The career of men and women in the Flemish ICT sector. Opportunities and threaths.

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Abstract

Because of macro-economic changes, organizations are now functioning differently than the classic bureaucracies with their career ladders: rapid technological changes and globalization have their impact on the way a company should ideally work. The work organization is being increasingly characterized by a less hierarchically organized structure with more autonomy and responsibility for each employee but also by ever greater demands on the employee, who has to be able to work flexibly in an ever-changing organization. As a result careers are changing. The traditional linear career has been replaced by a multitude of different career trajectories. The mobility of employees is greater and horizontal career transitions become more common. This paper will focus on equal opportunities in the new economy. It is clear that not everyone is capable of profiting from the opportunities that such a flexible labour market offers. The aim of this paper is to show that some of the mechanisms that hinder women to advance through the glass ceiling are strengthened, some can be more easily avoided and some new opportunities and threats arise.

We use a survey in the Flemish ICT-sector to analyse the vertical gender segregation. We use the ICT sector as an example of a flexible labour market. The organizational changes that lead to flexible career formation are intensified in the ICT sector. The ICT sector is characterized by rapid technological changes that compel companies to organize themselves in such a way that they can respond flexibly to it: the companies have a flatter organizational structure with more teamwork in projects. Moreover, the ICT sector is an open community: we see in the ICT sector a great deal of cross-pollination between companies. Companies work together in a network on different projects. In this way, employees get to know different companies, which facilitates transition from one company to another. Because of the rapidity with which technologies come and go, employees, finally, have to constantly retrain themselves: in the ICT, life-long learning is not an empty concept but an essential component of each job. A culture of life-long learning minimizes the jump to a new job, to which a learning period is inevitably associated. Moreover, the ICT sector has, until the beginning of 2001, known a period of economic expansion whereby it was relatively easy to change jobs.

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1 Introduction

This paper reflects a research project on the vertical gender segregation in the ICT-sector. The aim of this paper is to explore the gender differences of the career development in this highly dynamic sector. The observation that women are still under-represented in management in spite of a certain progress, has generated a considerable body of literature, particularly in the Anglo-Saxon research world. Yet, in the light of the development towards more flexible career trajectories, this research tradition has two major shortcomings. First of all, most research lacks a dynamic perspective: the positions of men and women in companies are compared without taking into account the trajectory leading to that position. Secondly, this research generally envisages only a traditional linear career trajectory. The traditional ideas about careers start from people gradually climbing the career ladder of one single organization: *"career is traditionally defined as an ordered sequence of development, extending over a period of years and introducing progressively more responsible roles within an occupation"* (Mavin, 2000, p. 13). This linear career model has long been a touchstone for career success (Mallon, 1999). However, this career model has become a subject for criticism. Today we can no longer adequately describe many careers with the image of the ladder. In response to macro-economic changes, organizations are now functioning differently from the classic bureaucracies with their career ladders: rapid technological changes and global market pressures have their impact on the way a company should ideally work (Tolbert, 1996). The work organization is increasingly characterized by less hierarchy and more autonomy and responsibility for each employee but also by ever greater demands on the employee, who has to be able to work flexibly in an ever-changing organization (EU, 1998, 16-17). Lyness describes these trends in work organization as follows: *'well-defined internal career ladders appear to be breaking down due to downsizing, reduction in management layers, increased use of contingent workers, and the professionalization of management so that training and experience are less firm-specific'* (Lyness and Judiesch, 1999, 169). The changed work organization produces another career model in which employees can and must constantly give form to their own career (Baker and Aldrich, 1996, Walesh, 2001). The traditional linear career has been replaced by an increasing heterogeneity and different career trajectories.

1.1 New career concepts

Several new concepts have been formulated that attempt to grasp the complexity of modern, flexible careers as a response to the changed organization of companies and the demands that employees have to meet. One of the pioneers of the non-linear career models is Douglas T. Hall. In 1976, he discussed the 'protean' career (Mirvis and Hall, 1996, 241-242). Other concepts that were used are: the 'transitory' and 'spiral' career (Woodd, 2000), the 'career-resilient' workforce (Kouzmin et al., 1999, 242) or the 'portfolio' career (Templer and Cawsey, 1999). Another concept is that of the 'boundaryless career', which emphasizes the boundary crossings that employees make during their careers: boundaries between functional areas and between organizations (Arthur

and Rousseau, 1996b). The following of a career ladder within one single organization or company is replaced by an apparently goal-less pattern of career steps that extend over various organizations. However, the concept of a boundaryless career is misleading for, in the flexible career form that it describes, boundaries have not disappeared (Gunz et al., 2000). The boundaries between organizations and between functional domains have become less rigid; crossroads have developed across boundaries that previously were well sealed. Therefore, we will use the concept of 'nomadic career' further in this article as a synonym for the boundaryless career. We have taken the concept from the French translation of the concept of 'boundaryless career' by Cadin, Bailly-Bender, and Saint-Giniez (2000).

1.2 The origins of the nomadic career

The development of nomadic career trajectories is closely connected with social trends on a macro, meso and micro level. Tremblay remarks that the ideas about changes in career trajectories have been preceded by ideas about changes in the organization of companies: first there was the nomadic company as a result of macro economic changes and only then there was the nomadic career (Tremblay, 2003). In his influential book, Rise of the Network Society, Manuel Castells describes three crucial features of the new economic order that emerged in the eighties and nineties: (1) the capacity to generate, process and apply information is crucial for the competitiveness of firms, (2) the new economy operates on a global level and (3) business networks are the leading organizational form (Castells, 2000 (second edition), p.77). Rapid technological changes and globalization have an impact on the structure of companies. In a dynamic and unpredictable environment companies have to be able to react swiftly to changes. They need what Mintzberg calls an organic structure (Lammers et al., 2000, p. 493) or what Castells calls a network organization. Dynamic network organizations adapt continually to rapidly changing markets. Networks arise when companies concentrate on their core competencies and call upon other companies for all the other components needed in the production chain. A product or service comes into existence only with the collaboration of several companies in a network (Miles and Snow, 1996). These organizations emphasize the importance of teamwork instead of the hierarchical positions in the work organization. Project working is often accompanied by an organizational model where the lowest management levels are dismantled. Project leaders take over the tasks of the lower managers without the title (Evetts, 1997). Even traditional bureaucratic companies have to change their organizational structure in a dynamic environment. Actually, this means that these organizations work with temporary project teams and task groups that consist of members of different divisions and hierarchical levels of the organization. Günter Schmid attributes the development of flexible careers not only to these macro economic trends and their consequences for the organization of firms. He also points to the individualization of society. Individuals are more and more guided by their own individual life plans and not only by societal institutions like the church, the state or the family (Schmid, 1998). Everyone writes his or her own biography (Beck, 1992, p. 135). Or more specifically: everyone constructs his or her career.

