job have worse mental health than those in a stable situation, either employed or housewives. In France, the unemployment rate among young women is high. The authors conclude that it is especially important that social regulations protecting employment during and after pregnancy are adequately applied.

Somatic ill health

Fewer studies have included somatic health in their analyses. The Luleå study showed a relationship between unemployment and somatic symptoms, especially among girls (Hammarström 1994). Long-term unemployed young women had twice as many

somatic symptoms compared to young men in a similar situation. The study also included a qualitative part, with interviews, which confirmed the negative impact of youth unemployment on health. Many different somatic and psychosomatic symptoms were reported during periods of unemployment, and then disappeared during periods of employment. Unemployed young men described symptoms related to worse eating habits and alcohol consumption, such as ulcers and dyspepsia, as well as traffic accidents. Unemployed young women reported more diverse symptoms including urticaria, colds, back pain, headache and weight increase (Hammarström 1996).

Few studies have investigated signs of ill health. In the Luleå study, blood pressure was examined, showing a small but significant increase in systolic blood pressure among unemployed compared to not unemployed young men (Hammarström 1994)

Mortality

Unemployment has been proved to be associated with increased mortality. The overall picture is that unemployed women have the same excess mortality as unemployed men in all ages, even after control for age, education, occupational class, and marital status (Martikainen et al 1996, Iversen et al 1987). A Danish ten-year follow-up study of a large population demonstrated that the mortality increased among unemployed compared to not unemployed men and women by 40 to 50 per cent, with the highest excessive risk in young ages (Iversen et al 1987). No gender differences were found and the increased mortality was a result of a general increase in all diagnoses, with a certain predominance for suicide and accidents. The excessive risk remained even after control for occupation, civil status, and geographical area of living and standard of living.

Health behaviour

From a public health perspective, health behaviour is especially important to analyse, as it tends to become established early in life and as it has a great impact on people's health.

Alcohol

The question whether or not unemployment among young people affects alcohol consumption has probably been more debated than any other unemployment effect. Some researchers have found a relationship between unemployment and increased alcohol consumption among young men (Power & Estaugh 1990) as well as among both young men and women (Janlert & Hammarström 1992, Novo et al 2000), while others do not find such an association (Hammer 1991, Hammarström 2001). Remarkable gender differences were found in the Luleå study in relation to alcohol consumption among young unemployed people (Janlert & Hammarström 1992). While the long-term unemployed young men sevenfolded their consumption during the five-year follow-up period, young women in a similar situation decreased their consumption.

In Figure 1 and 2, the increase in alcohol consumption during a five-year period was analysed in relation to both different lengths of unemployment and different consumption patterns at the base line study. Two groups were defined; those who

already had a high respectively a low alcohol consumption at the baseline study (last year of compulsory school).

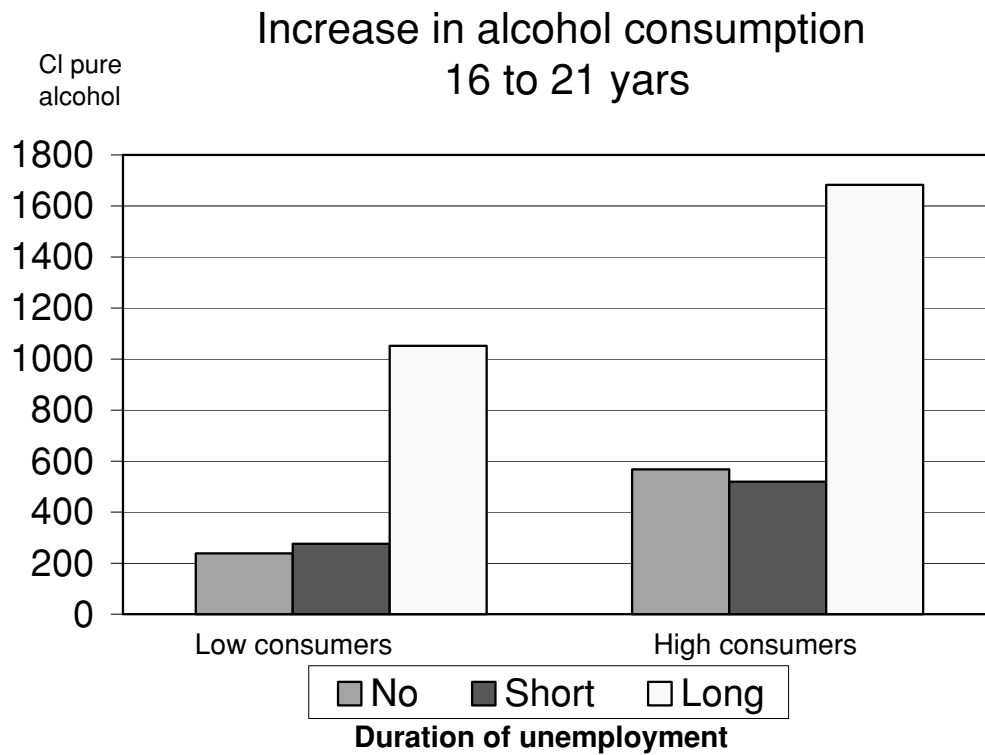


Figure 1 Mean alcohol consumption difference (centilitre pure alcohol per year) among young men between 16 and 21 years of age for low and high consumers at age 16, in relation to different lengths of unemployment during the five-year period. (Earlier presented in Janlert U, Hammarström A. Alcohol consumption among unemployed youths. *Br J Addict* 1992;87:703-714)

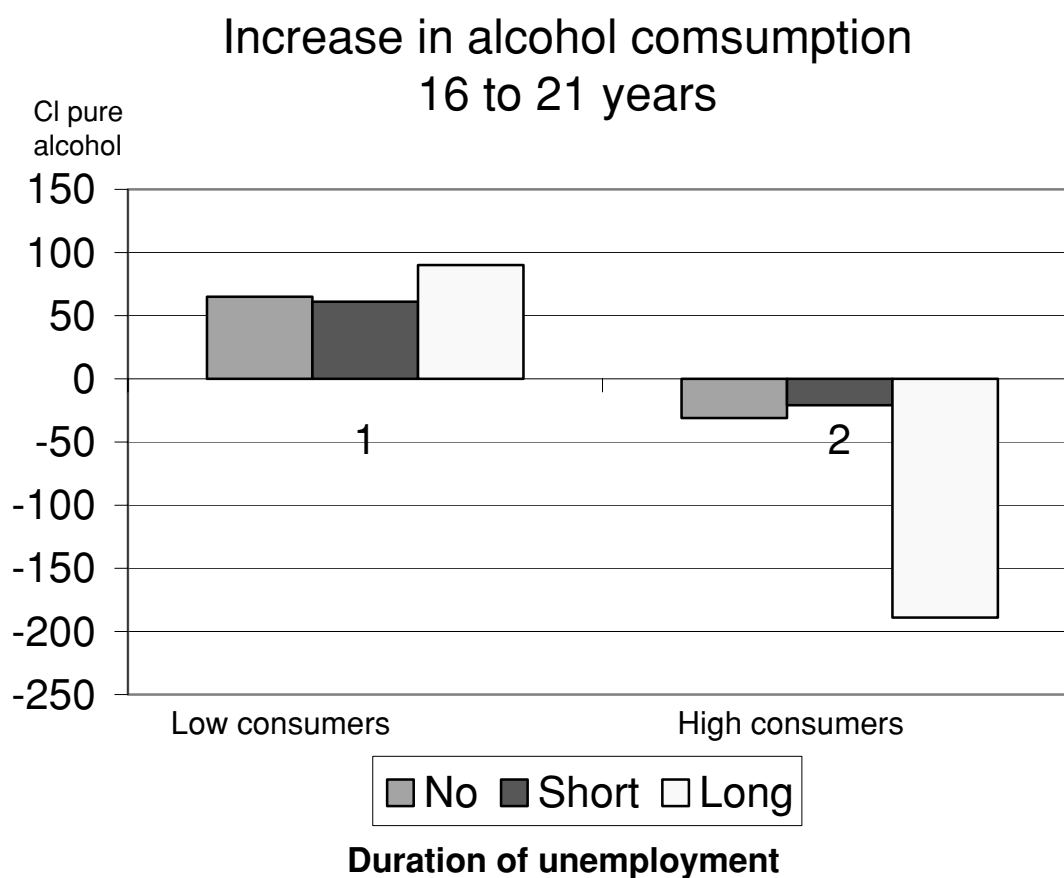


Figure 2 Mean alcohol consumption difference (centilitre pure alcohol per year) among young women between 16 and 21 years of age for low and high consumers at age 16, in relation to different lengths of unemployment during the five-year period. (Earlier presented in Janlert U, Hammarström A. Alcohol consumption among unemployed youths. *Br J Addict* 1992;87:703-714)

The long-term unemployed (defined as unemployment more than 20 weeks) young men increased their alcohol consumption significantly, independent on whether they were low or high consumers in the baseline study. Among women a different pattern was found. Those who were low consumers at school and later became unemployed did not significantly increase their consumption during the five-year period. However, the high consumers in the study who later became long-term unemployed markedly decreased their alcohol consumption during the five-year period. The decrease could to a large extent be explained by motherhood: around 20 per cent of the long-term unemployed young women had children compared to 12 per cent of the long-term unemployed young men. Fatherhood, on the other hand, did not seem to have any effect on the alcohol consumption.

When controlling for motherhood and alcohol consumption at the baseline study, the correlation between unemployment and alcohol consumption turned positive also among women. The conclusion from the study was that unemployment might be a risk indicator for increasing alcohol consumption among young people, especially in

young men. Motherhood seemed to protect the unemployed women from alcohol consumption.

Tobacco and narcotics

Among young men and women a correlation between smoking and unemployment has been found in some studies (Morris et al 1992, Montgomery et al 1998, Hammarström & Janlert 1994), while other studies did not find such a relationship (Winefield et al 1987). In the Luleå study 75 per cent of the long-term unemployed women were smokers at the age of 21, compared to 50 per cent among 21 years old long-term unemployed men (Hammarström & Janlert 1994). After adjustment for confounders (socio-economic background, education, smoking habits at the beginning of the study, financial problems, etc) the odds ratio for increased smoking among the 21 years old women who had been long-term unemployed during the five-year period was twice as high, compared to those young women without experiences of long-term unemployment. The corresponding risk for young men was non-significant.

The use of cannabis and other illicit drugs has been investigated in some studies, showing that unemployment is associated with the same level of increased use of narcotics among young boys and girls (Hammer 1992, Hammarström 1994). In the Luleå study 20 per cent of the young men and women, who were long-term unemployed between 16 and 21 years of age, increased their use of cannabis (Hammarström 1996). Thus, unemployment seems to be a risk factor for drug use among young people.

Other health behaviour

Significant gender differences have been found in relation to unemployment and sexual risk-taking (Hammarström & Janlert 1997). In the Luleå study a significant dose response correlation between the length of unemployment and the increase in sexual risk-taking (defined as unprotected sexual intercourse without the wishing to conceive) was found. The longer the experience of unemployment the higher the increase in sexual risk-taking among young men. Among young women, no such correlation was found. A conclusion from the study was that unemployment implies increased sexual risk-taking among young men.

Marginalisation

Even though youth unemployment tends to be of short duration, it is characterised by having several short periods of unemployment with temporary jobs or training programs in between. Thus, their labour situation can be characterised as a process of marginalisation, in which they stay in different temporary jobs rather than finding a more stable job on the labour market.

In a Nordic comparative study of youth unemployment it was found that young women in general had better chances of getting employed after a period of unemployment (Julkunen, Carle 1998). The exception was Denmark, where women were less likely to find a job.

The Luleå study found that out of those who early became unemployed, 49 per cent of girls and 71 per cent of boys, still could be classified as unemployed (or as having recent experiences of unemployment) five years after leaving compulsory school

(Novo et al 1999). The relative risk of future unemployment was significantly higher among early unemployed men and women (RR 2,39 compared to 1,76) compared to those who had been employed or in labour market training. A conclusion from the study was that early unemployed young men had a worse prognosis on the labour market compared to early unemployed young women, a remarkable finding in view of the fact that the young men were more integrated into the labour market. The women seemed to have more strategies for ending their period of unemployment, for example by migrating, pursuing further education or taking just any available job. Their higher rate of activity may be related to how femininity is constructed among these long-term unemployed working-class young women and will be further discussed under the next heading.

Another gendered finding is that young women in employment or in labour market training had the same risk for future unemployment as young women in early unemployment. The prognosis for young men in labour market training and employment was much better. One possible explanation for the poorer long-term prognosis for young women in labour market training and employment can be related to the gender segregated labour market, in which it is harder for young women to find a stable job. Compared with young men, young women more often stay in "permanent impermanence", a situation which is characterised by shifting between different labour market policies, unemployment and odd jobs (Gonäs & Westin 1992).

Theoretical reflections in relation to two case studies

The literature I have presented shows that the health consequences of unemployment differ in some respect between young men and women. Overall, women seem to be more affected by somatic ill health while there are no major gender differences in relation to the psychological ill health or mortality. In young ages, there are dramatic differences between men and women in relation to alcohol consumption and sexual risk-taking – behaviours that are much more common among young men. Smoking, on the other hand, is more common among unemployed women than among unemployed men. In spite of the gender segregated labour market, which favours men, the young unemployed men seem to have a poorer prognosis compared to young unemployed women.

Qualitative research can demonstrate how the poorer health behaviour as well as the poorer prognosis of young unemployed men may be explained by the way gender is constructed among long-term unemployed young men and women. The importance of gender constructions will be demonstrated with interviews with four 21-year-olds, long-term unemployed young people (two men and two women) with working-class background, living in an industrial town in the north of Sweden (Hammarström 1996).

Fred's mother arranged a job for Fred immediately after the last year of compulsory school. He worked there for five years, until recently when he gave notice because of problems with the employer. Moreover, he got badly injured in an accident at work.

At the time of the interview he had been unemployed for eight months. To the question how unemployment had affected him, he answered:

”I’ve become lethargic and I’ve stopped struggling. I live one day at a time and I don’t make plans for the future. But most of all I want to work. Unemployment has not made me sick but I drink more.”

Like Fred, John had been unemployed for about eight months and lived with his parents. He told us the following story about how unemployment had affected him.

”Most jobs have been boring, so unemployment is not so bad. I am always tired in the morning and do not have to get up. The worst thing about it is the economy, if the economy had been better I wouldn’t mind being unemployed for a while. But in the long run I want a job. Unemployment makes me restless and lazy; you sleep longer but are still tired all the time.”

