UNIVERSITY OF TWENTE

New ways of working over the years

An analysis of New Ways of Working over the years 1984-2013 and its impact on employees

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Executive Summary

The aim of this paper is to understand the relationship between New ways of working and employee outcomes and how this relationship changed and developed over the years 1984 - 2013. Moreover, it is interesting to see whether factors like gender and age may influence this relationship. The study consists of a cross-sectional survey among German citizens. This survey is conducted annually by the Socio-Economic-panel of Germany already since 1984. Of this survey only the items are taken that represent New ways of working practices, namely working at home, flexible working hours and autonomy, as well as the items representing employee outcomes, which are satisfaction with work, turnover intention, work-life-balance and high stress. Next to that, it is controlled for the covariation of gender and age with the analysed regressions. In some cases the usage of NWW practices does have an influence on employee outcomes. However, in other cases the influence of New ways of working practices on employee outcomes is not noteworthy, as it is weak to non-existent. The same holds true for the covariation of the regressions with gender and age. Moreover, it is hard to give any definite conclusions as too much data is missing in order to give explicit results. This is also a reason why the findings in this paper call for further research. It would be easier to give reliable conclusion if a full dataset would be available. Moreover, it would be interesting to have a study which forecasts the relationship between New ways of working and employee outcomes in order to prevent possible problems and obstacles. New ways of working possibly not only foster positive employee outcomes like work satisfaction, but also negative employee outcomes, for example high stress. Therefore, it is interesting to see which NWW practice fosters which employee outcomes, in order to prevent these negative employee outcomes for the future and decrease their influence today.

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List of Abbreviations

NWW = New ways of working
JD-R=Job demands-resources
SOEP= Socio-Economic Panel of Germany

Chapter 1: Introduction

1.1 Problem Statement

Already since the beginning of the 1980s concepts like “employee empowerment, flexible work practice and trust” (Peters, Poutsma, Van der Heijden, Bakker, & Bruijn, 2014, p. 271) are widely discussed among academicians all around the world. As we will learn later in this paper these are essential conditions of the so-called New Ways of Working (NWW), which can also be called virtualization of work (De Leede & Kraijenbrink, 2014).

Since the beginning of the 1980s there are three waves of virtualization recognisable. First of all, there was the period of the “virtual freelancer”. This simply means that employees more and more made use of an email network. This allowed single persons to work, who would otherwise have been employed at a company. This gave the so-called “marginalized talent” (Johns & Gratton, 2013, p. 4), which includes stay-at-home parents, retirees and students, the possibility to access the labour market. Not being bound to an employer and predefined working times and work places gave people more flexibility over their working times and places. However, this flexibility also brought disadvantages with it. As people were not anymore formally connected to a company, they also missed benefits like having access to health and retirement benefits, as well as to career progression, equipment and technical support.
Therefore, the second wave of virtualization, which is called “virtual corporate colleagues”, emerged. This wave of virtualization extended the flexibility of company employees to work anywhere and at anytime. Although, this flexibility of working places and working times was fostering and even increasing engagement and productivity, organizations realized that they still missed some work place benefits like teamwork and collaboration.
Hence, the third wave of virtualization emerged. This wave is called “virtual co-workers” and it means that employers as well as employees tried to develop a shared environment and a feeling of connection to the colleagues. This is, on the one hand, done by meeting via virtual platforms and having group meetings virtually. On the other hand, organizations and workers are also ‘investing in a return to the collocation of colleagues in the real world’ (Johns & Gratton, 2013, p. 6).

Hence, one can see that up until nowadays NWW became more and more a topic in many companies all over the world and still continue to develop their impact. The importance of this topic is also emphasised when looking at its relevance within the World Wide Web. When searching for the term ’New ways of working ‘ in Google Scholar on the 29-04-2016, one gets about 5,01 million hits. When searching for the same term on Google one even gets around 311 million hits.
Still, researchers are not sure about one strict definition of NWW, as it is a rather broad and blurry concept, which is not extensively researched yet (Blok, Groenesteijn, Schelvis, & Vink, 2012; De Leede & Kraijenbrink, 2014). However, some researchers agree that briefly defined NWW is a work design which gives workers control over their work in the aspects of time, space and organization (De Leede & Kraijenbrink, 2014). This means that workers can flexibly decide themselves when they work, where they work, either at home or at a work place in the company and how they work.

Yet, only few is known about NWW in relation to employee attitudes and well-being. It is widely believed that NWW fosters work engagement, but it is also possible that it wears out employees (Ten Brummelhuis, Bakker, Hetland, & Keulemans, 2012).
This can be explained by the Job-Demands-Resources Model (Bakker & Demerouti, 2007). This model explains that there are on the one hand job resources, like autonomy, which is an important

part of NWW as we learn later on. These job resources can lead to motivation and job engagement. On the other hand, there are also job demands, like role ambiguity, which can be a result of less structure and supervision of the job with NWW. Job demands can lead to exhaustion and burnout. Hence, it may be that NWW next to positive effects also have negative effects and can lead to positive, as well as negative employee outcomes (Bakker & Demerouti, 2007).