1.3 Gender segregation and the nomadic career

The emergence of the nomadic career has several possible gender effects[1]. In the nomadic career, some authors see the possibility of finding a better balance during the working career between work and private life by alternating periods of much work with periods of less work. *"More-flexible career options, in turn, give people the freedom to change their career orientations over their lifetime"* (Mirvis and Hall, 1996, 246). Others qualify the individual freedom of choice of the working people, also when the careers no longer follow the standard hierarchical path: *"… in many cases career planning is done mainly by the organization, and the individual has very little effect on it"* (Baruch, 1996). According to Rosemary Crompton, career breaks should, in theory, have fewer negative effects on someone's career course because working people are less dependent on organization-specific knowledge (Crompton, 2002). In practice, however, this advantage is undone because nomadic careers require a large time investment. Fletcher and Bailyn, for example, stress that the boundary between private life and work has been hermetically sealed off also in the nomadic career model: *"… the worker implicit in the boundaryless form of organization continues to be one whose ability, willingness and energy to focus on work, and to develop new marketable skills, are unconstrained."* (Fletcher and Bailyn, 1996, 257). Bailyn and Fletcher call this the paradox of the nomadic career: on the one hand, workers are themselves responsible for their career and have to find a balance between work and private life but, on the other hand, employers expect that workers put aside their private lives to the advantage of their career. Successful nomadic careers require a great time investment: *"… in the absence of a transparent career path, managers increasingly rely on individual discretion in the appraisal process and expect low level staff to demonstrate their commitment through working longer hours or working for a temporary period in posts with greater responsibility"* (Grimshaw et al., 2002). This makes it difficult to find a good balance between work and private life. Candace Jones observed this in the film industry: *"The second challenge at this stage of one's career is to maintain some sense of balance between personal and professional life. The constant demands of performing quality work, seeking new projects, and maintaining a personal network of relations can consume the energies and lives of project-network participants"* (Jones, 1996) Employers demand total dedication from their personnel. Arnold cites a senior manager: *"Companies are looking for highly committed, totally flexible and completely disposable employees"* (Arnold, 1997, 33). The flexibilization of the European labour market has perhaps not developed to the same extent but the trends are present, certainly in the ICT sector.

2 Study: an exploration in the Flemish ICT-sector

The analysis of the assumptions about the gender aspects of the nomadic career goes beyond the scope of this paper. The aim is to explore the vertical gender segregation in an environment where the nomadic career is dominant. We limit ourselves to the following two research questions:

- What are the determinants of the nomadic career? Is being male or female one of them?

[1] For a more elaborate analysis of the gender aspects of the nomadic career see: (Valgaeren, 2005)

- Does the nomadic character of the career have an influence on the hierarchical position of men and women?

2.1 The ICT-sector

The data were compiled in 2002-2003 in the Flemish ICT sector. This sector was not chosen by chance. The research in the Flemish ICT sector, in terms of gender, is minimal. Moreover, we were looking for a setting to study nomadic career trajectories. A number of characteristics of the ICT sector has led us, from the outset of the project, to suppose that the nomadic career would be easy to find. Research in Silicon Valley confirms this hypothesis for the American ICT sector (Carnoy et al., 1997). Indeed, the organizational changes that lead to nomadic careers are intensified in the ICT sector. The ICT sector is characterized by rapid technological changes that force companies to organize themselves in such a way that they can respond flexibly to them: the companies have a flatter organizational structure with more teamwork in projects (Colcough and Michielsens, 2004). The projects in the ICT sector have a short life span of at most two or three years. The completion of a project is a typical moment for changing jobs (Gunz et al., 2000). Gunz, Evans, and Jalland, moreover, stress that the ICT sector is an open community: we see in the ICT sector a great deal of cross-pollination between companies. Companies work together in a network on different projects. In this way, employees get to know different companies, which facilitates transition from one company to another. Because of the rapidity with which technologies come and go, employees, finally, have to constantly retrain themselves: in the ICT, life-long learning is not an empty concept but an essential component of each job.

This article is based on a broader research project on the vertical gender segregation in the ICT-sector. The focus is on the gender aspects of nomadic career trajectories. We ask the question of what the nomadic career means for the moving up of women to management positions: do the same mechanisms continue to play a role that hinder women from moving up to management functions on the classic career ladder? Only some of the results of this research project are given here, namely those that concern the analysis of the quantitative survey. We also conducted qualitative interviews with male and female managers and a survey among companies about the composition of their labour force.

2.2 Research methodology

We used a two-stage sampling technique. In a first stage, a sample of Flemish ICT-companies was approached to participate in the research project. In a second stage, all the employees of the companies who were willing to participate, received an electronic questionnaire. Initially, we planned to approach only a sample of the employees of participating companies. But we had to give up this plan. Mainly for two reasons. On the one hand, the results from the first stage were disappointing: only a small proportion of companies were prepared to distribute the survey. On the

other hand, a sample would have been an even bigger barrier for the companies to cooperate because it increases the effort that had to be made by them. As a result, we lost control over the number of employees that received the survey and the way the survey was announced in the company. In most companies, all the employees received an appeal to fill in the survey via email. In two companies, only one department was involved. In two other companies, the appeal was not distributed via mail, but via an internal newsletter.

All potential respondents were approached twice. The total response is 16,5%. In companies who distributed the appeal via email the response varies between 12,4% and 66,7%. In the two companies who used their internal newsletter, the response was much lower, namely 5,4% and 4,7%. When we do not include these two companies, the response increases to 34,9%

Table 1: response

company or department	employees	response N	response %
1.	7	2	28,6
2.	17	10	58,8
3.	20	4	20,0
4.	21	8	38,1
5.	28	16	57,1
6.	32	13	40,6
7.	35	7	20,0
8 .	38	20	52,6
9.	40	17	42,5
10. (department)	40	17	42,5
11.	57	20	35,1
12. (department))	90	60	66,7
13.	125	35	28,0
14.	135	58	43,0
15.	190	37	19,5
16.	210	26	12,4
17.	273	98	35,9
18 . (via internal newsletter)	725	39	5,4
19 . (via internal newsletter)	1200	56	4,7
total (1-19)	**3283**	**543**	**16,5**
total (1-17)	**1358**	**474**	**34,9**
other[2]		34	
total number of respondents		**577**	

3 Results

This section contains the results for the two research questions: (1) What are the determinants of the nomadic career? Is being male or female one of them? (2) Does the nomadic character of the career have an influence on the hierarchical position of men and women? In theory, a two-stage sample must be analysed by multilevel techniques (hierarchical linear model) (Snijders and Bosker,

[2] Information about the company was not provided by the employee (26 respondents) or the respondent works in a company which was not included in the first stage of the sample (8 respondents).