”What do I do during the days? I spend all my time with the gang, repairing our cars, drinking in the pubs and speeding our cars. I never go to bed until late -- unemployment has made me turn night into day and I sleep until the evening.”

To the question what his parents said about his late nights and unemployment he answered:

”They should mind their own business. My parents keep nagging all the time that I should get myself a job – especially my father is nagging that I should start studying. But I lack motivation for studies. Perhaps I will find myself a job when the summer is over.”

Late one night when John was out racing with his friends he smashed up his car and got badly injured.

Masculinity research means that there is no such thing as an inborn male behaviour or any predestined male gender role (Connell 1995). John’s dangerous behaviour can instead be interpreted as a way for him to make himself a man, in a life situation as a young, marginalised working-class boy. His masculinity is shaped in relation to the labour market as a whole, where he is alternating between low-income jobs, labour market measures and unemployment. An outstanding feature of John’s and his male friends’ experience is violence in different forms, such as traffic accidents, fights, bullying and being arrested. The connection between the construction of this kind of masculinity and health is obvious. John and his friends are over-represented in relation to accidents with severe physical handicaps as a consequence. They are also over-represented - compared to young women in a similar situation - in alcohol consumption, risk-taking, accidents, sleeping problems and increased blood pressure.

Fred’s and John’s reactions to unemployment can be compared to Mary’s and Helen’s. Mary lived on her own and had been unemployed for three months. Her story about how unemployment affected her was as follows:

”My self-confidence slowly broke down. The first month of unemployment was not so bad. I actively looked for a job, almost anything available. I had lots of things to do, like cleaning up, decorating and being busy about my home as well as meeting my friends. However, it became more and more discouraging not getting any job. I got the feeling I was not worth anything. I felt totally worthless. I became more and more depressed and passive. Soon I didn’t dare to go out. I isolated myself at home, which lead to more and more smoking. I felt ugly and got the feeling that people were staring at me. I became irritated, impatient and I also quarrelled with everybody. I had colds and was constipated all the time. I started compensatory eating and put on weight. Thank heavens I had a really close girlfriend who had the strength to listen to me when I cried.”

To the question how she got out of the unemployment she answered:

”My mother kept nagging until I couldn’t stand it any more. Then I started studying and thus I broke the vicious circle.”

Helen had been unemployed for seven months. She lived together with her boyfriend and told us the following story about how unemployment affected her:

”It is hard when you do not have anything to waste your energy on. You don’t do anything sensible during the days. You try – I have tried to be together a lot with my parents and grandparents – something you never have time to do when you work all day. I have taken them out and down town. And so I have made my boyfriend set the alarm-clock for eight every morning so that I get up in the morning. Then I have to activate myself during the rest of the day. Otherwise I will change his life too – I cannot demand of him to keep me company until late in the night when he must be up working at six in the morning.”

Mary described lively how unemployment influenced her health; with a pattern from deteriorated self-confidence to worthlessness, feelings of depression, irritation to more somatic symptoms and weight increase. The isolation which unemployment brings with it also made her smoke more. In every culture there is a certain repertoire of valid expressions for femininity that most women learn to use in order to be perceived as, as well as to experience themselves as, ”real” women (Haavind 1992). An outstanding feature of Mary’s and Helen’s experience is relationships to others, mainly their boyfriends, relatives and girlfriends. As young unemployed women with working-class background their femininity is constructed around relational orientation and responsibility-taking within a context of female subordination, where relational orientation is characteristic for human beings in societal subordinate positions (Hammarström 1996). Compared with Fred and John, Mary and Helen were more sensitive to the needs of others and thus became more willing to break vicious circles. These relationships framed their actions; Mary got emotional support from her girlfriend. She was sensible to the needs of her mother; she listened to the advice from her and forced herself to start studying. Helen forced herself to go up in the morning, in order not to negatively influence her partner’s sleeping habits. There is a

connection between the construction of this kind of femininity and a positive health development, demonstrated in e.g. engaging in health promoting behaviours. However, there are also health hazards connected to Mary's and Helen's subordinate position in society. Their situation can be characterised as having financial problems and lack of control and influence on central parts of their life (in working life as well as in their partner relationships). These gendered life circumstances can explain their greater ill health, compared to young men in similar situations. Mary and Helen and other long-term unemployed young working-class women are - compared to young men in a similar situation - over-represented in relation to smoking and somatic ill health and to certain mental problems such as feeling inferior and tiredness.

An interesting and so far neglected finding is the closure of the gender gap in psychological ill health between young men and women. Fred and John may not have talked so much about their mental health, but in a questionnaire they and other long-term unemployed young men clearly demonstrated an increase of psychological ill health during a five-year period. A possible explanation could be that unemployment per se represents a loss of power and both women and low-status men (e.g. unemployed) are subordinated in society.

William Courtney has analysed the impact of constructions of masculinity on men's health (2000). He suggests that health-related behaviours, like other social practices which men and women engage in, are a means of demonstrating femininity and masculinity. Health behaviours are used in the daily interactions in the social construction of gender and power. Thus, he proposes that the social practices that undermine men's health are signifiers of masculinity which men use in the negotiation of power and status. Social position determines which unhealthy behaviour men use to demonstrate their masculinity. Marginalised men may attempt to compensate for their subordinated position by constructing alternative forms of masculinity that are frequently dangerous and dominated by for example alcohol, violence and risk-taking. However, I do not know of any research that analyses the impact of constructions of femininity on women's health.

From the cases of Fred, John, Mary and Helen a number of questions regarding the health impact of gender constructions can be formulated:

- How is masculinity and femininity constructed among working-class long-term unemployed young men and women?
- What is the gendered impact of violence respectively relationships? Why is the construction of femininity in our society consistent with poor health?
- How are men and women expected to express their feelings as well as to demonstrate their health behaviour?
- Which expressions and demonstrations are legitimate for men respectively women?
- How are the expressions of feelings and demonstrations of health behaviour influenced by the unequal distribution of power and work between men and women in our society?
- How do the gendered expression of feelings and demonstrations of health behaviour differ in relation to other hierarchical positions in society (in relation to for example working-class background and long-term unemployment)?

- Why is it consistent with a marginalised form of masculinity - but not with the dominating hegemonic form of masculinity - to express feelings such as depression, anxiety or anguish?
- Is it consistent with the dominating form of femininity to express feelings of anger and aggressions? Is it acceptable for women, for example as managers, to have power?

Conclusion: Why is a gender perspective of importance?

My review shows that the health consequences of unemployment differ in some respects between young men and women. Overall, women seem to be more affected by somatic ill health while there are no major gender differences in relation to psychological ill health or mortality. In young ages, there are dramatic differences between men and women in relation to alcohol consumption and sexual risk-taking – behaviours that are much more common among young men. Smoking, on the other hand, is more common among unemployed women than among unemployed men. In spite of the gender segregated labour market, which favours men, the young unemployed men seem to have a poorer prognosis compared to young unemployed women.

More research is needed within this field. In the future, the following issues need to be addressed:

- *Ask new research questions* in relation to gendered life circumstances as well as in relation to power relations between men and women in society. In gender research, hidden and unrecognised research areas are made visible and new questions are formulated
- *Make differences between men and women as well as within the group of women/men visible.* An important first step in gender research is to make separate analyses for men and women. Just as important is to analyse differences within the group of women/men. Otherwise, there is a risk for generalisation of the results to all women/men and thus for essentialism (the tendency to regard gender differences as constant, general and unimpressionable). The risk for essentialism diminishes, by having a social constructivistic perspective of the analyses.
- *Introduce power analyses.* Power is present everywhere, but so far it has to a great extent been neglected in public health research. Analyses of power is crucial in gender research in order to understand how gender and other power dynamics influence the social distribution of health and illness among the population. Furthermore, it is crucial to recognise that social research (including that in health) is part of the social fabric and not separated from the processes of power. Thus, a power perspective of public health can bring a more comprehensive and subtle understanding of the multiple and contradictory elements of gender and other relations of power that have an impact on the health status of populations.
- *Develop theoretical frameworks.* An important task for gender research is to develop theoretical frameworks. One way of building theories is to *interpret* empirical research results from theories, derived from gender research in other

- disciplines. This approach is mainly used in quantitative research, where the explanations for gendered results cannot be developed from the empirical data.
- *Develop* gender theories, which is mainly done in qualitative research for example in relation to construction of gender among long-term unemployed young people.

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Gender and working conditions in the European Union

Associate professor Kaisa Kauppinen

Finnish Institute of Occupational Health, Topeliuksenkatu 41aA, Helsinki, FIN 00250, Finland. Emailadress Kaisa.Kauppinen@occuphealth.fi.

Introduction

In 1991 and 1996, the European Foundation for the Improvement of Living and Working Conditions carried out statistical surveys on working conditions in all member states of the European Union. The Second European Survey was designed with gender specific issues in mind. The survey "Gender and Working Conditions" revealed significant differences between the working conditions of women and men (Kauppinen & Kandolin 1998). Men were more exposed to physical/chemical hazards than women. But women had less autonomy, and they did not have as much influence on their work situation as their male colleagues did. Women were also found to carry out short repetitive tasks more frequently than men, and they had more often part-time employment. The Third Survey, which was carried out in March 2000, produced more or less the same results (Merllie & Paoli 2001). All surveys aimed to provide an overview of the state of working conditions in the European Union.

Women's labour force participation in the EU

Women's participation in the workforce has been a growing trend throughout the European Union, an obvious change in the European labour market over the last ten to twenty years. There are many reasons for this increase, such as the recognition of women's high level of education, their wish for autonomy, and the necessity of a double income in the family. In 2000, women made up 42 per cent of the total EU workforce. In the Nordic countries (Denmark, Finland, and Sweden) as well as in Portugal, France and the UK, the participation rate was slightly higher than the average, while women's participation was still lower in Greece, Italy, Luxembourg and Spain. About 80 per cent of European gainfully employed women were employees, about 10 per cent were self-employed, and 4 per cent were in paid work in family firms (Merllie & Paoli 2001). Structural changes have occurred, like the shift from a rural to an urban economy, from the production of goods to services. There has been an increase in the rate of female activity in managerial and professional jobs and, in particular, in sales and service jobs. However, there has been a decrease in other job categories, as in industrial and clerical jobs. These changes will bring more competition to the labour market and raise the competence and skill requirements for both women and men.

Gender differences in working conditions

Even though new work patterns are emerging, gender segregation on the labour market has remained strong. The segregation is both vertical and horizontal, forcing women into service, health care and clerical jobs. There is also strong segregation within occupations, resulting in task differentiation between women and men. Men are more evenly distributed across all occupations, although craft and trade workers or plant and machine operators are mostly men. In the EU, the work has become more client-driven and oriented towards information technology. Particularly women's work is client-oriented; it is characterised by the elements of caring, nurturing and supportive roles, while men still monopolise the "heavy" manual, technical and managerial tasks. Precarious work is slightly more common among female than male workers in the EU. In Belgium, Denmark, Finland, Ireland and Sweden, considerably more women than men are found in these kinds of jobs. Fixed-term contracts are the most common in Spain. In the 2000 Survey, as was the case in the previous surveys, temporary workers report more difficult work situations than permanent employees do (Merllie & Paoli 2001). In general, women work fewer working hours per week than men do (about 80 % of men's time). One out of four European women work fewer than 30 hours a week compared to 5 per cent of men. In male-dominated occupations, most women tend to work full time, while part-time solutions are more frequent among women employees in sales and service jobs, transport, and health care. Women's working time is largely determined by their family situation: working women with children often find it difficult to fit into male (full-time) work schedules.

In 1996, one out of three women with one child, and almost one out of two women with two children or more worked less than 35 hours per week. In the Netherlands and the UK, the part-time employment of women was the most common. Reduced working hours was also common in Austria, Belgium and Sweden where more than half of the employed women with children had part-time schedules. Even the 2000 Survey proved that part-time work continues to be a female phenomenon in the EU (32 % of women, 6 % of men). About one-fourth of the part-timers would prefer to work longer schedules (Merllie & Paoli 2001).

The Second European Survey showed that reduced working hours for working women with children were linked with better job satisfaction and lower stress (even though there were country-wise exceptions). Women seemed to regulate their own health and well-being by working shorter hours in order to balance the demands of their work and career with their family responsibilities. Partly due to their shorter and more flexible working hours, the 2000 Survey indicated that women were more satisfied with the way in which their working hours fitted in with their social/family life than men (78 % versus 84 %) were (Kauppinen & Kandolin 1998). Women's part-time work should not be seen as a workload or stress problem only, but also as an obstacle to their competence development and career opportunities at work. (There should be other strategies to deal with the problem of combining work and family life.) One result is that across the EU, very few women are found in leadership positions, especially in the private sector. The senior management and line management is still largely male preserves.

In the Second European Survey, 17 per cent of the women and one-third of the men reported being in a supervisory position. In this regard, no change has happened in the 2000 Survey (Merllie & Paoli 2001). When asked whether their boss was a man or a woman, even here the situation has remained the same: about half of the women reported a man as their boss, while 7 per cent of the men reported a woman as their boss in 2000 (6 % in 1995). Women's supervisory roles appear to be limited to middle management positions. They usually manage small work units with 1-4 persons, while men are supervisors of small as well as larger work units with 10 or more persons under their supervision. Very few women seem to have broken through the "glass ceiling". The weaker position of women on the European labour market (combined with shorter working hours, precarious employment status, and strong segregation) is reflected in the income level. The 2000 Survey showed that a considerably higher proportion of female workers than male workers was found in the lowest income categories (9 % for men and 26 % for women).

Interaction dynamics at work: participation and communication

The Second European Survey revealed great differences across the EU in workplace interaction dynamics (Kauppinen & Kandolin 1998). The best opportunities for decision-making, participation and consultation were found in the Nordic member states as well as in the Netherlands, Italy and the UK. Fewer opportunities for participation and communication were found in Belgium (where women were particularly frustrated) as well as in Germany, Greece, Portugal and Spain. Gender differences were persistent: women reported having fewer learning opportunities, and they were less involved in decision-making at their workplace. Even if the differences were not very dramatic, there was more communication, participation and less immediate managerial control in female-supervised than in male-supervised workplaces. Women supervisors seem to rely more on teamwork than on rigid authority. This may be partly due to the fact that women tend to be supervisors in the public sector where they supervise health-care teams, child-care units, social workers, etc. The culture in these workplaces emphasises collaboration and teamwork instead of competition and achievement (Kauppinen 2000).