Furthermore, the development of NWW and its impact on employee outcomes will be looked at over a time span of thirty years, starting in 1984 and ending in 2013. This gives the opportunity to maybe understand causal processes that occur over time, like the changing influence of NWW practices on employee outcomes. Hence, one may also develop solutions for problems that occur due to a growing impact of NWW.

Following, this study aims at clarifying to what extent NWW have an impact on employee outcomes and to what extent this impact changed over a time span of the thirty years from 1984 to 2013. Consequently, as New ways of working possibly not only foster positive employee outcomes like work satisfaction, but also negative employee outcomes, for example high stress it is interesting to see which NWW practice fosters which employee outcomes. Thus, it might be possible to prevent these negative employee outcomes for the future and decrease their influence today.

1.2 Research Question

The research question which is tried to be answered by this paper aims at clarifying to what extent the relationship between New Ways of Working and the above mentioned employee outcomes change over the last 30 years. Hence, the main research question is the following:

To what extent did the impact of New ways of working on employee outcomes change over the last thirty years?

The subquestions which more explicitly examine the different parts of the study are:

1. To what extent did the amount of NWW change over the last 30 years?
2. To what extent have NWW an influence on employee outcomes?
3. How did this relationship develop over the last 30 years?
4. To what extent do variables like age and gender covary with the extent to which NWW have an effect on employee outcomes?

Chapter 2: Theory and concepts

2.1 New ways of working

Over the last few years more and more companies made use of the so-called 'New ways of working'. Many researchers like De Leede et al. (2014) coin NWW to be a broad concept which is ill-defined and not yet well elaborated. However, it is to say that most of them focus on practices of NWW, like flexible working times and working at home. Hence, one can say that NWW could be a concept in which practices are clustered. This paper mainly focuses on NWW from the point of view that employees have the freedom and self-control to decide over their work in three different areas. First of all, employers give their employees the autonomy to decide, when to work. This means that employees can schedule their working hours flexibly. Moreover, many employees have the autonomy to decide where to work. This includes that they can decide to work at home communicating to colleagues via mobile telecommunications technologies. This is also called teleworking or telecommunicating. However, they may also decide to work at workplace in the company's venue. Finally, many employees may also decide flexibly how to work. This implies that they have the autonomy to determine their job duties themselves or decide about the media with which they may communicate with their colleagues and peers. This could be done via smartphones, emails or video conferencing (Blok et al., 2012; De Leede & Kraijenbrink, 2014; Ten Brummelhuis et al., 2012). Consequently, the most important practices of NWW are working at home, flexibility in working hours, and autonomy. (De Leede & Kraijenbrink, 2014; Peters et al., 2014; Ten Brummelhuis et al., 2012).

2.1.1 NWW practices

As already mentioned, NWW practices form the basis in the attempt to define the broad concept of NWW. The following are the most important NWW practices.

Working at home

As flexibility where to work is an important aspect of NWW, the practice working at home is of course also part of it. Some advantages of working at home are that one saves the travelling time to work and back home. Also problems with work-life balance, like time spent with the family, can be more easily sorted out. Through working at home, it is also more easy for employees to adjust their working schedule to their personal needs (De Leede & Kraijenbrink, 2014).

Flexibility

Flexible working arrangements are a central factor of NWW, especially deciding independently when and where to work. As already explained under the concept of NWW employees have the flexibility to decide about their working schedule and the venue where they work. Advantages of these flexible working arrangements are for example the control over one's working time, an enhancement of one's work-life balance. Moreover, it is said that having self-control over one's working arrangements goes along with an increasing job satisfaction (De Leede & Kraijenbrink, 2014; Kelliher & Anderson, 2009; Ten Brummelhuis et al., 2012).

Empowerment/Autonomy

Other important factors of NWW are empowerment and autonomy. This means that with NWW employees have the possibility to decide themselves about many aspects of their job, for example when to work and where to work and which medium of communication to use. This gives them

more autonomy over their work and empowers them to deal with their work tasks themselves without direct supervision by their employers. However, for many people, especially those who have a high personal need for structure, this unknown freedom and autonomy may trigger uncertainties and ambiguities, which they find it hard to cope with. Consequently, it is to say that people with a high need for personal structure prefer leaders who are task oriented and also a direct supervision. This lets us suppose that these people would not be in favour of the implementation of NWW (Slijkhuis, 2012).