1999). For the purpose of this paper, we only present the results from ordinary regression and logistic regression techniques, mainly for two reasons. Firstly, when we use multilevel techniques, the effects of the second level (the company) are very small. Secondly, we do not use company characteristics as variables in the regression models. The results of the multilevel analyses will be published later.

3.1 The nomadic character of the career of the respondents

3.1.1 Construction of the nomadic career variable

To assess the nomadic character of the career of the respondents, we started from the physical career (Bagilhole, 2002). This comprises the succession of the various career steps or transitions in someone's career, which is comparable to the curriculum vitae. In a nomadic career, these transitions have specific characteristics: boundaries between companies and between functional domains are regularly crossed, while this is rather exceptional in the linear career (Arthur and Rousseau, 1996a). We used four variables to construct the physical career of the respondents:

- the number of companies (external steps),
- the number of changes of functional domain[3],
- the number of horizontal career steps,
- the number of refusals of vertical career steps.

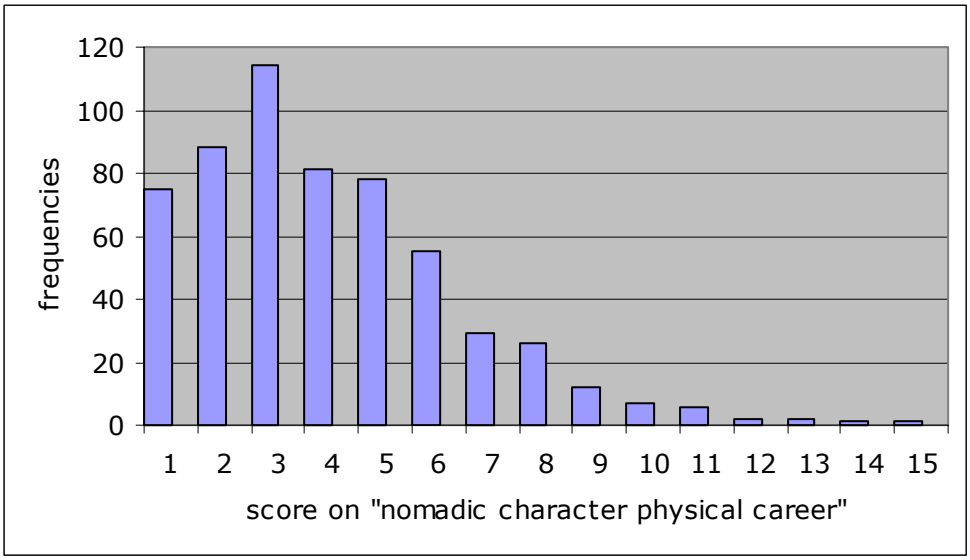
A combination of these four variables gives the new variable "nomadic character of the physical career". Table 2 contains the features of this new variable. The minimum score is 1. This means that the respondent has been working in the same company and the same functional domain since the beginning of his or her career, has never refused a promotion and has never made a horizontal career step. As soon as the respondent has done one of these things, the score rises. The average score is 4,11. As figure 1 shows, the variable does not follow a normal distribution: there is a skewness to the right[4].

Table 2: nomadic character of the physical career

N	Valid	577
	Missing[5]	0
Mean		4,12
Std. Deviation		2,47
Variance		6,09
Minimum		1,00
Maximum		16,00

[3] In the questionnaire we made a distinction between three functional domains: commercial, ICT and administrative. The respondents were asked if they ever made a transition between any of these domains.
[4] The Shapiro-Wilk test on the assumption of normality confirms the picture of figure x: de test statistic is .913 with p=.000. We cannot assume a normal distribution.
[5] Missings were replaced by sample averages.

Figure 1: frequency distribution nomadic character physical career



3.1.2 Determinants of the nomadic character of the career

If we want to know which characteristics of the respondents have an influence on the nomadic character of the career, we can execute a regression analysis. Model 1 in table 3 contains only two predictors: gender and career tenure. By including career tenure we control for the years the respondents are active on the labour market to take into account that the length of the career of the respondents is not constant. Being male or female does not have a significant direct influence on the nomadic character of the physical career. R^2, the proportion of explained variance equals ,209: 20% of the variance in the nomadic character of the physical career is explained by a combination of gender and tenure. Model 2 contains a number of extra variables. R^2 increases significantly and equals ,332[6]. Model 2 is a better predictor of the nomadic character of the physical career then model 1. Not surprisingly, career tenure remains the most important variable in the model. What can we conclude about the other predictors in model 2?

- Personal characteristics

  All other variables held constant, respondents with no technical diploma have a higher score on the nomadic character of the physical career then respondents with a technical diploma. Because of the scarcity of technical employees, we expected the contrary. This could mean that companies successfully invest in their technical staff to prevent high turnover rates. On the other hand, respondents who have a more positive attitude towards technology have a higher score on the nomadic character of the physical career. The same conclusion holds for respondents who worked in an ICT-function at some time in their career (see career characteristics). Respondents with children have a higher average score on the nomadic character of the physical career then respondents with no children.

[6] Apart from gender, this is a model with only significant predictors.

- Career characteristics

  Some career events increase the average score of the nomadic character of the physical career. All other variables held constant, respondents who already had an involuntary career transition have a higher average score then respondents who didn't have such involuntary career change. Similarly, respondents who had different ideas about their career then their management, have a higher average score then respondents who did not experience this. This means that part of the nomadic career has been involuntary and caused by external circumstances. Respondents who had a career break, have a higher average score on the nomadic character of their career. Probably because they started working with a different employer after the break. And finally, respondents who have been working less hours during a certain period of their career score higher. Respondents who never worked in an ICT-function score on average lower on the nomadic character of their career then respondents who did work in an ICT-function.