An expert report for the European Commission found that sexual harassment presented a serious problem for many women in the EU (Rubinstein 1988). The Second European Survey reported that a good 3 per cent women (2 million) had been subjected to sexual harassment at work during the previous 12 months. Similarly, in the 2000 Survey, female workers reported more sexual harassment than male workers did. Women with precarious employment were more often subjected to sexual harassment than those in permanent employment. Health disorders (fatigue, headache and stress) were more likely to occur in these situations.

The Second European Survey found that women's jobs could be characterised as "high demand - low control" jobs (Kauppinen & Kandolin 1998). Four out of ten women had such working conditions compared to one out of three men. Women had less often active "high demand - high control" tasks; they reported fewer possibilities to manage their time, such as days off and breaks at work. The literature on work

stress has systematically shown that jobs characterised by little opportunity for decision-making, close supervision, and under-utilisation of skills and abilities have negative effects on people's health at work. Workers with high demands and low control are in a high strain situation and at higher risk of cardiovascular diseases. Another new concept is status control, which may be of central importance for understanding the stress factors of the modern and future labour market, characterised by change and the need for adaptability. Low promotion prospect, instability, and lack of control are all examples of poor status control (The European Heart Network 1998). The European surveys showed that women's working conditions involved less exposure to physical and chemical risk factors than those of men. However, in some sectors women were more exposed to ergonomically poor working conditions, suffering from musculoskeletal disorders which were associated with heavy lifting, awkward postures, monotonous and repetitive tasks, and improper work organisation. These factors may represent a growing health risk for women because they tend to work increasingly in sales and service jobs where these problems prevail. There is a risk that differences between women's and men's working conditions will increase.

Gender sensitivity necessary in data collection and analyses

The changes in working conditions within the EU affect both women and men, but women are particularly vulnerable. Both preventive measures and greater gender sensitivity are needed to counterbalance these tendencies. Gender sensitivity is the ability to perceive existing gender differences, issues and inequalities and incorporate these into strategies and actions. The opposite is gender blindness (or gender neutrality) which represents a failure to recognise that gender is an essential determinant of social outcomes, including health and well-being. Gender neutrality has had a strong footing in the Nordic countries.

A gender sensitive approach can represent a new way of looking at gender issues in working life. Directives, guidelines and exposure limits should be developed and assessed in a gender sensitive way. More gender sensitive methods of implementing directives, guidelines, etc. are required. Sexual harassment, bullying and intimidation are growing problems, and must be recognised as a new type of work environment problem. The 2000 Survey (like the previous surveys) proved that female respondents reported more violence, intimidation and discrimination as well as sexual harassment than male respondents did.

Efforts must be made to improve work organisations in a gender-appropriate way. The growing trend towards more flexibility regarding the location of work (e.g., telework) and working times should be examined more closely from the perspective of health and safety, as well as of equality.

Equality is not merely a gender issue

In the Second European Survey, equality planning was introduced as a good strategy by which workplaces and work organisations can promote gender equality. Equality plans can promote both gender equality and better working conditions for both men

and women, if they describe the job differentiation and their health and safety risks. If the management is committed to equality promotion, work organisations can become more sensitive to gender issues.

In a broader perspective, equality should not be seen as a gender issue only (Ojala, 2000). Equality, or the lack of it, can emerge in many other areas as well: different people, people of different ages, people in different positions, people with different backgrounds, and people from different cultures can find themselves in an inferior situation, and be treated in a different way simply because they are different. Age issues have come to the fore as the shortage of labour has begun to be a problem in all sectors of economy. People from different cultures and different ethnic backgrounds exemplify the new emerging equality issue. Equality is increasingly a question of diversity and how to benefit from it. At their best, equality plans/diversity development plans can offer a forum for dialogue on gender and diversity between different partners in work organisations across the EU.

Equality Standards for a Good Workplace - A Finnish research and development project.

At the income policy talks, in autumn 1997, the labour market organisations agreed, among others, on the Equal Work Community research and development project. The project was carried out by Kaisa Kauppinen and Leenamajja Ojala in close collaboration with the employers' and employees' central organisations. The point of departure was that both parties should benefit. The common belief was that an equal workplace was needed by the employers and employees alike.

The first stage of the project produced a report on equality at the workplace plus a list of criteria on equal opportunities, suggested and approved by the people of the workplaces which took part (Kauppinen & Ojala 1999). The monitoring group for the project was composed of all central organisations of employees and employers. Financial support came from the National Worklife Development Program managed by the Ministry of Labour. Similar work has also been done in Sweden, but the initiative came from the Minister of Equality rather than from the labour market organisations, as was the case in Finland. The Swedish minister raised the idea of an equality symbol, to be used in the same way as the environment symbol.

The research and development project was aimed at creating a set of quality standards for equality at workplaces (Kauppinen & Ojala 1999). These could be used to measure the state of equality at the workplace and to uncover aspects that need to be developed. The idea was to create a self-assessment system that would generate ways and means of evaluating the state of equality at workplaces. In the project, gender equality was not seen just as an ethical norm, but as an economic concept of its own, as a factor of well-being, profitability and public image. The idea was that equality should not be regarded as a separate issue that can be developed in isolation.

Participating Work Organisations and Data Collection

The following nine organisations participated in the project: SOK Co-op's head office, Tieto Ltd., Karl Fazer Chocolate Making, StoraEnso's paper mills at Imatra, Asko Kodinkoneet, the Orion Pharmacy Group, the town of Jämsä, Uusimaa Regional Council and Nokia Tyres (Kauppinen & Ojala 1999). Seven organisations represented private businesses and two were from the public sector. They were both female-dominated and male-dominated, reflecting the high degree of gender segregation in Finnish working life. The companies represented both traditional Finnish industrial sectors, e.g., a paper mill and a confectionery factory, as well as the new rapidly growing high-tech industries. The data collection was based on qualitative and quantitative methods: expert interviews, and standard as well as open-ended questionnaires. The sample size for the questionnaire study was 521 (60 % women). In each participating work organisation, except Nokia Tyres, a dialogue group of 20-40 persons, both women and men, representing various hierarchical positions, was set up. Based on these seminars and questionnaire data, eight equality standards were created.

Results

The results of the study confirmed that there were problems associated with equality (Kauppinen & Ojala 1999). Women perceived inequality in the work organisations more often than men did. Disturbances in well-being, a poor and tense work atmosphere, and conflicts at work were also cited. Men were more unconcerned about these issues than women. As regards women, the problems come to a head with the under-30s and the over-50s. With men the problems start with the over-50s. 77 per cent of the men, but only 42 per cent of the women, said that gender equality functioned well at their workplace. There was a significant and systematic difference in this regard: managers and persons in supervisory positions were more satisfied with gender equality at work, while those in lower hierarchical positions were less satisfied. Particularly dissatisfied were the young women (often mothers of young children), holding lower white-collar jobs.

It appeared to be quite common for women to consider their gender a disadvantage in at least some form. This disadvantage was felt to be greatest in regard to pay, career advancement and distribution of the workload. Half of the men, but only a quarter of the women, were satisfied with their career development. The gender difference was significant for all hierarchical groups except for the managers: the women managers were as satisfied as the men with their career advancement, in some firms even more satisfied than their male counterparts. The work tasks in all organisations were strongly segregated according to gender. Women's colleagues were mostly other women, whereas men worked with other men. However, men and women tended to meet each other when carrying out their daily routines at work. This may disguise the fact that the actual work tasks are strongly gender segregated. The most typically female-dominated job was secretarial work including a variety of job categories, e.g., clerk, assistant to the management, etc. Practically no men were found in these jobs. Traditional technical tasks were male-dominated but there were some women in these jobs. Other studies have shown that women are more willing than men are to cross-occupational gender barriers.

Half of the women and one-third of the men felt that men's and women's views conflict at work at least every now and then. The young women were particularly alert to the differences of opinion between women and men. There were also incidences of sexual harassment, mostly in the form of verbal comments: altogether 24 per cent of the women and 12 per cent of the men were annoyed by dirty jokes and unwanted sexual comments at the workplace. Attitudes towards ageing, subtle or indirect forms of age discrimination or ageism were felt to be very sensitive issues in each work organisation. Generally, persons who were 50 years of age or older mentioned more discrimination or unfair treatment based on age than did younger people. The women were more sensitive about ageing than the men. They felt that they were not needed, that they were too slow or clumsy. Unlike the young men, the young women, under the age of 30, mentioned age discrimination and unfair treatment. The young women felt that they were often seen as potential mothers and users of abundant maternity leaves rather than as professional workers. Therefore, they were not taken seriously. They felt bypassed or neglected when new job opportunities were opened.

Notwithstanding the relatively high degree of stress and competition in the workplaces, a majority of the men and women were satisfied with their work and felt competent at work. Many were strongly committed to their work. An important factor was the feeling of being treated with respect and dignity. From the viewpoint of job satisfaction, it was important that people had an opportunity to maintain their competence, and that they could take part in influencing the objectives and development of the workplace.

The creation of equality standards

Based on the dialogue seminars and questionnaire results, eight equality standards were established. The idea was that workplaces could use the standards as a self-assessment system for the promotion of equality, well-being and productivity. By further developing these standards, a comprehensive system can be created. The aim is to build equality into the work culture and organisation; equality should involve all corporate operations and development work (Ojala 2000).

Equality standards and exemplary questions to measure them:

The level of equality

- Is equality and the well-being of the staff incorporated into human resources management?
- Is equality part of the common goals and strategy at the workplace?
- How is equality perceived by the staff?
- Do people feel that they are being treated fairly and with respect?

Salary and remuneration policy

- Is salary and remuneration policy based on equal treatment and fairness?
- How openly are the bases for remuneration and bonuses discussed?

- Does everyone know what they are being paid for and when they have been successful?

Career and work opportunities

- Do people have career opportunities and good opportunities for continuous learning in their jobs?
- Does everyone have an opportunity to maintain their competence according to their own desires, abilities and ambitions?
- Is the company spirit good encouraging everyone to do his/her best?

Common goals and opportunities for influence and control

- Does everybody know the common vision and common goals?
- Does everybody have opportunities for participation?
- Can people see how their own work is linked to the common goals?

Work atmosphere and feeling of togetherness

- Does the workplace culture support equality and diversity?
- Is there an atmosphere of openness and trust?
- Is diversity seen as a richness, or is the goal a homogenous staff?

Information flow and openness in information delivery

- Does everybody have good opportunities for information concerning his/her own work and work unit, and future conditions and plans?

Working conditions

- Are the working conditions safe and ergonomically good?
- Is age-management practised and older people given due attention?
- Do the work ability programmes support staff well-being?

Reconciling work and family life (private life)

- Does everybody have an opportunity for a private life outside the work? or is continuous overwork and over-commitment required and rewarded?
- Are men supported and rewarded or discouraged for taking parental leave?
- Is there a critical attitude towards the "long working hour culture", "work addiction" and "presenteeism"?
- Are the staff seen as individuals who have their own lives to lead?

The state of equality at work can be evaluated according to these standards. In this frame, equality is not understood as referring to gender equality only, it refers to equality between different age groups, ethnicity and cultural background. The proper new term is *diversity*. Thus, diversity management aims to benefit from human differences, to transform it into richness that is beneficial for both productivity and staff well-being.

Gender equality/diversity as an integrated element in organisations

In Finland, larger companies with over 500 employees have been the forerunners in developing gender equality. Large state institutions and ministries, city governments (e.g. City of Helsinki), and other public institutions (e.g. the Finnish Institute of Occupational Health or the Finnish Institute of Public Health) as well as the universities and the Academy of Finland have published comprehensive equality plans. Smaller enterprises consider that equality is best achieved spontaneously, without any special measures. Very few enterprises take a negative attitude to the promotion of equality (Kauppinen & Veikkola, 1997).

It is important to see how equality, or diversity, is integrated into the various work organisations and how it changes the work cultures. Human resource management, lifelong learning and new challenges need to be considered from this perspective. The new developments should be followed up, the results re-examined, and human resources specialists trained in equality and diversity issues. Implementing equality and diversity requires new competence and knowledge. It is also imperative to illustrate the economic benefits resulting from equality and diversity to the business world, its image, as well as the human benefits to all parties involved.

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The importance of gender sensitive studies of work-related neck and upper limb disorders

Dr Lena Karlqvist

National Institute for Working Life, SE-112 79 Stockholm, Sweden. E-mail lena.karlqvist@niwl.se

The aim of this paper is to give practical examples of the gender segregated labour market with men and women working in different sectors and with different work tasks, which make risk patterns of musculoskeletal disorders different for men and women.

Women's risk of musculoskeletal disorders

Literature reviews indicate that women, in general, report more musculoskeletal symptoms than men (Punnett and Bergqvist 1997). Why? One reason could be that the labour market still is gender segregated. Men and women work in different sectors – or more precisely – with different work tasks (Westberg 1998). So far, most attention on occupational risk factors has been paid to physically heavy and demanding exposures like manual materials handling, dust and noise, i.e. environments where mainly male workers are found (Bernard 1997). This type of exposures often put more emphasis on whole-body exertions and energy expenditure than on localised, repetitive stress to the upper extremities. Jobs requiring high static loading on the neck and shoulders, with repetitive use of small muscle groups, involve a high risk of upper extremity disorders (Hagberg et al 1995). During dynamic low-load manual work it has been noted, that the higher the speed of motion is and/or the higher the precision demands are, the higher is the increase in measured muscle forces relative to their capacity (Bernard 1997; Sjøgaard and Sjøgaard 1998). The physical demands of these female-intensive jobs are often perceived (by those not performing the work) to be less strenuous than the jobs typically carried out by men. Some studies have shown that women and men working in the same factory, with the same work title, do not always perform tasks with the same physical requirements or work organisation (Punnett and Herbert 2000). Women performed more repetitive work on average, whereas men were less likely to sit for prolonged periods compared to women.

One practical example can be taken from the fishing industry in Sweden where men and women had the same work title (Karlqvist, 1984). Cutting operations at canning benches were studied. As a whole, traditional sex roles are deeply rooted within the fishing industry. Consequently, the men delivered and transported the fish and the products, while the women cleaned, trimmed, sliced and put the treated fish into cans

on the moving-line. Salary was paid for by piecework according to agreement which increased the pace. Work injury statistics showed that canning bench workers were significantly more exposed to carving injuries and physical stress illnesses than the average active worker in Sweden (SCB, 1983). The workload effect of the knives on hands and arm was investigated and together with designers new knife models were designed for special tasks within the fish canning industry (Karlqvist, 1984). The new knives fitted different hand sizes as well as improved the physical performance for treating the different products which lowered the workload and was highly appreciated by the workers. Work organisation factors were not investigated in this study, which of course also need to be taken into consideration.

Work-related musculoskeletal disorders

Work-related musculoskeletal disorders are a significant worldwide public health problem, although official statistics are difficult to compare across countries because of differences in record-keeping and case definitions. They are the single largest category of work-related illness in the United States, the Nordic countries, and Japan (Pope et al, 1991; Bernard, 1997). Musculoskeletal disorders associated with "repeated trauma" in the workplace have accounted for 71 per cent of all occupational illnesses in Sweden but only 1 per cent in Iceland (Bureau of Labour Statistics, 1996). The US National Institute of Occupational Safety and Health (NIOSH) has identified musculoskeletal disorders of the upper extremities as a national research priority.

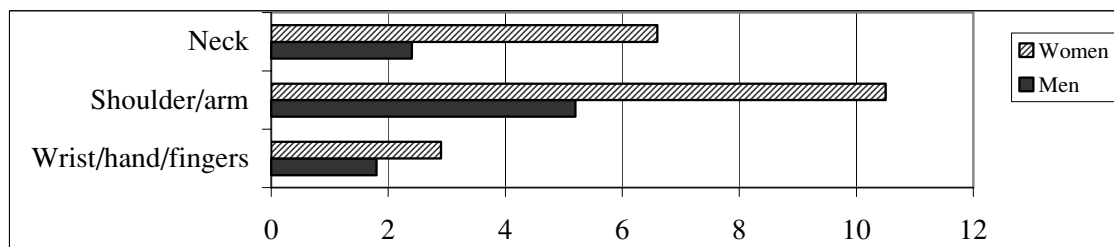


Figure 1 Work-related symptoms (%) during the last 12 months in the Swedish working population between 12-64 years of age (Statistics Sweden, 1999)

Figure 1 shows gender differences in work-related symptoms during the last 12 months in neck and upper limb in the Swedish working population between 16-64 years from Statistics Sweden 1999. Symptoms in the neck were reported by 6.6 per cent of the women and 2.4 per cent of the men, and symptoms in the shoulder/arm were reported by 10.5 per cent of the women and 5.2 per cent of the men. The equivalent figures for symptoms in the wrist/hand/fingers were 2.9 per cent and 1.8 per cent, among women and men respectively. Also sick-leave statistics show a higher rate and longer duration among female workers (Messing 1998).

But, what does the statistics for work-related illness hide? Household work, which usually still is the main responsibility of women, results in a greater overall exposure

to physically demanding activities and psychosocial strain, as well as less opportunities for recovering after the working day (Lundberg et al 1994). Little is known about the health impacts of this unequal division of paid/unpaid work because virtually no such research has been conducted. In a recent study in Sweden, the so-called MOA study (Modern work and living conditions for women and men) with the aim of developing methods for epidemiological studies, the focus was on paid work, unpaid work as well as recreational activities (Härenstam et al 1999). Time spent on different activities differed between women and men in the MOA study (Figure 2).

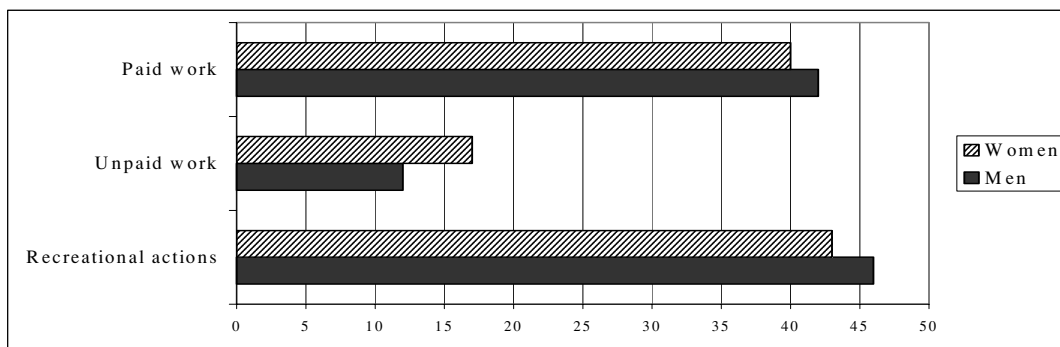


Figure 2. Percentage of time for different activities among 102 women and 101 men in the MOA study.

The figure shows the average time women and men spent on different activities and there was a great variation. In the selection of the sample, men and women were divided into pairs and matched according to type of work and qualification level of occupation – but still the result showed a great difference. Statistical significant ($p < 0.05$) relations between musculoskeletal disorders and physical as well as psychosocial exposures were found. Among the women the exposures were expressed in terms of time pressure, hindrance, VDU (visual display unit) work, repetitive motions, physically demanding work and strenuous working postures at their paid work. Then the demands from the domestic work must be added. Among the men the exposures were expressed in terms of monotonous working conditions, little social support, general physical load and strenuous working postures at their paid work. More studies of both the working and living spheres of life among the population are urgent in order to understand how paid and unpaid work is related to health.

Workload and organisation

Workplace risk factors relevant to the occurrence of musculoskeletal disorders include both physical workload and the organisation of work in general. Examples of physical workloads are stereotyped repetition of motion patterns, rapid work pace, exertion of high and prolonged muscular forces, non-neutral body postures like extreme outward rotated arm and deviated/flexed wrist, mechanical stress

concentrations as for example direct pressure of hard surfaces or sharp edges on soft tissues, insufficient rest or recovery time during work and contact with vibrating objects (Punnett and Herbert 2000).

Work organisation in this respect refers to the way that production or service activities are organised, allocated and supervised so as to determine task structure, the division of labour and skill utilisation by individual workers. Thus, the work organisation determines physical job features; e.g. work pace, repetitiveness, duration of exposures and recovery time as well as psychosocial dimensions of the work environment such as decision latitude, psychosocial job demands and social support from supervisors and among co-workers. It is often difficult to distinguish between "physical" and "psychosocial" ergonomic risk factors. High psychosocial work demands typically involve both rapid physical work pace and feelings of time pressure, and highly stereotyped finger motion patterns occur when a manual job both is monotonous and offers little decision autonomy (Punnett and Herbert 2000).

In a recent report from a large case-referent study of men and women in a Swedish general population seeking care due to neck and shoulder disorders from work-related physical and psychosocial exposures, it was shown that piecework salary was the most pronounced risk factor for both men and women, but the overall risk pattern differed a lot between gender (Wigaeus Tornqvist et al 2001). Among men, work with vibrating tools, poor general support, low demands in relation to competence and low meaningfulness were associated with increased relative risks for neck/shoulder disorders (adjusted for age and previous symptoms), whereas high time pressure and high mental demands were associated with decreased relative risks. Among women, repetitive hand/finger movements, constrained sitting, work with hands above shoulders, VDU work, solitary work, night-work or shift work, job strain, high time pressure, low possibilities to learn and develop and hindrance at work were associated with increased relative risks. The relative risks were only moderately increased by a single specific physical and psychosocial working condition but a large proportion of the general population was exposed to several of these moderately harmful conditions and their concomitant effect may explain the high incidence of neck/shoulder disorders in the general population.

Workstation design

The occurrence of musculoskeletal disorders is more frequent among women than among men. One explanation to this could be the different occupational exposures mentioned above, but also that more women than men are represented in jobs with certain physical features giving rise to musculoskeletal disorders. Another reason might be that many work sites have not adjusted the workplaces to the female anthropometry, such as smaller body sizes of stature, shoulder breadth, hands, etc. In this connection, women may to a higher degree than men either sustain, or perceive, higher exposure of psychosocial job strain (Chaffin and Andersson 1991). Since many workplaces have been designed on the basis of anthropometric data for men and therefore are ergonomically inappropriate for women, women may be subjected to greater exposure of biomechanical stressors even when performing the same tasks as

men. On average, men and women differ in many aspects of physical body size, such as stature, length of body segments, and functional capacity, such as flexibility and muscle strength. As a consequence, workstations, tools, equipment, gloves and other personal protective equipment do not fit women workers on average (Kilbom et al 1998). One example can be taken from VDU work. Today most computer workstations are equipped with a mouse or a track-ball next to the keyboard. The size of an ordinary keyboard forces narrow-shouldered persons (mainly women) to work with the mouse or track-ball far out in a strenuous posture for the arm (Karlqvist et al 1999). Gender differences in work technique and posture for performing the same tasks have been observed but so far, few studies in this area have been performed and further research is required.

Gender-related biological differences (e.g. strength and distribution of muscles) may result in a differential vulnerability for women to physical workplace factors. Women's total body strength is, on average, two-thirds of that of men's. However, the tasks to be performed and the muscles involved also have an impact as, for example, women's average strength is relatively lower in the upper extremities. Different studies come to different conclusions of the predicted value of muscle force capacity and protection against musculoskeletal disorders. One possible explanation for the low predictive value, especially in low effort work, relates to the physiologic process of muscle fibre recruitment during muscle contractions. However, the gender differences in sets of muscle fibres can be of value for the explanation of gender differences in neck/shoulder disorders in jobs with high static muscle loading (Hägg 1991; Sjøgaard et al 1998).

Preventing injury

Musculoskeletal disorders occur in relation to ergonomic exposures both in men and in women and there is adequate scientific knowledge regarding specific occupational ergonomic stressors to prevent a large proportion of musculoskeletal disorder among working people. The best approach to eliminate musculoskeletal injuries from the workplace is to implement controls and make necessary changes in workstations, equipment, job design and product design in the context of a comprehensive ergonomic program with participation from all levels of the organisation (Messing 1999). In Sweden, the research is action-oriented and often carried out in collaboration with employees and employers. An illustration of this is "A process for the development, specification and evaluation of VDU work tables" (Karlqvist 1998). This project was carried out in collaboration with furniture manufacturers and employees and an employer of a research and development company. The process ended up with three new work tables that were evaluated in the operators' ordinary environment. The most important results from the evaluation can be summarised as follows: the work table should provide support for the arms, be flexible for different statures and possible to adjust between a sitting and a standing posture and prevent extreme outward rotation of the shoulder. Furthermore, this study showed that by increasing the manufacturers' knowledge of, and changing their attitudes towards, how to minimise musculoskeletal disorders, the employees working technique could be successfully improved.

More research is needed to elucidate whether the risk of musculoskeletal disorder varies between women and men in jobs with the same occupational exposures and whether work-related musculoskeletal disorders have the same outcomes in women and in men. Some studies suggest that there is a higher risk for men than for women to be exposed to high physical stressors, while the background risk may be higher for women. This could imply that other factors have a larger effect on women in low-exposure jobs which are less important when the physical loading is high. Or, that women with higher occupational exposures, both physical and/or psychosocial, are more likely than men to change jobs or choose another profession due to work-related musculoskeletal disorders. In contrast, some literature suggest that women may experience both different levels of job strain and have an increased vulnerability to similar levels of job strain compared to men, possibly because of the added demands of household responsibilities. All of these explanations remain tentative at present and require further studies (Punnett and Herbert 2000).

Conclusion

The associations of musculoskeletal disorders with gender and occupational ergonomic exposures should be assessed separately in order to determine whether women are at increased risk when exposed to the same ergonomic stressors as men. Gender-stratified presentation of data is valuable because it permits examination, rather than smoothing over differences in the exposure-response relationships. A future research priority should be to conduct more studies of both the working and living spheres of life among the population in order to understand how paid and unpaid work is related to health.

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Working conditions and mental health among women

Dr Carina Bildt

National Institute for Working Life, SE-112 79 Stockholm, Sweden. E-mail carina.Bildt@niwl.se

Introduction

The cause of poor mental health is often described according to a stress and vulnerability model, where the relation between the stressors the individual are exposed to and the way the individual do react is in focus (Lader 1990). There are big differences between illnesses that are more common in women and those that are more common in men. For example, the fact that depression is more common among women than among men is well documented today (Boyd and Weissman 1981), although there are signs of a certain levelling out as young men more often than before report depressive symptoms (Weissman and Klerman 1989). In a prospective Swedish study of mental health in the population, the risk of individuals suffering from some form of psychiatric problem during the course of their working life was found to be 73 per cent for women and 43 per cent for men (Hagnell 1970). The same survey found that the risk of suffering from some form of depression of varying severity (including sub-clinical depression that does not require treatment at a psychiatric clinic) was 25 per cent for women and 12 per cent for men.

These differences in mental ill health between women and men give rise to the questions: Where do they originate from? What are the causes of these differences? In the following pages, I will discuss how women's mental health is affected both by gainful employment in general and by various working conditions in particular. As an empirical example, I will present data from a Swedish population-based longitudinal study.

General health effects

The general effect of work on the mental health of women, but not among men, has been investigated in a number of studies (Dennerstein 1995; Parry 1986). Several of these studies found that the mental health of working women, and their health in general, was better than that of non-working women (Dennerstein 1995; Parry 1986). It is not, or at least not solely, a product of selection. Working and non-working women who had similar health at the beginning of a study displayed differences in follow-up exercises, so it could be assumed that paid work is a contributory factor to better mental health (Romito 1994).

This does not prevent there being decisive factors in the working environment, which cause mental problems and lowered mental well-being in women, as well as in

men. Stressors at work are likely to differ for women and men as they, due to the gender segregated labour market, work in different sectors, each with its specific conditions (Westberg 1998). In Sweden, only 10 per cent of all women and men work within gender integrated occupations, where there are 40-60 per cent of each gender (Westberg 1998). Many women's working conditions are characterised by repetitive and monotonous/simple work tasks as well as to a large extent by data processing work (Kilbom 1998).

Temporary employment

During the second half of the 1990s, temporary employment became more and more common in Sweden, as well as in many other countries (Westberg 1998). More women than men were offered work as substitutes or extra staff, while more men than women were offered project work or fixed-term assignments. The level of qualifications required was usually higher in the temporary employment forms that were more common among men. Having a temporary employment is related to unemployment further on, as well as it can be a way of getting out of unemployment for the moment (Korpi 1998). These differences in working conditions, due to the gender segregated labour market, might be one reason for the higher rate of mental ill health among women. Also the living conditions differ between women and men. Among women it is more common than among men that a large part of the total daily physical load and psychosocial strain derive from activities outside work (Frankenhauser 1991; Josephson 1999; Lundberg 1994).

Stress at work

High levels of stress and unclear, negative or unbalanced demands at work have been identified as risk factors for mental ill health (Bildt Thorbjörnsson, Lindelöv 1998). Work-related stress is related to job status and the higher the stress is, the lower the status of the work performed. As many "typical women's jobs" have low status it could be assumed that especially women are subjected to high work-related stress which may be harmful to their mental health. High mental demands and time pressure have also been identified as risk factors for mental ill health as well as few opportunities to influence the working situation or the working pace. These factors increase the risk of mental ill health among both women and men and there are also certain indications that these variables interact with the family situation.