- Career attitudes

  An important part of the predictors we wanted to include in the model are several career attitudes. We used a factor analysis to construct these attitudinal variables (see appendix 2). Only one career attitude has an impact on the physical career: the higher the score on factor 3, the lower the average score on the nomadic character of the physical career. Factor 3 expresses to what extent the respondent puts the responsibility for the career in the hands of the employer (cfr. 3.1.2). Respondents who think they are themselves responsible for their career, score higher on the nomadic character then respondents who depend for their career on their employer. The other attitudinal variables do not have a significant effect.

Being male or female does not influence directly the nomadic character of someone's career. We also included gender in the model as an indirect effect. These effects are only given in the graphical presentation of the model in figure 1 (see appendix 1). Separate logistic regression models with gender as the only predictor, resulted in two significant effects of gender on the variables in the model. The odds of having no technical diploma is 4 times greater for women then for men. The odds of having experienced different ideas about your career then your management is 1,5 times greater for men then for women. Lastly, ordinary regression shows that women have a less positive attitude towards technology then men.

Table 3: regression analysis nomadic character physical career

	model 1			model 2		
	B	Beta	t	B	Beta	t
(Constant)	2,418		7,416**	8,422		7,297**
gender (male/female)	,037	,007	,185	,224	,045	1,086
career tenure in years	,135	,456	11,539**	,105	,353	8,372**
personal variables						
technical diploma (yes/no)				,654	,136	3,138**
children (yes/no)				-,471	-,098	-2,370*
attitude towards technology				,096	,151	3,564**
physical career						
ICT-function (yes/no)				-,478	-,086	-1,993*
involuntary change of function (yes/no)				-1,231	-,192	-5,061**
different ideas about career (yes/no)				-,427	-,088	-2,298*
longer than one month out of work (yes/no)				-,576	-,106	-2,861**
periods with less working hours (yes/no)				-,930	-,159	-4,327**
career attitudes						
factor 3				-,111	-,085	-2,312
R^2		,208			,338	
Adjusted R^2		,204			,324	
Std. error of the estimate		2,141			1,975	
R^2 changed (model 2 versus model 1)					,131**	

* significant on level 0,05 ** significant on level 0,01

3.2 Vertical gender segregation

We start with a bivariate analysis of the position of men and women in the organizational hierarchy: what position do men and women occupy? Next, we try to explain the differences in hierarchical position. The nomadic character of the physical career is included as a possible determinant of someone's hierarchical position. The underlying hypothesis was the following: the higher the nomadic character of your career, the higher the hierarchical level. We expected that nomadic transitions can be used to speed up your career.

3.2.1 Bivariate analysis

We asked the respondents to assess the hierarchical level of their function. Contrary to our expectations, we don't see differences between men and women. The majority of the respondents (57%) have a non-managerial function. 43% have a managerial function: they indicated one of the following functions: top management, staff function, middle management, lower management. In reality, the differences between men and women are probably situated on the higher levels of management. In spite of a certain progress women are still underrepresented in top management positions. Because of the small sample size, these differences are not statistically significant.

Table 4: hierarchical position (%)

	men	**women**
top management	5,0	2,8
staff function	6,7	8,0
middle management	15,4	14,1
lower management	16,2	17,4
non-managerial	56,7	57,7
Total	**100**	**100**

N Missing = 6
χ^2= 2,139 (p = 0,710)

However, detailed analyses show a more subtle vertical gender segregation. When we decompose the hierarchical position into it's two components there are still differences between men and women. The two components are (1) having a peoplemanagement competence and (2) the capacity to influence the company policy. Only 18% of the female respondents are directly responsible for at least one subordinate, whereas 26% of the men have peoplemanagement competence. But, for women who do have peoplemanagement competence, this is a more important part of their job then for men: women give a mean score of 6,8 out of a maximum of 10, men give a mean score of 5,9.

Table 5: peoplemanagement competence

	men	women
no	74	82
yes	26	18
Total	**100**	**100**

N Missing 6
χ^2= 5,116 (p = 0,024)

Table 6: importance of the peoplemanagement competence

	mean	**standard deviation**
men	5,89	2,126
women	6,80	1,876

N = 126
F = 4,929 (p = 0,028)

Regarding the second component of the management competence, namely the influence on the company policy, we see that women also have a significantly lower average score then men (2,55 versus 3,03).

Table 7: influence on the company policy

	mean	**standard deviation**
men	3,03	2,225
women	2,55	2,054

N = 574
F = 6,509 (p = 0,011)

3.2.2 Multivariate analysis

We composed three models to detect the determinants of each of the three managerial variables: hierarchical level, peoplemanagement competence and influence on the company policy. To detect the determinants of occupying a managerial position (hierarchical level), we used a logistic regression model. The categories of the dependent variable are: having a managerial job/having no managerial job. Career tenure is used in the model as a control variable to take into account the different age of our respondents. Being male or female does not influence the odds of performing a managerial function: when we control for all the other variables in the model, the chance of women to have a management position equals that of men.

- Personal characteristics

  The educational level has a great impact: all other variables held constant, the odds of being a manager is seven times smaller for respondents with no degree, then for respondents with a university degree; for respondents with a degree outside the university it is three times smaller then for university graduates.

  The attitude towards technology influences the odds of having a management job: when the attitude becomes more positive, the odds of having a management job decreases. This probably means that people with a passion for technology do not enter management jobs because in these jobs, the technical level diminishes.

- Career characteristics

  When we include the nomadic character of the career as a determinant in the model, it does not have a significant effect. Nevertheless, when we add the composing variables separately, three of them do have a significant effect, namely the number of functional domains, the number of horizontal career steps and the refusal of promotion. The odds of having a managerial position rises with the number of functional domains. Respondents with no career transition without promotion have a significantly lower chance of having a managerial position then respondents with several transitions without promotion: horizontal transitions are more common among managers then among non-managers. The odds of being a manager are also higher for respondents who already refused one promotion then for respondents who did not. Contacts with a head-hunter rise the odds of having a managerial position, but here the causal relation is probably the inverse: occupying a managerial position rises the chance of contacts with a head-hunter. Lastly, career breaks are bad for your career: the odds of being a manager are higher for respondents who haven't been out of work for longer then one month.

- Career attitudes

  One of the attitudinal factors, factor 1, has a positive effect on the odds of having a managerial position. Respondents who score high on this factor are confident about the future, they are ambitious and want a challenging job. The odds of being a manager rise when the sore on this factor rises.