Shift work has also proved to have a negative impact on mental health (Bildt Thorbjörnsson, Lindelöv 1998). Especially for women it has been considered even more stressful because of biological and hormonal reasons, and also because women usually have a greater responsibility for the home and the family (Costa 1997).

Interactive effects

Indications of interactive effects (where the presence of one factor potentiate the harmful effect from another factor) have been reported between occupational factors such as high physical load and few opportunities to influence the working conditions (Eskelinen et al 1991). For example, a study has shown that there was a higher

incidence of mental illness among nurses working on wards with higher physically and psychologically demanding tasks compared to other wards. (Pettersson et al 1995). This could be an indication of interactive effects between the physical and psycho-social/organisational work relationship.

Conclusions from the literature

A general conclusion that can be drawn from different studies is that it is important to include data from both the occupational and non-occupational spheres of life, since interactive effects on the mental health are assumed to exist. These possible effects probably differ for women and men as both the working and the living conditions are different.

Most of the studies that have been performed within the area of working conditions and mental health among women have been based on a study population drawn from a specific company or a specific section of the labour market and not the general population (Bildt Thorbjörnsson, Lindelöv 1998). Thus, the possibilities to draw any generalised conclusions of the findings are limited.

Study of a Swedish population

In the study presented below, the overall aim was to examine the influence of the working and living conditions in 1993 on the mental health among women in the general Swedish population in 1997. The participants in this study were examined on three different occasions, in 1969, 1993 and 1997. Only data from the last two occasions have been analysed in the present context.

Background

In 1969, approximately 2,500 women and men between 18 and 65 years of age living in the county of Stockholm were examined in the so-called REBUS study. The purpose in 1969 was to investigate **a)** the need for medical and social services, **b)** differences between subgroups of the population in their actual needs for services, and **c)** the steps taken so far to meet these needs (Bygren 1974).

A follow-up study in 1993 was conducted focusing on musculoskeletal disorders and mental ill health. It was based on the youngest subgroup, which was between 18 and 34 years of age in 1969 (Bildt Thorbjörnsson, Alfredsson et al. 1998). Of 783 eligible participants, 484 (62 %) finally participated in the re-examination. The main aim in 1993 was to identify risk factors for musculoskeletal disorders and poor mental health.

In 1997, the participants were again approached and asked to participate in a second follow-up, which was completely based on self-administered questionnaire data. The level of participation was high. Almost 87 per cent (88 % men and 85 % women) of the 484 participants from 1993 participated in the follow-up, resulting in 222 women and 198 men, then between 46 and 63 years of age, in a broad range of occupations. The main aim in 1997 was to examine the predictive value of the

physical and psychosocial working conditions in 1993 for musculoskeletal disorders in 1997, and a second aim to examine the predictive value for mental ill health.

In the present study, the study group consisted of the 232 women who participated on all three occasions.

The eligible study group in 1993 differed very little from the general population in Stockholm regarding income and socio-economic conditions (Table 1).

Table 1 Comparison between the study group and the female inhabitants in the Stockholm region in 1993; occupation, education in 1990, and income statistics from 1993: in per cent

	Women		Diff.
	stud. group N=420	Stockholm region # N=1 896	
Education			
High school	22,4	23,3	ns
College	50,4	43,5	ns
University college/university	27,2	32,2	*
Gross income ^a			
Less than \$12 740	31,2	27,7	ns
From \$12 740 to \$25 480	52,6	52,0	ns
From \$25 480 to \$38220	13,2	17,1	*
\$38220 or more	2,2	3,2	ns
Country of birth			
Sweden	92,8	87,2	ns
Scandinavia	7,2	12,8	*
Occupations			
Teaching	12,2	11,9	ns
Administration	28,9	30,5	ns
Commercial work	6,0	5,9	ns
Farming	0,5	0,4	ns
Service work	12,5	12,1	*
Health care	20,7	20,7	ns
Manufacturing	3,0	3,1	*
Transportation	3,7	4,5	*

= a sample of the population. Diff. = difference in proportion

a= \$ converted from Swedish crowns in 1998

Data

The information about occupational and non-occupational conditions analysed in the present study was chosen because it has been shown to be related to mental ill health in different empirical studies. Information about the participants' coping strategies in troublesome situations was collected in an interview in 1993 (Bildt Thorbjörnsson, Michélsen et al. 1999). Each participant was asked to describe one or several difficult situations they had experienced, and also to describe how they tried to cope with, and to solve, the problems they experienced. The choice of coping strategies was categorised according to its quality, expressed as adequate and mature, adequate but less mature, adequate but weak, depressive, or schizoid/paranoid. The inter-rater agreement (based on duplicate analyses of tape recordings from 24 interviews, percentage agreement) was 75 per cent. Coping strategies categorised as adequate but

weak, depressive, or schizoid/paranoid were labelled as poor. Information from 1993 about psychosocial and physical working conditions (appendix), demands outside work (appendix), and mental health was also analysed in relation to sub-clinical depression and reduced mental well-being in 1997 among those women who participated in both follow-ups. In an interview, a psychologist collected information concerning symptoms of depression during the 12 months preceding the examination in 1993. The questions posed to the participant during the interview were based on DSM-III-R and included questions about lack of interests, lack of energy, sleeping problems, restlessness, poor self-esteem, poor ability to concentrate, worries and thoughts of suicide. A diagnosis of major depression required at least five symptoms, according to the diagnostic manual. In the present study, sub-clinical depression was defined as at least two depressive symptoms at any time during the past year.

Data analyses

Adjusted analyses of association have been performed. In the analyses of association between different occupational and non-occupational factors in 1993 and poor mental health in 1997, the participants with poor mental health in 1993 were excluded. In the bivariate analyses, age adjusted odds ratios for poor mental health in 1997 from different occupational and non-occupational factors in 1993 were calculated (using the module PROC FREQ in the SAS statistical software). The precision of the point estimates was estimated by test-based 95 per cent confidence intervals (c.i.). Statistically significant and borderline significant (lowest confidence bound of 0.9) odds ratios are discussed. In the next step of adjusted analyses, the statistically significant and borderline significant odds ratios for poor mental health were recalculated in analyses of associations where adjustments were made for non-occupational conditions, one at a time.

Results

In 1997, nine per cent of the women were sub-clinically depressed and thirty per cent had reduced mental well-being.

The result of the bivariate analyses confirmed some of the results in the cross-sectional studies referred to earlier (Table 2). For example, high perceived workload was a risk factor for sub-clinical depression, with a 2.5 times higher risk of being sub-clinically depressed if working with work tasks that led to physical exhaustion. Shift work was a higher risk factor for sub-clinical depression than for reduced mental well-being, with a risk more than three times higher among those women who were working shift. Temporary employment was only related to sub-clinical depression, but highly so. Job strain and lack of training were also related to sub-clinical depression but not to reduced mental well-being. Living alone, on the other hand, was only related to reduced mental well-being. Low frequency of social contacts, demanding life events and poor coping ability were related to both outcomes, but highly so to sub-clinical depression. Physical load outside work was only a risk factor for sub-clinical depression, and the magnitude of the risk was similar to the risk from high perceived workload.

Table 2 Bivariate analyses of associations between various potential risk factors in 1993 and poor mental health in 1997.

Risk factors	Sub-clinical depression (N=186)		Reduced mental well-being (N=156)	
	OR	c.i.	OR	c.i.
High perceived workload	2.5	(0.9, 6.7)	1.4	(0.8, 2.4)
Shift work	3.3	(1.5, 7.2)	1.6	(1.0, 2.8)
Temporary employment	2.6	(0.9, 6.9)	0.6	(0.2, 1.8)
Low occupational pride	1.3	(0.5, 3.5)	0.9	(0.5, 1.8)
Low stimulation	1.2	(0.5, 2.7)	0.8	(0.5, 1.3)
Poor social support	1.7	(0.7, 4.4)	1.2	(0.7, 2.2)
Job strain	3.4	(1.6, 7.2)	1.3	(0.7, 2.5)
No training at employer's expense	2.6	(1.1, 6.4)	1.0	(0.6, 1.6)
Living alone	1.9	(0.8, 4.3)	1.9	(1.2, 3.0)
Low frequency of social contacts	3.1	(1.5, 3.5)	1.9	(1.2, 3.1)
Demanding life events	2.5	(1.2, 5.2)	1.6	(1.0, 2.6)
Physical load outside work	2.4	(1.1, 5.0)	1.1	(0.7, 1.9)
Poor coping ability	3.4	(1.6, 7.2)	2.1	(1.2, 3.6)

Adjusted analyses of association

In the adjusted analyses of association with adjustments for non-occupational factors, slightly fewer occupational factors remained statistically significant or borderline significant related to poor mental health (Table 3 and 4).

Table 3 Adjusted analyses* of associations between statistically significant and borderline significant occupational risk factors in 1993 for sub-clinical depression in 1997 (N=186).

Occupational risk factors	Non-occupational conditions									
	Living alone		Poor social relations		Demanding life events		Physical load outside work		Poor coping ability	
	OR	c.i.	OR	c.i.	OR	c.i.	OR	c.i.	OR	c.i.
High perceived workload	2.5	(0.9-6.7)	2.6	(0.9-7.1)	2.2	(0.8-6.7)	1.7	(0.7-4.5)	2.0	(0.7-5.5)
Shift work	3.2	(1.5-7.0)	3.6	(1.6-7.8)	3.0	(1.3-6.8)	3.7	(1.7-7.9)	3.2	(1.4-7.0)
Temporary employment	2.7	(1.0-7.2)	2.3	(0.8-6.4)	2.9	(1.0-8.0)	2.8	(1.0-7.7)	2.2	(0.9-5.7)
Job strain	3.3	(1.6-7.1)	3.4	(1.6-7.2)	3.0	(1.4-6.3)	3.4	(1.6-7.2)	2.7	(1.2-5.8)
No training at employer's expense	2.6	(1.1-6.4)	2.5	(1.0-6.3)	2.5	(0.9-6.7)	3.0	(1.2-7.2)	2.5	(1.0-6.3)

* Adjusted for non-occupational conditions

Table 4 Adjusted analyses* of associations between statistically significant and borderline significant occupational risk factors in 1993 and reduced mental well-being in 1997 (N=156).

Occupational risk factors	Non-occupational conditions									
	Living alone		Poor social relations		Demanding life events		Physical load outside work		Poor coping ability	
	OR	c.i.	OR	c.i.	OR	c.i.	OR	c.i.	OR	c.i.
Shift work	1.5	(0.9-2.4)	1.7	(1.0-2.8)	1.6	(0.9-2.8)	1.7	(1.0-2.8)	1.5	(0.8-2.6)

* Adjusted for non-occupational conditions

The main impression from these analyses was that, although the level of the found risks did change to a certain degree, the influence of non-occupational conditions on the risks of occupational conditions for poor mental health remained strong. In some cases the odds ratio even increased when adjusted for non-occupational conditions, for example for the risk for sub-clinical depression from shift work.

Conclusions

Many occupational and non-occupational risk factors were identified for poor mental health. Especially in relation to sub-clinical depression, several occupational risk factors were identified. The findings in the present longitudinal study agree well with findings in cross-sectional studies. For example, shift work was a clear risk factor for both sub-clinical depression and reduced mental well-being, a finding that agrees with results in other studies (Estryn-Behar et al 1990; Goldberg et al 1996). Also the finding that job strain was a risk factor for sub-clinical depression agrees well with earlier studies (Goldberg et al 1996; Eskeleinen et al 1991; Reifman et al 1991; Goldenhar et al 1998). However, it was a new finding that lack of training at employers' expense was related to sub-clinical depression – and not only to low back pain as has been shown earlier (Bildt et al 2001).

An important finding in the present study was that although non-occupational factors were strongly related to both sub-clinical depression and reduced mental well-being, they did not reduce the importance of occupational risk factors, when the analyses of association between occupational risk factors and poor mental health were adjusted for. Occupational factors contribute independently to the occurrence of poor mental health, and more often to sub-clinical depression than to reduced mental well-being.

The women in the present study were occupied within a broad range of occupations (as was shown in Table 1), with almost one third working within administration, one fifth within the health care sector, one fifth within education and one tenth within the service sector. The similarity to the general female population in Stockholm – regarding occupational belonging – makes it possible to generalise the results of the present study, at least to a much higher degree than in studies where the study group differ markedly from the general population.

The relation between various occupational and non-occupational conditions and poor mental health among men lies outside the scope of this presentation but, in short, complementary analyses have shown that somewhat different risk factors for poor mental health have been identified among men. It has also been shown that non-occupational factors were identified as risk factors for poor mental health also among men.

Need for action

Both from the literature and from the results of the presented study, it is clear that several aspects of the psychosocial working conditions at today's workplaces are harmful to women's mental health. Many of the changes in the labour market, for

example the increased demands for flexibility and temporary staff, could be harmful to the mental health of the working female population. There are areas (maybe especially in the psychosocial part of the working conditions) where interventions are needed to provide the employees with reasonable working conditions. Proposals for preventative measures to reduce mental ill health that depends on factors at work have been presented in several studies (Bildt Thorbjörnsson, Lindelöw 1998). These proposals are mostly at an organisational level, such as the structure of work and production (greater division of work, more flexible working hours, better career opportunities, improved information channels, etc.) But there are also examples of preventative measures that are focused on the individual, rather than on how the work is structured (Spilman 1988). Interventions focusing on organisational phenomena have seldom been performed and systematically evaluated.

Today we have a lot of knowledge of the working conditions specifically causing poor mental health among working women. Changes in the organisation of work and the structure of work and production are necessary, if not crucial, in order to improve women's mental well-being at work.

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Occupational factors

Level within parentheses indicates cut-off points.

1. High perceived workload: 6-20 where 7 is very, very light and 19 very, very hard. (≤ 12)
2. Shift work: What are your working hours? Seven alternatives from daytime to night work (all other working times than daytime)
3. Temporary employment: Permanent employment or various types of temporary employment (all other employment forms than permanent)
4. Low occupational pride (index of four questions): Are your current work tasks stimulating? Do you feel secure and confident in your work? Do you think your work is valuable? Do you think that your work is valued by others? Four alternatives from “not at all” to “very much”. The index was dichotomized at the 75th percentile. ($<75^{\text{th}}$)
5. Poor social support: There is a calm and comforting emotional climate at my work. We keep together. My colleagues are there for me when needed. It is all right to have a bad day. I have a good relationship with my supervisor. I like my colleagues. Four alternatives from “not at all” to “very much”. The index was dichotomized at the 75th percentile. ($<75^{\text{th}}$)
6. Job strain: High values in both high demands and low control.
 - High demands (index on five questions): Does your work demand that you work very fast? Does your work demand that you work very hard? Does your work demand too great an effort? Do you have enough time to do your work tasks? Are there any contradictory demands in your work? Four alternatives from “hardly ever” to “very often”. The index was dichotomized at the 75th percentile. ($<75^{\text{th}}$)
 - Low control (index on two questions): Can you influence how your work should be done? Can you influence what work should be done? Four alternatives from “hardly ever” to “very often”. The index was dichotomised at the 75th percentile. ($<75^{\text{th}}$)
7. No training at the employer’s expense: During the last 12 months have you had training at your employer’s expense? Two alternatives, no or yes (no)
8. Living alone: Living with a partner or not (living without a partner)
9. Low frequency of social contacts (index on four questions): How often do you meet and spend time together with neighbours, colleagues, relatives and friends? Six alternatives from “hardly ever” to “several times a week” (Once per month or less on all four questions)
10. Demanding life events: Loss of a partner/relative/close friend or serious illness of a partner/relative/close friend during the twelve months preceding the follow-up in 1993. Two alternatives, yes or no (Yes)
11. High perceived load outside work: Continuous scale from 6-20 where 7 is very, very light and 19 very, very hard. (≤ 12)

Gender approaches in the EU Network Workplace Health Promotion

MSocSc Elisabeth Lagerlöf and Professor Ewa Menckel

Nordic Institute for Advanced Training in Occupational Health, Helsinki, Finland.

Elisabeth.Lagerlof@eurofound.ie.

National Institute for Working Life, S- 112 79 Stockholm, Sweden.

ewa.menckel@niwl.se

Introduction

Although women's participation in paid work has quickly increased in the European countries, the gender segregation is still very visible – men and women are found in different sectors and different types of occupations according to the Third European Survey on Working Conditions (2001). Women are also more often found in jobs with less decision-making and control over the jobs – between 50 and 60 per cent of the female workforce is found in jobs that can be classified as assistants, secretaries, clerks, etc., i.e. jobs with lower-level positions and more routine work (OECD 1993).

Furthermore, we know that even within the same occupation women and men do different tasks. In addition, many women do not have access to the same amount of in-house training as men have, and so they face the future with more limited resources than male workers. Bullying, sexual discrimination, harassment and violence are problems more often happening to women at work than to men. It is not an isolated phenomenon affecting some individuals - more than two million women in the EU have been subjected to sexual harassment and sexual discrimination during the last twelve months (European Foundation 1998).

Studies have also shown that women have less experience of participating in workplace decisions that affect their job content and job design. Also, in most countries women occupy less than ten per cent of the top positions due to the "glass-ceiling effect" and they are much more seldom found as chosen representatives of, for instance, health safety committees, work councils, etc. (OECD, 1993)

This has nothing to do with capability but comes from the traditional divisions of labour in society (Gunnarsson, Knocke & Westberg 1991). Hidden mechanisms both at elementary schools and universities, as well as in the organisation of work, create, maintain and recreate women's suppression and relegation to low qualified work. Gender as a classifying and organising factor will be of negative importance as long as research and policy-making omit this basic category from research and empirical analysis.

Gender differences in health outcome

Also the health outcome of work is gender-related, depending on biological/physiological characteristics, psychological characteristics and living and social conditions.

One problem is that this fact is seldom known or recognised neither nationally nor locally in national, regional or company statistics, since it is very difficult to find data presented by sex.

Another problem has to do with what is "work-related" or not, since you will find, that large groups of illnesses where women have a high morbidity are not included in the lists of work-related diseases. The reason is that the latter are mainly based on a monocausal relation to work, such as asbestosis, hearing impairment, etc. Women often have a mixture of illnesses and so-called "vague" symptoms, like fatigue, reduced vitality, feelings of insufficiency, feelings of pain and discomfort, etc. Therefore, women more often than men undergo the experience that their symptoms at work are not given a diagnosis or, if so, a diagnosis that is ascribed to psychological causes. Studies have also found that it is much easier for men than women to get their work-related disorder claims accepted, even if they have the same job (Kilbom et al 1998)

The consequence is that women's health problems at work are not as visible as those of men, resulting in their problems being neglected both in research and in practice.

The double burden

Women still carry the main responsibility for child care and the household, despite increased labour market participation. Women's working time is to a very high extent linked to their family situation according to the Second European Survey of Working Conditions (1998). The more children, the more part-time is reported. Thus, every third woman with one child and almost every second with two or more children work less than 35 hours a week.

Women's choice of part-time is many times voluntary because they want to take care of their children and their families. Others have no choice, because of lack of child care, siesta hours etc. Part-time, however, many times also leads to a narrower choice of occupation, and many do not have possibilities to change to full-time jobs later when the children have grown up.

Change at work

Research about the reasons for gender segregation and its continuation, has provided us with a number of concepts which are of relevance if you are interested in change at the workplace.

There are two different ways to behave towards work according to Sørensen (1982), two rationality concepts, namely technically restricted rationality and responsible rationality. The technically restricted rationality is being developed in manufacturing work and is regarded as having a bigger impact on men's patterns of thinking than on women's. The responsible rationality is based on work experience of both paid work and unpaid caring work, where one important aspect is the ability to identify with the interest of the depending person. This kind of rationality is much more often found among women.

At work many women are encountering the technically restricted rationality, and they have difficulties to adapt to it. Gunnarsson (1994) has studied women in pre-dominated male manufacturing work and found that women cope with this by developing:

- *Care about relations between other persons*, which shapes a more social and psychological work atmosphere than the male work atmosphere.
- *Care about the human being in the man-machine relation*, which stands for a lower risk-taking at work.
- *Care about machines and products*, which is expressed by being conscientious, careful and looking after machines and products.
- *Comprehensive thinking*, which means that women integrate the different parts of life at the workplace as well as they are trying to create the possibility of a survey of and a totality in their managing the work.

A consequence of these different rationalities is that it leads to differences in men's and women's modes of behaviour in working life. A further problem is that these behaviours can lead to a gender-labelling of jobs, since some of these qualifications are seen as more female than others and, thus, increase the segregation at work.

A company competing in the changing world of work needs a workforce which is well-educated, competent and flexible. This applies both to men and women and this is another area, where the different rationality concepts can have an importance. Therefore, when organising change both women's and men's rationality has to be taken into consideration in order to break or overrun old patterns in the gender-labelling process. In addition, the different rationalities might imply that men and women have different ways of acquiring knowledge and understanding.

Different approaches to knowledge

Much of our education and training is by tradition built upon a male world of knowledge and experience. This is very much the fact as regards workplace education or training, particularly in health and safety.

Some authors have tried to show that women and men have different ways of acquiring knowledge, which should lead to practical consequences of how education and training should be carried through (Westberg, 2000). Some mean that the step-by-step development of knowledge differs between women and men and that there is a first step that is only found among women. This first step consists of *silence*. Women at this stage experience that they have "no voice, no possibility to think" and that they are "totally suppressed by others' authority".

This thinking can, for instance, be confirmed by a gender sensitive evaluation of the Swedish Worklife Programme, which consisted of 22,000 companies changing their work environment and organisation. It was found that many women were occupied in dead-end jobs and, if the retraining programmes should be successful, certain factors had to be taken into considerations, such as:

- Include women in the work of change

- Help women to build up a positive self-image
- Hold separate courses for women and men
- Conduct the courses on women's own terms
- Mix theory with practical training
- Take one step at a time

To summarise, in any type of workplace change and health improvement at work, it is important to realise that the types of jobs, the work content, the decision possibilities, and the division between job and family life are different between women and men. In order to achieve an improved work organisation and equal rights to health at work these factors have to be taken into consideration in the process and the choice of methods.

The European Commission's policies on gender

The European Community has pledged in several Resolutions, Recommendations and Action Programmes to incorporate the dimension of equality between men and women into policies, actions and programmes. In addition, the Conference of Amsterdam amended the Treaty by introducing the achievements of "equality between men and women" into the definition of the Community's missions (Art. 2)

The strategy is mainstreaming, which means a systematic evaluation of differences between women and men concerning resources, demands, situations and conditions within various policy fields. For example, it often implies gender-oriented assessment of legislation, directives, action programmes, and statistics.

A European network for Workplace Health Promotion

The aim of this paper is to analyse gender approaches in the EU network "Workplace Health Promotion" (WHP) in order to investigate how the European strategy of gender mainstreaming policy is applied in a European project.

In 1996 a European network for Workplace Health Promotion supported by the European Union was set up with organisations from all 15 member states of the European Community and three countries of the European Economic Area (EEA). The aims of the network are to:

- Discuss relevant topics, such as quality management, evaluation, success factors and small and medium-sized enterprises (SME) at a European level
- Develop models of good practice
- Organise expert seminars
- Advertise and publish the Programme of the European Commission
- Support and initiate new projects, such as success factors and quality of WHP
- Provide regular exchange of information and experience via WHP-NET-NEWS on the Internet and hold regular meetings

In 1997 a project about identification and dissemination of Models of Good Practice (MOGP) was started. Each member state of the network had to identify four organisations as models of good practice based on the following criteria:

1. Integration of health promotion within the organisation (WHP and leadership)
2. Planning of workplace health promotion (WHP concept and strategy)
3. Integration of health promotion in human resources policy and work organisation (health and human resources)
4. Availability of resources (WHP resources)
5. Organisation of WHP (WHP processes)
6. Results of workplace health promotion (WHP results)
7. Local or regional commitment of the organisation with regard to environment, social and health policy (social responsibility and environment)

The criteria served as a guideline in the assessment of concrete models of good practice. As organisations in practice have very different resources and preconditions, the criteria could not be used in the sense of an absolute yardstick. Rather, the main focus was on whether the organisations exhibit a distinct development in relation to the individual criteria.

For these reasons three aspects were evaluated in the assessment of MOGP:

- How systematic is the organisation's approach? (Systematic approach)
- Are the projects "island solutions" or is the aim to deploy them within the entire organisation? (Deployment)
- How firmly are the measures anchored in the organisation? (Integration)

By means of a questionnaire the companies' WHP activities were documented, and the documentation was followed up by study visits. No particular emphasis was put on gender questions, although the questionnaire asked for the number of female employees and what actions that were taken to reconcile family life with working life. The Good Models of Practice were presented (as posters or oral presentations) at a conference in Bonn in May 1999 to 250 delegates from all over Europe and published in a booklet (BKK 1999).

Analysis of the 66 Models of Good Practice

Method

In the preparation for this paper, the written documentation of the 66 Models of Good Practice has been analysed according to certain background factors, such as which sectors of industry the organisations represented and their size. This was made in order to be able to see to what extent the organisations represented sectors with both a female and male dominated workforce.

We also analysed all kinds of measures taken that could have had a gender-specific impact on health and working conditions. Furthermore, we examined what approach

to workplace health promotion that had been used to achieve the results, i.e. if it was based on representative participation and/or direct participation. Also the impacts of the Workplace Health Programmes were scrutinised to see if any gender-specific outcome was reported.

Since the analyses were based only on the description given in the short presentations from the Bonn conference, there might be other gender-specific actions taken that are not presented in these summaries. However, this is the official presentation and it mirrors what the European network - and the editor - has seen as the most important information to be presented on good models for practise for Workplace Health Promotion.

Results

Only in 22 of the 66 organisations were any measures of gender-specific actions mentioned, see Table 1. Not more than 14 of the organisations gave information on how many female employees they had, although this was one of the questions in the documentation.

Table 1 The Models of Good Practises per sector in relation to the total workforce in EU per sector and percentage of women per sector

Sector	Good examples		Actions for women	Total no of employed in EU, in 1000's		Women in sector
	No	%		No	No	%
Agriculture	1	1.5	0	5 909	3.8	2.5
Mining	1	1.5	1	525	0.03	-
Manufacturing	36	53.0	10	31 247	20.5	13.7
Electricity	5	7.6	1	1 178	0.7	0.4
Construction	3	4.5	0	11 908	7.8	1.4
Wholesale	4	6.1	0	22 356	14.7	16.0
Hotels and rest.	0	0	-	5 820	3.8	4.8
Transports	8	12.1	4	9 231	6.1	3.5
Finance, real estate	3	4.5	2	18 047	11.8	12.8
Public adm.	5	7.6	3	11 616	7.6	7.6
Others	1	1.5	1	34 089	22.4	36.8
Total	66	100	22	152 449	100	100

Sectors of industry

The organisations chosen as good models of practice were not representative for the division of the workforce by different sectors of industry. The biggest sector, both in total and where most women were employed, *Others*, i.e. the health care and education sectors, was only represented by one organisation, while the second biggest sector, *Manufacturing*, was represented by 36 organisations.

A majority of the models of good practice was represented by big companies. 63 per cent of them had more than 1000 employees, while this group only represents about 30 per cent of the total number of enterprises in the European Union. Women

are more often found in big companies than in small, but mainly they work within health care and public administration.

Gender-specific measures

Thirty-three per cent of the organisations chosen as good models of practice mentioned that they had taken gender-specific measures, that either were particular to women's health or related to how to combine family and working life.

Table 2 Number of measures taken towards gender specific health problems or in connection with work and family life

Sector	Measures taken into consideration with women's health or combination work/family life				Good models within sector	Women in sector %
	Health exams, advice	Flexible work	Social acts, family care	Anti harassment		
Agriculture					1	27
Mining		1			1	11
Manufacturing	2	7	(4)	1 (1)	35	28
Electricity		1			5	19
Construction					3	8
Tade, hotels					3	47
Transports	1	2	1 (1)		8	25
Finance, banks		1	1		3	45
Public		3	(1)		5	42
Others		1			1	69
Total	3	16	2 + (2)	1 (1)	66	42

(Numbers within brackets represent more than one measure in the same company)

The only company in *Mining*, in this case a talc mining company, had taken gender-specific measures and the same applied to the dental enterprise in *Others*. Two of three good models in *Finance*, all insurance companies, also mentioned special gender-specific measures, and three of five organisations in *Public administration*. Half of the companies in *Transport* had special programmes, mainly in telecommunication companies. The ten companies within *Manufacturing*, where only about 28 per cent of the workforce is female, were mainly represented by textile and chemical and/or pharmaceutical companies, where the percentage of working women were higher than in the rest of this sector.

Measures taken

The most common measures taken comprised possibilities to combine work and family life. Examples of such actions were possibilities to work flexible hours, work part-time or job sharing, in order to adjust working hours to children's hours at schools and nurseries. This was particularly often mentioned in the female-intensive sector of industry. In some cases the measures were more specifically related to gender, such as "helping working mothers to work from home, i.e. teleworking, when

the children were sick". Various schemes to help women return to work after childbirth were found in one company.