We already mentioned some of the indirect effects of gender on the variables in the model. We can add here some extra effects. The odds of having no diploma is 1,8 times higher for men then for women. Being female has a negative effect on the number of functional domains: women mention less functional domains then men. Women score lower on factor 1: they are less ambitious. The odds of having been contacted by a headhunter is 1,7 times smaller for women then for men.

Table 8: logistic regression hierarchical position

	hierarchical position	
	Wald	exp (B)
constant	14,238	0,036
female	0,040	0,001[1]
career tenure	22,761	1,075**
personal variables		
no certificate higher education[7]	31,636	$7,63^{-1}$**
certificate higher education (outside university)	21,002	$2,99^{-1}$**
attitude towards technology	10,971	$1,12^{-1}$**
physical career		
number of functional domains	3,140	1,411*
no career transition without promotion[8]	8,681	$2,17^{-1}$**
one career transition without promotion	1,113	$1,37^{-1}$
one refusal of promotion[9]	5,397	2,485*
several refusals of promotion	2,174	4^{-1}
contacted by headhunter	10,728	2,056**
never been out of work for longer then one month	5,653	1,796*
career attitudes		
factor 1	20,886	1,151**
Nagelkerke pseudo R²	.318	

* significant on level 0,05 ** significant on level 0,01

In table 9 we present the results for the model with the variable "peoplemanagement" as the dependent variable. When we compare this model with the model for hierarchical position we can see that Nagelkerke pseudo R² becomes much smaller. It is easier to predict whether someone has a managerial position then whether someone has peoplemanagement competence. The number of statistically significant predictors declines considerably.

- Personal characteristics

  The educational level remains an important predictor in the model: the odds of people with no degree to have peoplemanagement competence is three times smaller then the odds of respondents with a university degree. The difference between respondents with a university degree and respondents with another kind of diploma is not significant any more.

  A characteristic of the family of the respondents becomes significant in this model: the odds of respondents with no children to have peoplemanagement competence is smaller then that of respondents with children.

- Career characteristics

  There remains only one career variable statistically significant in this model: career breaks are penalized. The odds of respondents with no career breaks are almost twice as high as the odds

[7] reference category is "university"
[8] reference category is "more the one transition without promotion"
[9] reference category is "no refusal of promotion"

of respondents with career breaks. The normal maternity leave of three months was not considered a career break.

- Career attitudes

  The same attitudinal variable, namely factor 1, has a significant effect in the model, although the effect is somewhat smaller. factor 1 expresses to what extent the respondents are confident about the future, are ambitious and want a challenging job. The odds of being a people manager rise when the sore on this factor rises.

Table 9: logistic regression peoplemanagement

	peoplemanagement	
	Wald	exp (B)
constant	13,317	,033
female	3,510	$1,55^{-1}$
career tenure	10,129	1,047**
personal variables		
no certificate higher education[10]	9,041	$2,99^{-1}$**
certificate higher education (outside university)	1,943	$1,4^{-1}$
no children	4,725	$1,68^{-1}$**
physical career		
never been out of work for longer then one month	5,106	1,853**
career attitudes		
factor 1 subjective career	8,301	1,090**
Nagelkerke pseudo R^2	.125	

The last indicator of the management level, the amount of influence on the company policy, is analysed with a regression model. The R^2 cannot be compared with the Nagelkerke R^2 of the previous models. Compared to other social science research, the R^2 is rather low: only 13% of the variance in the influence on the company policy can be explained by the independent variables in the model. In model 1, with only gender and career tenure, we can see that there is a significant difference between men and women: the average influence of women on the company policy is lower then the average influence of men. In model 2, with more predictors, the effect of gender is no longer statistically significant. There are no personal variables that could be included in the model.

- Career characteristics

  In this regression model, the nomadic character of the physical career has a significant negative effect: when the nomadic character of the career increases, the influence on the company policy decreases. This contradicts our initial hypothesis, at least for this indicator of the management level, that the respondents with a nomadic career would have a higher position in the hierarchy: apparently, companies put their policy in the hands of their loyal employees. Respondents who say they had no missed opportunities have a greater average influence on the company policy then respondents who did experience missed opportunities. Contrary to our expectations, working less hours is not penalized: respondents who worked part-time for a period in their working life have on average a higher influence on the company policy.

[10] reference category is "university"

- Career attitudes

  Factor 1 plays the same role as in the other models. But here, also factor 5 is a statistically significant determinant of the influence on the company policy. This factor measures to what extent the family is central in the life of the respondents: more family centred employees score on average lower on the influence on the company, then less family centred respondents.

Table 10: regression analysis influence on company policy

	model 1			model 2		
	B	Beta	t	B	Beta	t
(Constant)	3,137		10,059**	,142		,164
gender (male/female)	-,387	-,088	-2,054*	-,211	-,048	-1,165
career tenure	,018	,069	1,6	,048	,188	3,979**
physical career						
missed opportunities (yes/no)				,486	,105	2,562*
periods with less working hours (yes/no)				-,438	-,086	-2,067*
nomadic character physical career				-,088	-,103	-2,196*
career attitudes						
factor 1				,163	,298	7,144**
factor 5				-,192	-,096	-2,332*
R^2		,013			,128	
Adjusted R^2		,010			,117	
Std. error of the estimate		2,11			1,993	
R^2 changed (model 2 versus model 1)					,115**	

* significant on level 0,05 ** significant on level 0,01

4 Conclusions

In this paper, we have attempted to shed some light on the career development of men and women in the ICT-sector. We used two angles to approach this topic. Firstly, we introduced the concept of the nomadic career, a career trajectory with frequent vertical and horizontal transitions. The empirical research about this type of career is scarce. We looked at the prevalence of this career type and it's determinants in the Flemish ICT-sector. The analysis shows that gender plays no direct role in the nomadic character of someone's career. There is an indirect effect of gender via three variables in the model: (1) Women are less likely to have a technical degree. Respondents with a technical degree have on average a lower score on the nomadic character of their career. (2) Women have on average a more negative attitude towards technology. The nomadic character of the career increases when the attitude towards technology becomes more positive. (3) The chance of women to have had different ideas about their career then their management is smaller then that of men. Disagreements about your career result in a higher average score on the nomadic character of your career.