Some companies had special medical services or programmes relating to women's health, such as mammography and personal advisory service on menopause problems and pregnancy.

In one group of measures comprising social and family life, examples were found of, for instance, specific actions for women, such as "Women's Day", or activities to facilitate child care, such as children parties, child-care facilities, day nurseries, as well as training courses on "good family style", etc. One company - in telecommunication - was actively encouraging their employees to look after their families and maintain their social contacts.

A fourth type of measures comprised actions against harassment, such as sexual bullying, or to adjust working schedules to public transport timetables, provide with own buses for home transport for shift workers, etc. Two such examples were found.

Gender-specific methods

None of the 66 organisations mentioned that they had used or applied any gender sensitive methods. Of interest was that 74 per cent of the organisations had some kind of participation approach to workplace health promotion through health circles, staff meetings or regular meetings with the staff representatives. Direct participation has been found in studies to better suit women's needs than representative participation approach, where representatives from the workforce meet to discuss with the management. Actually, the 22 companies with gender-specific measures had to a larger extent used direct participation than those without such measures (36 % versus 28 %).

Presented outcomes

None of the organisations chosen as good models of practice seemed to have monitored or evaluated specific gender equality outcomes. The most common results of workplace health promotion interventions that were reported were improved working atmosphere, increased job satisfaction and a reduction of the overall illness, alternatively work-related illness, or accidents.

In summary, the results from this study were as follows:

- There was a heavy bias towards male-dominated industry among the organisations chosen as good models of practice.
- Only 22 per cent of the organisations could provide/had provided information on the workforce divided by sex.
- One of three organisations had implemented some kind of gender-specific measure.
- Most of the gender-specific actions concerned the possibilities to cope with the double burden of work and family responsibilities, through flexible working hours or part-time. In many cases these actions were directly related to women, and the measures were mostly found in the female-dominated sectors of industry.
- Two of the 66 organisations mentioned prevention against harassment at work.
- Three of four organisations had chosen a participation model. Organisations with gender-specific actions had to a higher degree used direct participation models.

- None of the organisations mentioned a need for gender-specific methods for workplace health promotion.
- No organisation had monitored or evaluated the outcome of the Workplace Health Promotion from a gender equality perspective.

Discussion and future needs

The results of the analysis of the 66 Models of Good Practice for Workplace Health Promotion showed that a gender perspective to a very high degree had been neglected in the choice of the models, and that the chosen models rather mirrored the predominantly male norm of working life, working conditions and health. In particular, the lack of monitoring and evaluation of the programme's outcome from a gender perspective should be emphasised. It should also be pointed out that this result may not be due to actual discrimination of women's health and working conditions, but rather to a lack of knowledge about the processes, which form gender differences at work. It also showed that the policy of mainstreaming adapted by the European Union seriously underestimates the problems of overcoming gender differences at work.

However, the European network for Workplace Health Promotion has realised that their present approach has not been enough gender sensitive. To overcome this a similar workshop to this was arranged in the beginning of September 2000 in Brussels to discuss future needs and formulate strategies for a gender sensitive workplace health promotion model. A policy document was outlined and the workshop is to be followed up by a second one in Stockholm in May 2002.

Some of the recommendations were to:

- Develop a common vocabulary for a European dialogue on gender issues.
- Develop gender sensitive risk assessment and gender sensitive standards.
- Promote more research and good examples from female-dominated sectors or workplaces where many women work.
- Promote gender assessment of health directives – not only for maternity.
- Facilitate equal rights to a planned private life outside work and professional life, the “work life balance”.
- Initiate education and training for women on women's own terms

To summarise, a gender perspective is essential to workplace health promotion strategies because men and women:

- Work in different sectors of industries and occupations, and with different work tasks within the same occupation.
- Have different opportunities for work control, flexibility in work, decision-making and careers.
- Have different division of work between work and family life.

Therefore it is important to recognise the needs of both women and men in work organisation change, i.e. to:

- Give equal weight to the knowledge, values and experiences of women and men.
- Recognise the need of full participation of women and men in decision-making.
- Ensure that both women and men identify their health needs and priorities, and acknowledge that certain health problems are unique or have different serious implications for women and/or men.

A gender sensitive approach to Workplace Health Promotion may also result in more effective interventions to improve health and working conditions and may lead to a better understanding of the causes of ill health. Healthy workplaces and healthy working conditions also economically benefit both the companies and the workers.

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Listening to women: Action-oriented research in ergonomics

Professor Karen Messing and Professor Ana Maria Seifert

CINBIOSE, Université du Québec à Montréal, CP 8888, Succursale Centre-ville, Montréal Québec H3C 3P8. messing.karen@uqam.ca

Since 1993, an interdisciplinary university research group has collaborated with three Québec trade unions in attempts to change women's working conditions. The collaboration has produced research in ergonomics, law, social work, biology and sociology, leading to some changes in working conditions and gains in scientific knowledge. We discuss here the methods used in ergonomics research during the collaboration, and the framework for the collaboration as a whole¹⁴.

Method used for participative ergonomic analysis

The approach

The methods used are based on the analysis of work activity, developed by ergonomists in France (Wisner et al., 1967; Laville, 1976; Teiger, 1977; Garrigou et al., 1995; Guérin et al., 1997). This method integrates observation of work activity and interviews with workers and key informants in order to create a portrait of the working conditions. The work is generally characterised and then critical operations are chosen and observed in more detail (Lamonde and Montreuil 1995). The purpose of the intervention is to respond to a problem and find solutions, but the method also generates knowledge about working conditions. We think it is particularly well suited to revealing unsuspected aspects of women's work, as shown previously by the research of Catherine Teiger, Nicole Vézina and others (Dessors et al. 1978; Teiger and Plaisantin 1984; Teiger et Bernier 1992; Vezina et al. 1992; David et al. 1999). We have adapted the method to a union-university collaboration on women's occupational health, which we will describe with examples from several studies.

To summarise, the procedures involved are: Effective and careful listening to women workers to establish the nature and extent of occupational health problems and their suspected causes in the work activity; listening to women workers to help determine times and places where the work activity at risk can be observed and documented; establishing a complete context for these observations by prior and complementary interviews and examinations of all sources of data; by observing work activity and registering workers' comments on the activity, testing hypotheses relating to determinants of the work activity; formulating suggested solutions based on the determinants; listening to workers' opinions on the interpretations and solutions, and

¹⁴ More details on many other projects and on that part of the programme that deals with law will be found in Messing (1999).

including them in the analysis. The union partners should then be able to use the researchers' conclusions to gain changes in the workplace. In order to provide a clear picture of the methods, we give detail on these procedures and some examples taken from the experience of our partnership.

Applications in Québec unions

These ergonomic studies are local, or "micro" studies, involving very few workplaces and workers. The choice of the workplace is therefore critical. The method was developed in France to respond to needs identified by specific workplaces. In practice, recent French studies usually start when employers call in a consultant ergonomist to solve problems they have identified with efficiency or health. However, problems experienced by women are often invisible to employers, to scientists and even to the women themselves (Messing 1998, 1999). Therefore, in our case, problems are identified by the women's committees of the three union federations, after consultation with their health and safety committees and with any other relevant union people.

Problem definition

The problem identification therefore must go beyond the immediate concerns of the local union to justify the federations' involvement. Criteria used formally and informally have been: (1) The area of concern must be an important one for the whole union federation, not just the local, and a priority for union intervention. The research results should potentially be applicable outside the local union involved. For example, in 1993-95 the three union federations agreed on the theme of women's invisible work, in 1995-2000 it was precarious or contingent work and for 2001-2004 globalisation. (2) The problem must be a specific concern of women workers. (3) The local union involved must have identified a serious concern in this area and be willing to work on it. On the theme of invisible work, one union identified elementary school teachers as a group whose work looked easier than it was (Messing et al. 1997). A second union federation identified bank tellers whose work was undergoing re-organisation (Seifert et al 1997). For precarious work, another union asked the team to examine nurses working on-call (Seifert et al., in press). For globalisation, a federation has requested research on a factory that is experiencing intense competition. Other, more specific projects have been undertaken where time and money permitted. For example, a telephone operators' union requested a study of work-family interactions in a context of unpredictable, variable scheduling (Prévost et al., in press). (4) In the estimation of our collaborators, the local union leadership must be stable enough to carry through the project. (5) The local union must be strong and active, therefore likely to take action based on the research results. (6) Since observation of the work process is essential to ergonomics intervention, there must be a serious probability that the union will be able to guarantee access to the workplace. This has in fact been a serious problem, particularly in the industrial sector. In several cases a union has had to deploy some muscle in order for us to be allowed to enter the workplace, and they have not always succeeded.

A key role in developing consensus between the researchers and the union partners is played by a co-ordinator (Messing and de Grosbois 2001).¹⁵ She must: ensure that needs of unions are understood by researchers and vice versa; keep abreast of union trends and activities to make sure researchers understand the context in which they are working and to prevent problems in applications of results; make links between research results and upcoming union activities. In our case the university pays the co-ordinator, although a union contribution is being discussed. The co-ordinator follows the study and meets as necessary with the union and university partners, alone or together.

Validating the problem definition

Once the work place has been identified, the next step is problem definition, known in French as *analyse de la demande*. If the intervention is to be successful at the local level, the ergonomist must go through the steps of identifying the local problem without any reference to the theme previously identified by the federation. If the federation has correctly identified the workplace, the problem will emerge in these preliminary discussions. In practice so far, this has been the case. The problem is defined through discussions with all available relevant informants. We ask the union executive first to identify criteria for a representative sample of the categories of women workers. For example, a tellers' union gathered together six tellers with different family situations as well as those working in residential, commercial, or low-income areas, and those with a large immigrant population. The teachers' union found six teachers in schools in higher- and lower-income areas and who taught a variety of grade levels and in special classes. The nurses all came from the same hospital but their contracts (full-time, part-time, on-call or a combination) and status (auxiliary, regular nurse, assistant head nurse) varied. In each case, all those identified were union members¹⁶ and all were female. The collective interviews serve to give researchers a general idea of the work and to facilitate workers' defining the problems they face. Since the local union pays some of the cost of the workers' time¹⁷, the number of collective interviews (two to four) is determined by scientific criteria but also by union resources. Among other questions, interviewees are asked to describe their most recent workday starting from when they get up in the morning. They are asked what they like and dislike about their work and about health problems and symptoms. Answers are compiled into a first report that is validated collectively with the interviewees and also with the union executive. The executive is often able to add dimensions not covered by the interviewed group.

¹⁵ Although our formal partnership is relatively recent, the agreements with the trade unions have existed for 25 years and the coordinators have been involved since the beginning (Comité conjoint 1977, 1988).

¹⁶ In Quebec and in Canada, once more than half of an occupational group in a workplace has voted to join a union, all members of the group are members of the union. They may (extremely rarely) choose for ideological reasons to renounce membership but they must pay dues to that union and they are bound by the negotiated contract. Members of a local union may vote to change their affiliation to another union federation, but this can only happen at specified times. About 40 per cent of Québec workers are union members; about 40 per cent of the members of the unions in our partnership are women.

¹⁷ The rest is paid for by the partnership, which is supported by the Québec Ministry of Health.

Preliminary analysis

At the stage of problem definition the researchers also talk to management if they are willing. The most likely context for this to take place is a meeting of the joint union-management health and safety committee, where there is one¹⁸. In most cases, researchers have also interviewed management individually. Key personnel in related occupations may also be interviewed. For example, in a study of adult education teachers where relations between teachers and management were quite polarised, we interviewed guidance counsellors to get another point of view (Messing et al. in press). Sometimes men are interviewed in order to get their perspective, but the focus is on women. Union and management documents may also be consulted. However, in the case of women's work, accident reports are not usually helpful, while sickness absence reports usually contain too little information to be useful. It was helpful for us to see the large number of bank procedures for which tellers were responsible, a set of rule governing absence of adult education students, and nurses' work schedules.

Out of this process comes a list of priorities. In the group of studies done on invisible work, elementary school teachers chose stress, bank tellers chose prolonged standing, bank robberies and job reorganisation, and hospital receptionists picked an inadequate physical work environment. In the group dealing with precarious work, nurses picked the feeling that they could not do their job well, while adult education teachers picked arbitrary decisions by the employer and competition among teachers with precarious work contracts. In the first study on globalisation, the factory workers have picked musculoskeletal problems.

This phase also leads to a choice of locales and times for observation. Preliminary observations are done to generate a broad picture of the work. Different times, services and days of the week are observed for several hours at a time. At this stage notes are taken with paper and pencil on the operations that are done and their sequence (*chronique de quart*). Employee comments are collected during or immediately after the observations, to contribute to understanding the work observed. This procedure serves to describe the work very precisely. An attempt is made to identify the major and critical operations relating to the problem that has been defined. For example, preliminary observations of elementary school teachers were done morning and afternoon in different grades. A work cycle and its variants were identified (teacher presents material, then exchanges with students, then gives exercises). For the bank tellers, interactions with each client were systematised (greet client, listens to requested procedure, makes out relevant slip, enters information in computer, gives out money, says goodbye) as well as variations.

Systematic analysis

Once the work has been generally characterised, researchers choose aspects they want to concentrate on. These can be of different types (Garrigou et al., 1997). The most frequent type of demonstration we have made in the context of the present partnership is that of the nature of the work. A frequent technique in dealing with factory work is to enumerate postures or movements that are known to present a risk for musculoskeletal problems (Vézina et al 1992). Just to list the types of operations carried out

¹⁸ For reasons explained elsewhere (Messing and Boutin 1997), women in Québec are more likely to be in unions where there is no province-imposed health and safety committee.

by elementary school teachers enabled researchers to show the important sources of stress in their jobs. Similarly, noting that they spend more than 90 per cent of the job time on their feet was helpful as a demonstration of one source of fatigue. Seifert et al. (in press) showed that nurses were on their first day after an absence for 53 per cent of the days worked in a month, due to “just-in-time” scheduling. Observation of hospital clerks filling out forms on the computer allowed us to demonstrate the extreme inflexibility of the computer system.

These observations are usually done using a hand-held computer pre-programmed for data entry in categories (“talks to child”, “listens to child” etc.). The software used is Kronos 3, developed by Alain Kerguelen. The categories of a single class (communications) refer to one person and must be mutually exclusive. Up to three classes may be competently entered at a time (communications, postures, movements) using pre-programmed categories for each.