Secondly, we analyzed the vertical gender segregation and the impact of the nomadic character of the career on the position in the company's hierarchy. Three variables were used to assess the

management level of the respondents: hierarchical position (managerial/non managerial), peoplemanagement competence (yes/no) and level of influence on the company policy. Bivariate analysis shows no gender differences for the hierarchical position, but women are still underrepresented as peoplemanagers and have a lower impact on the company policy. In none of the three regression models with these indicators of the management level as dependent variables, gender has a direct effect. The nomadic character of the career does not have a significant effect on whether or not someone has peoplemanagement competence. The nomadic variables have an opposite effect on the hierarchical level on the one hand and the influence on the company policy on the other hand. The higher the nomadic character of your career, the lower the average influence on the company policy. But, the higher the nomadic character of your career, the higher the chance that you have a managerial job.

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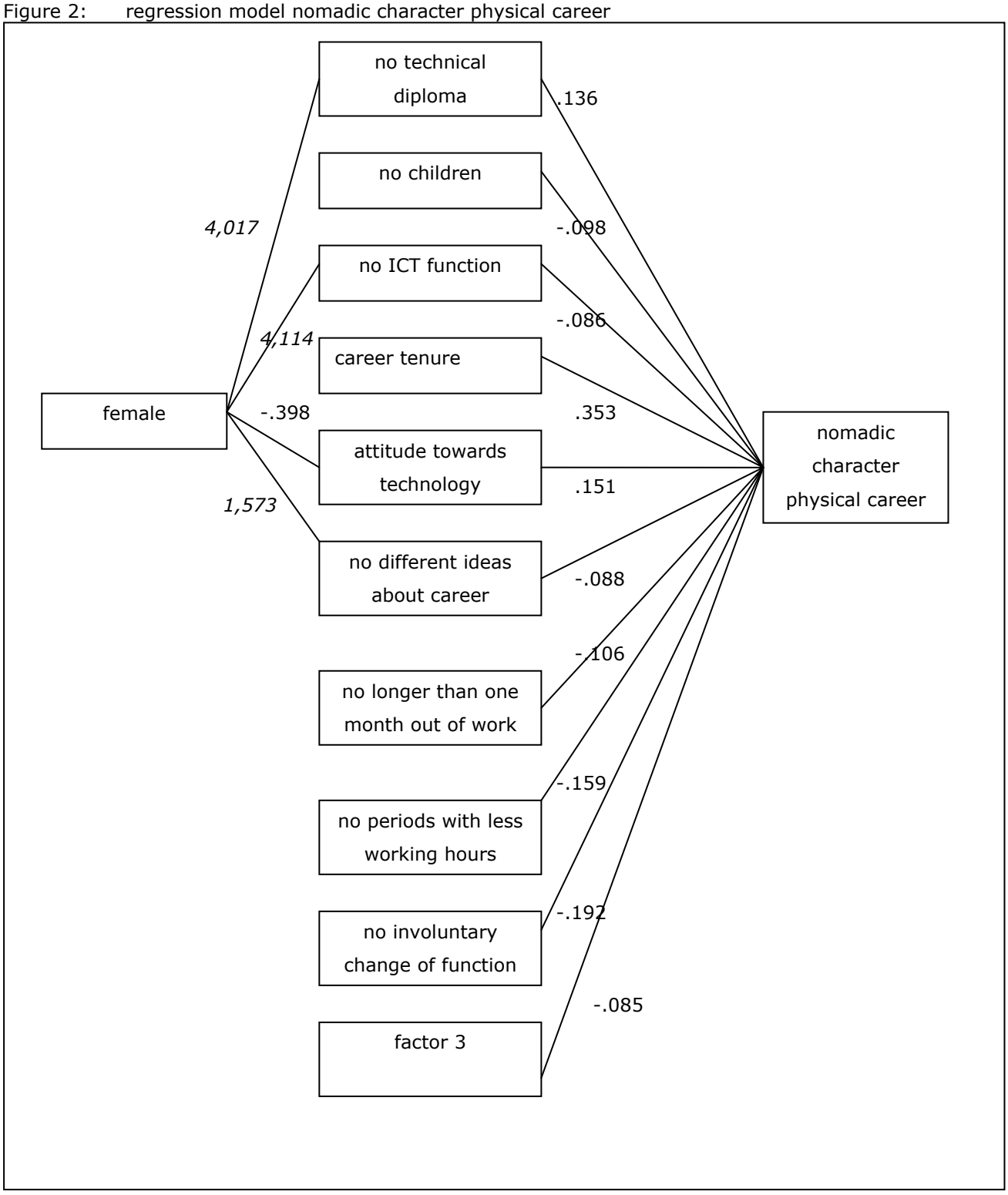
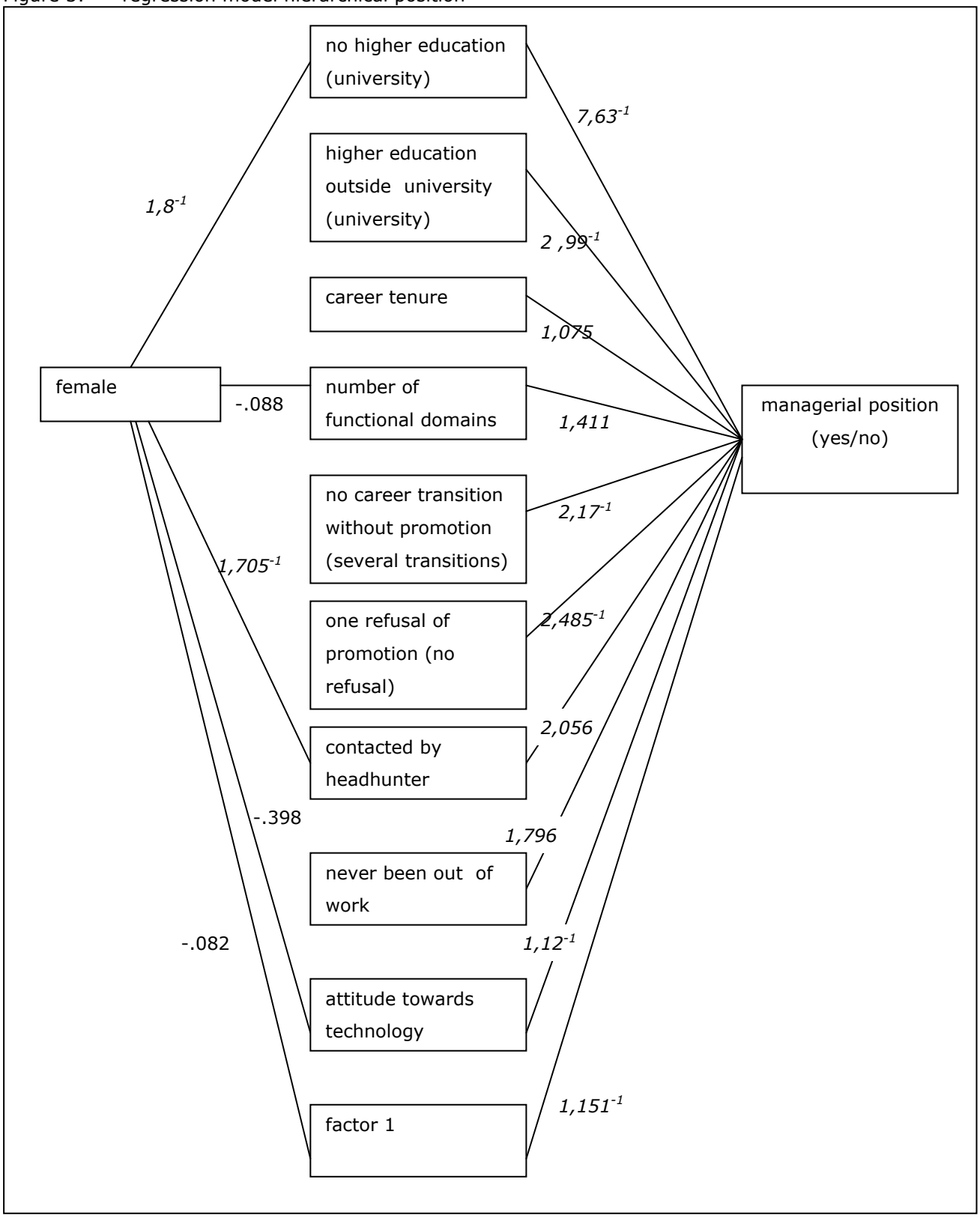
Appendix 1: schematic presentation of the regression models[11]

Figure 2: regression model nomadic character physical career



[11] The effects in italic are the odds in a logistic regression (Exp(B)). The other effects are standardized regression coefficients from an ordinary regression.

Figure 3: regression model hierarchical position[12]



[12] For categorical variables with more then one category, the reference category is mentioned between brackets.

Figure 4: regression model peoplemanagement competence

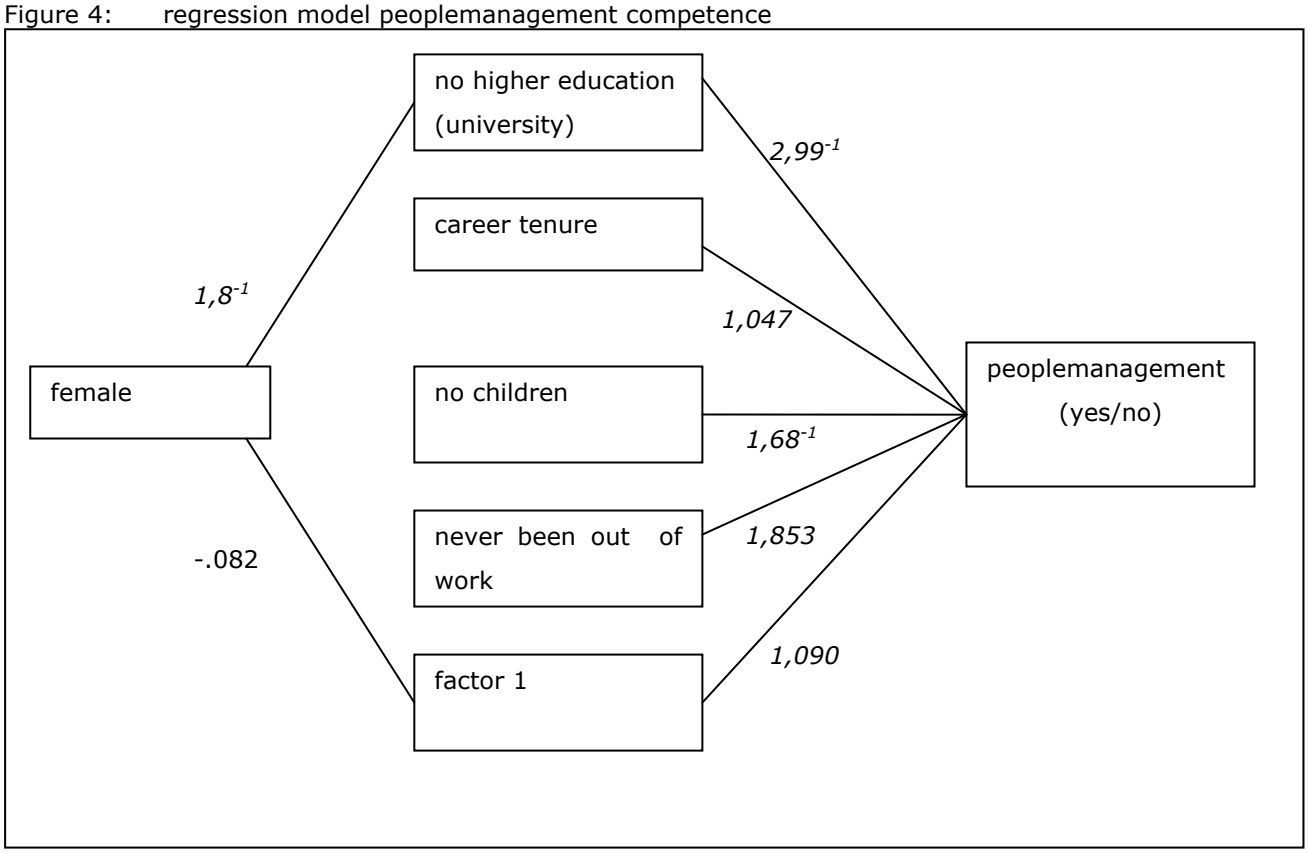
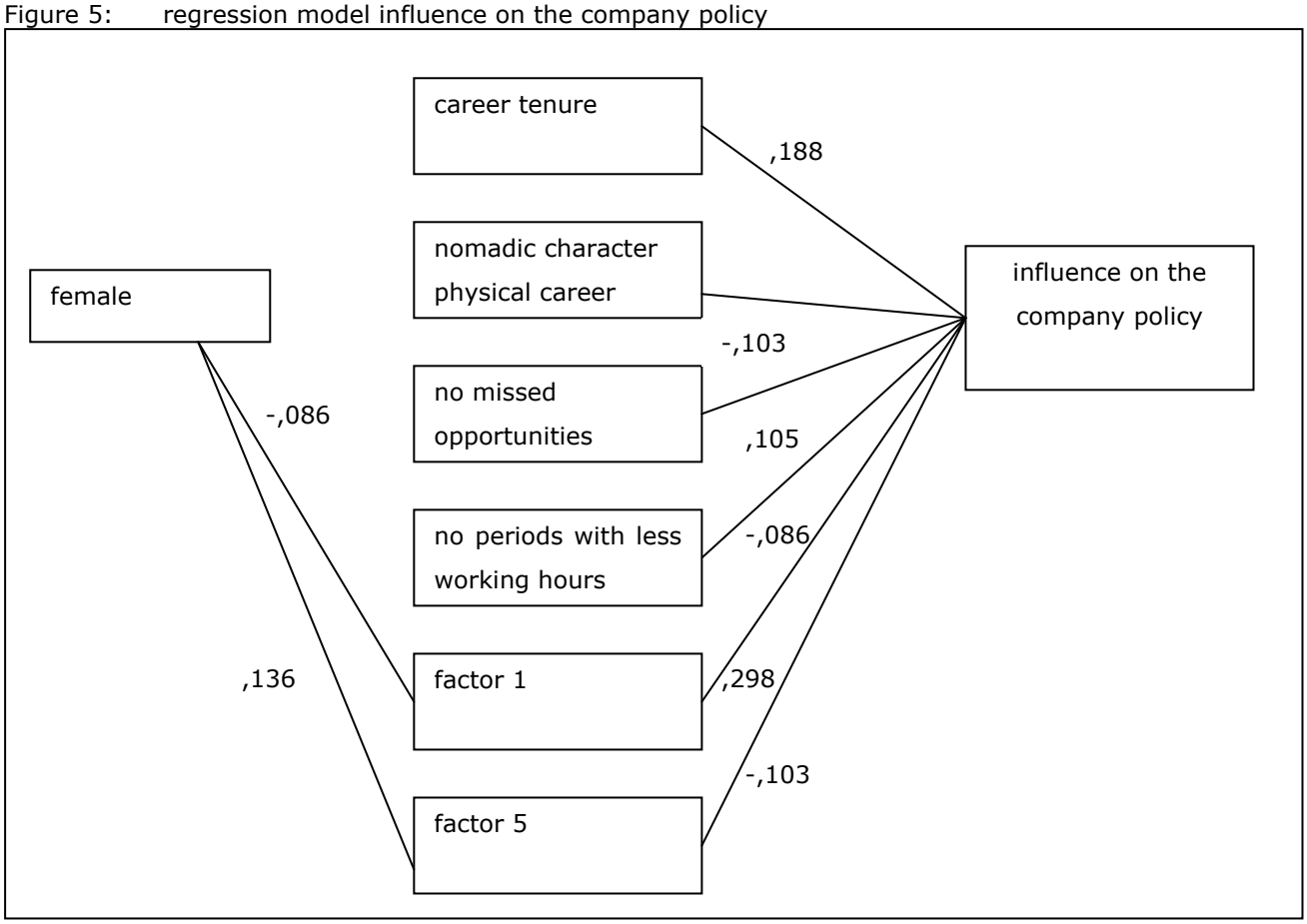