Results of this process

All these demonstrations show the disproportion between the tasks assigned by the employer, which may appear simple and the work required in the real situation in order to carry out the assignments. Catherine Teiger (Teiger and Bernier 1992) has presented this as the difference between “real work” and “assigned work”. It has been suggested that this difference is wider in the case of women’s than of men’s work, accounting for the relative undervaluing of women’s work. The employees must deploy various strategies to accomplish the assigned tasks in the real situation.

A second type of demonstration shows the strategies used by workers to carry out their jobs. For example, Escalona (Messing 1997) showed that elementary school teachers raised or lowered their voices to different extents according to grade level. Although numbers in ergonomic studies do not allow linkage between strategies and health effects, voice problems are already known to be an occupational health problem of teachers. Seifert et al. (1997) noted the length of time tellers stood in one spot. Seifert et al. (1999) transcribed a telephone conversation of a hospital intake clerk to reveal techniques used to make an appointment with a patient whose understanding was impaired.

To identify solutions, it is helpful to do a third kind of demonstration, that of links between undesirable situations and elements in the environment. Thus, links were made between the length of conversations with patients and the proportion of technical vs. caring operations of nurses and the number of sequential days they had spent on the wards. Assistant head nurses who came into the ward after an absence spent less time with patients and more time filling out papers, and the content of discussions with patients was more operational and technical. The movements of bank tellers were related to the position of the cash drawer, computer and calculator. Some elements of the teachers’ difficulties could be traced to lack of appropriate materials. The number of interruptions in the work of bank tellers and of hospital clerks was carefully noted, as well as the sources of interruptions.

Thus, using the observations and other data, the work activity is analysed in terms of the workers’ attempts to reach a successful compromise between the constraints and demands of the job, on the one hand, and her health and well-being, on the other. The best way to do this is by a judicious choice of *indicators*, that is, observable

phenomena that enable us to visualise the workers' strategies (Figure 1). For example, in the case of the teachers, the average duration of communications varied between teachers of first and fourth grade pupils, and thus served as an indicator of the intensity of concentration and the work speed required. We showed that, surprisingly for some, work speed was faster in the lower grades.

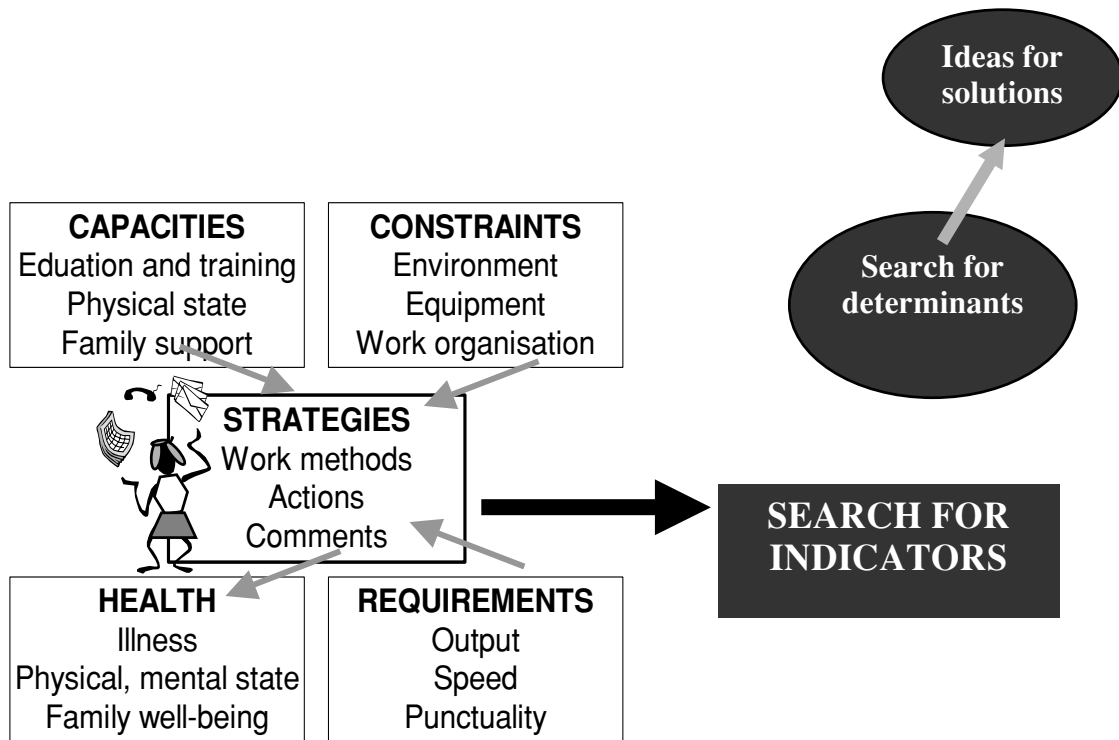


Figure 1 Analysis of work activity

Towards solutions

Suggestions for solutions should arise naturally from the demonstrations. For example, the placement of the cash drawer, computer and calculator forced tellers to step back from their wickets every 20 seconds (indicator), so it is clear that for tellers to be able to sit at their wicket, these objects would have to be moved. Supermarket checkout clerks were shown to lift rather than push heavy groceries (indicator) due to discontinuities in the checkout counters, and these could also be eliminated (Vézina et al., 1994). Sources of interruption and noise (indicators) were documented in various workplaces so they could also be eliminated. We suggested changes in the computer program for the hospital clerks and in the numbers of pupils per class as well as schedules for teachers.

A report with suggested solutions is written and validated, first by consulting the observed and interviewed workers. Next, we have usually been able to validate the report by reference to a joint health and safety committee or a larger more representative group of workers. This part of the research has been especially fruitful for us and three examples will show why.

The research on elementary school teachers started from the large number of published reports that their stress levels were extremely high, resulting in frequent disability. We were able to document a large number of stressful elements in their work, ranging from multi-tasking and a very fast work speed to prolonged standing and uncomfortable temperature and humidity levels. A teacher's comment on the report enabled us to put these results into perspective. He said, "With all that you have demonstrated, I have absolutely nothing to tell the labour inspector. You're talking about 30° c exposures, the inspectors see men in foundries exposed to hundreds of degrees!" This comment revealed to us that, as is often true in women's jobs, (1) it is the cumulative effect of many stressors that creates the stressful effect and (2) the context of work with people changes the effect of environmental agents. In this case, working with thirsty, restless, 6-year old immigrant children in a noisy, overcrowded classroom at 30° c and 20 per cent humidity is not comparable to factory work at this temperature.

When we counted the numbers of physically demanding operations of hospital orderlies, we found that women did more than During the validation, both men and women refused to accept this report and the resulting discussion allowed us to develop hypotheses and strategies for dealing with sexism in this workplace.

Information collected from telephone operators with young children showed that they had to change or attempt to change their schedules and day care arrangements several times per week. We suggested that family responsibilities enter into the determination of work schedules. The resulting discussion showed that family responsibilities were wider than just caring for children or ageing parents, involving alcoholic or psychotic spouses for example, and that these could not be declared to the employer.

Validation

We once used the validation period to demonstrate a hypothesis. We had taken detailed work histories of fourteen adult education teachers on precarious contracts. We then diagrammed these to show the evolution of work hours and numbers of simultaneous contracts. It took an average of fifteen years for the teachers to arrive at a stable number of hours and contracts (but without having a permanent contract). These graphs also showed the wild oscillation of the numbers of hours, from too many to too few, and the fact that maternity leave was never taken. We showed two independent groups of teachers the same two graphs, of teachers A and B, each employed for seven years in the same school commission. A's hours steadily decreased and she eventually left the profession. B's hours rapidly increased and levelled off at a full-time equivalent. Both groups' immediate reaction to the graphs was a somewhat violent epithet equivalent to "brown-noser"¹⁹. The fact that the teachers immediately reacted to employment stability with intense suspicion showed both the depth of insecurity and the unhealthy level and type of competition. The reaction was later confirmed by a questionnaire handed out to all participants in the validation. Responses reaffirmed teachers' feelings of insecurity and competition, in almost all school commissions represented.

¹⁹ "Têteuse de boss!"

Scientists and union: who does what?

The last stage, application of solutions, is primarily the union responsibility. Their success is dependent on the same factors governing any employer-union interaction: balance of forces, economic situation, and union cohesion. The local unions have successfully used our results to obtain changes in the collective agreements or to block employer attempts to make inroads in the agreement. The bank tellers told us we had prevented them from experiencing widespread demobilisation and consequent degeneration of their working conditions. On a wider level, the union federations have used the results extensively for training and sensitisation, as well as for evidence in court cases and arbitrations. On the other hand, changes in the telephone operators' schedules were made impossible since the union had to concentrate on a massive series of job cuts. Hospital intake clerks' workstations were changed, but changes to the computer program, used on a provincial level, were not implemented. The number of pupils per class in Québec was unchanged (although our results helped the union to resist attempts to raise it), but the teachers' union in Maracay, Venezuela, used our results to lower class size from 38 to 32.

The fact that the three union federations collaborate has enabled the partnership to act more globally to rectify the image of women's work as easy and "light". They have used videos, press conferences, brochures and training sessions to publicise the research results. At the same time, the researchers have communicated their results through books, articles and scientific communications.

Scientific validity of this type of study

The bank tellers' union, caught in an intensely adversarial situation, asked for a questionnaire study so as to be able to prove that the conclusions of the report applied generally. Neither the tellers nor we thought the questionnaire necessary for validation, which had already been done, but the union thought it would be a good way to involve all the tellers in the study and its results. The questionnaire was derived from discussions with the representative workers and the union executive, and tested with them, in a procedure developed by Mergler et al. (1983). Once the tellers had filled out the draft questionnaire, we went over their answers, question by question, making sure that they had understood the questions in the ways we intended. We changed formulations of the questions if necessary, and also added questions suggested by tellers in order to give a more complete picture. We found that including women workers in the construction of the questionnaire made it better adapted to the women's working conditions.

Since we had by then completed the ergonomic study, the results of the questionnaire had no surprises for us. Compared to questionnaire studies we had done in other situations, without preliminary qualitative studies, the bank tellers' results were much easier to understand. We were, however, able to obtain complementary information on the after-effects of bank robberies and some other areas where observations *in situ* could not inform us. We were able to do a multiple logistic regression using questions about reactions to bank robberies and demonstrate associations with a measure of psychological distress. The results of the questionnaire

study were then used to support women's claims for compensation, leading to the formation of a special committee on bank violence at Quebec Workers' Compensation Commission. We would recommend this kind of combined qualitative-quantitative approach, centring both approaches on the workers' questions and concerns.

One example will serve to demonstrate how the interaction between researchers and unions can contribute to scientific advancement. In 1989, the ergonomist Nicole Vézina was asked by a union to testify in the case of a supermarket checkout clerk who suffered from back problems. In Québec, as elsewhere in North America, these clerks work standing, with no access to seats during the workday. The worker wished to sit, but the employer contended that the job could not be done sitting (although checkout clerks in Europe, South America and Africa work sitting). The worker won her case, and this stimulated a widespread union effort to obtain seats for other clerks, even those not suffering from back problems. Vézina collaborated with designers and with the two union federations involved to develop and test sit-stand chairs that would facilitate both the manual materials handling and the cash processing aspects of the job (Vézina and Lajoie 1996; Vézina and Laberge 1998). The bank tellers' project and the involvement of some CINBIOSE-trained labour inspectors enabled some of the benefits of this project to be extended to bank tellers (who also stand in North America), although not those in the bank where the project had originated. However, ten years later, supermarket checkout clerks are still not seated, due to resistance from employers.

It became clear that a public sensitisation campaign would be necessary, but this was hampered by lack of scientific data. A literature review done in 1997 with help from the National Institute for Working Life in Sweden showed no well-controlled epidemiological studies focusing on static standing of the type characteristic of supermarket clerks, sales clerks and bank tellers. This was largely because of problems in describing static standing (Wiktorin et al. 1993; Selin et al. 1994). Therefore, two projects were undertaken in order to explore the effects of prolonged static standing, with the ultimate aim of providing a description of the health effects of this posture through both "micro" and "macro" analysis. We felt that both were necessary since the "micro" approach allows us to learn more about the mechanisms for preventing pain and disease and the "macro" or quantitative approach is more convincing for employers, scientists and the public.

The first set of enquiries, done in collaboration with the National Institute for Working Life, are aimed at documenting the effects of static standing on pain and developing a method that would allow researchers to monitor the effects of changes in the work process. We have succeeded in finding some ways to describe static standing and in demonstrating some effects of static standing on the pain-pressure threshold in the foot among Stockholm store clerks (Messing and Kilbom 2001). The second was a collaboration with the Montréal-Centre Department of Public Health to analyse population-based data from the Québec Health Survey (Arcand et al., 2000). From the experiences with bank tellers, checkout clerks and store clerks, we were able to distinguish *usually stand/usually sit*, *mobility* if standing, and degree of *constraint*. Both the working posture and the degree of constraint were related to pain among the working population, the first time this has been documented. We are

pursuing both lines of research in the hope of describing more carefully both the working postures and the health effects, as well as investigation of gender-specific effects on cardiac frequency (Hjelm et al. 1996). Thus, questions posed by women workers have led not only to advances in their conditions, but also opened up new lines of scientific inquiry.

Concluding thoughts

Several factors can favor successful union-university collaboration on occupational health research. The first is the presence of an active women's committee in the union. Our unions are quite active in health and safety, and it has been important that health and safety committees work with the women's committees. This has not been easy, since health and safety committees often feel that they have included women's perspectives if there are women on the committees and if women workers have been included in interventions. However, specific concerns such as risks associated with "light work", emotion work, work-family issues, maternity, nursing, sexism, harassment, difficulties with recognition of women's problems, and violence have not been automatically included as health and safety concerns. In practice many of our research results have been lost to all but the scientific milieu because of difficulties in making them mesh with the union concerns of the moment.

Another factor is union militancy. Our methods absolutely require entry into the workplace for observation. This is impossible without the consent of the employer. Many months have been lost in trying to negotiate entry with recalcitrant employers, and in practice, we are only able to enter when there is a strong union that is prepared to push hard to allow us to get in. In one case, the workers walked out in support of their demand for the study, but the employer closed the business and we were never able to do the study. In a walk-through, we had seen women workers performing several operations at extremely high risk for carpal tunnel syndrome (CTS), and some had already been treated for CTS. This is only one of several situations where our alliance with unions has prevented us from being able to do a study. It is quite probable that employers who are aware that their workers suffer the worst health and safety risks are those who will not allow studies to take place.

Finally, the method is best adapted to those risks that are visible to the workers, causing stress and physical pain. For toxic exposures, our colleagues are obliged to use methods relying more on technical expertise and quantitative methods (Mergler 1999).

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