Figure 5: regression model influence on the company policy



Appendix 2: Career attitudes

An important part of the predictors we wanted to include in the model are several career attitudes. In total we have fifteen items in our database on which we performed a factor analysis. This resulted in a solution with five factors. Table 11 shows the results of the factor analysis. Only factor scores higher then .3 or smaller then -.3 are shown.

1. Factor 1 contains six items: "finding it important to get a promotion soon (two years)", "finding it important to be ambitious", "looking for challenges", "finding that your competencies can be used with other employers", "having a clear view of one's future career" and "thinking to be able to find an interesting job after job loss". Ambition and intrinsic challenges are intertwined. Respondents who score high on this factor are confident about the future, they are ambitious and want a challenging job.

2. Factor 2 contains four items: "finding a pay rise necessary with each career transition", "finding it important to change employers regularly", "finding that you become rigid when you stay too long in one job" and "thinking that to much mobility is bad for your career". These respondents have an external and extrinsic ambition. Respondents who score high on this factor want to change jobs often and find their compensations important.

3. Factor 3 consists of three items: "finding that companies have to provide an interesting career", "thinking that individuals do not have much power to influence their career" and "thinking it a bad moment to change jobs". Respondents who score high, put the responsibility for the career in the hands of their employer and they combine this with a low willingness to change jobs.

4. Factor 4 contains only one variable: "finding it first of all important to have fun".

5. Factor 5 also contains only one variable: "being prepared to slow down your career for your family"

Table 11: factor scores career attitudes (principal component analyses)

	factor 1	**factor 2**	**factor 3**	**factor 4**	**factor 5**
finding it important to get a promotion soon (two years)	**,592**			-,361	
finding it important to be ambitious	**,822**				
finding a pay rise necessary with each career transition		**,540**			,342
being prepared to slow down your career for your family				,503	**,519**
looking for challenges	**,774**				
finding it first of all important to have fun			,322	**,645**	
finding that companies have to provide an interesting career	,351		**,404**		
thinking that individuals do not have much power to influence their career		,372	**,540**		
finding that your competencies can be used with other employers	**,460**		-,336		,346
thinking it a bad moment to change jobs			**,477**		
having a clear view of one's future career	**,509**			,358	
thinking to be able to find an interesting job after job loss	**,440**		-,351		,439
finding it important to change employers regularly		**,663**			
thinking that you become rigid when you stay too long in one job	,347	**,516**			
thinking that too much mobility is bad for your career		**-,399**	,388		,366

Tabel 12 gives the main statistics for these five factors. Men and women score only significantly different on factor 5, the variable that measures the centrality of the family.

Table 12: characteristics of the five factors

		factor 1: confident, intrinsic ambition	**factor 2: external, extrinsic ambition**	**factor 3: responsa-bility employer**	**factor 4: fun first**	**factor 5: family centered**
N	Valid	556	562	559	564	566
	Missing	21	15	18	13	11
Mean		20,58	11,31	10,03	3,38	3,37** women: 3,56 men: 3,26
Std. Deviation		3,866	2,476	1,841	,984	1,063
Variance		14,944	6,131	3,388	,968	1,129
Minimum		7	5	6	1	1
Maximum		30	19	15	5	5

** difference between men and women significant on level 0,01