2.1.2 NWW conditions

Next to concepts of NWW there are also some conditions that are important to stick to in order to accomplish the above mentioned concepts. These conditions are trust, social cohesion, result-oriented leadership and the usage of IT means.

Trust

Researchers like Peters et al (2014) claim that trust is an important concept within NWW, especially interpersonal trust. Like Mayer in Matzler and Renzl (2006) claims interpersonal trust is '' the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Matzler & Renzl, 2006, p. 1262).

Interpersonal trust has diverse effects. First of all, when two parties trust each other, it leads to a better cooperation between them; it promotes networking among different parties and reduces conflict. Moreover, it is a driver of employee satisfaction (Matzler & Renzl, 2006). For NWW it means that it is important that the employer has trust in the employee and his actions as he cannot control him that effectively anymore, but has to rely his evaluation on outputs instead of presence and behaviour at the office (Blok et al., 2012).

IT usage

As employees can themselves decide where they work, it is still important to cooperate and collaborate with colleagues. Hence working together at a distance via the usage of IT is a vital factor of NWW. This implies that a number of colleagues who work together to achieve a common aim, like finishing a project, but are not in face-to-to face, cooperate and communicate across distance by using ICT means. This is also called virtual teamworking. It is important to overcome the boundaries of distance and to get some feeling of proximity to your colleagues, as it is claimed that people feel closer to other people that are in close proximity to them (MacDuffie, 2007; Wilson, O'Leary, Metiu, & Jett, 2008).

Social Cohesion

Social cohesion refers to the fact that although people are working at different places, they still work together at a distance. Hence, it is important that no one develops a pattern of working on their own or becomes lazy. It is still important that employees working together at a distance are aware that they are still part of a team and not working on their own. Hence, they need to develop a sense of belonging together and not being on their own. This is important because when people do not work physically together in a team anymore, people can be become isolated in their profession which leads to low levels of knowledge sharing among colleagues and consequently also to unproductivity (De Leede & Kraijenbrink, 2014).

Result-Oriented Leadership

Result-Oriented Leadership refers to the fact that with the implementation of NWW managers cannot supervise their employees directly in the office, but they have to rely on the output of the employees activities. Thus, it is important for managers to give their employees clear targets, or rather to discuss these targets together and measure if the employees reached these targets (De Leede & Kraijenbrink, 2014).

2.2 Employee outcomes

Like the name already denotes, employee outcomes circumscribe the results and effects their work has on employees like the work-life-balance and satisfaction with the work and life in general. The employee outcomes can be well described by the Job-Demands-Resources model.

This model is based on the assumption that certain job characteristics can have an influence on the well-being of employees. As Bakker and Demerouti (2007) state, the starting points of this model are job demands and job resources. Job demands are seen as "physical, psychological, social, or organizational aspects of the job" (Bakker & Demerouti, 2007, p.312) that require continued effort and skills and are consequently connected to certain physiological and/or psychological costs. When trying to meet these demands results in too much effort, job demands can turn into job stressors, like high-work pressure, role ambiguity and emotional stress. This can again lead to a burn out and impaired health, which may have a negative effect on organizational performance.
In contrast to job demands, job resources are aspects of the job that aid in achieving work goals, reduce job demands or encourage personal development. For example social support, feedback on job performance and job autonomy may increase motivation, work engagement and organizational commitment. However, it is also supposed that job resources may buffer the effect of job demands, so that they not turn into job stressors that fast. For this paper it means that, on the one hand factors like job autonomy of NWW may act as job resources, but that also role ambiguity and uncertainty may be job demands and lead to exhaustion and burnout (Bakker & Demerouti, 2007). Hence, it is interesting whether one can observe a trend, whether more NWW practices have an effect on employee outcomes and to eventually be able to prevent a negative effect.

The employee outcomes that are controlled for in this study are first of all job satisfaction. This feature describes whether employees enjoy their work and are content with it. In this study it is measured by the item 'satisfaction with work'. Furthermore, organizational commitment is considered as an employee outcome that could be affected by NWW. It implies that an employee is psychologically attached to the organization or company. This feature is measured by an item representing the turnover intention of an employee, 'Quit job for better job'. Additionally, work-life balance is an employee outcome which by researchers is said to improve through several practices of NWW. Work-life balance means that an employee has a good balance between work life and private or social life. In the study this feature is denoted by the item 'Satisfaction with social life'. Finally, it is controlled whether stress increases with the increase of NWW. This is measured by the item 'high stress'.

2.3 Covarying Variables

There are two variables in this study that are considered to possibly covary with the regression between NWW practices and employee outcomes. These are gender and age.

Gender is considered that it might covary with the regression between NWW practices and the employee outcomes, as it is believed that opportunities of flexible working, such as working at home, flexible working hours and autonomy are to a far greater extent used by women than by men (Atkinson & Hall, 2009). Next to that, researchers like Clark (1997) claim that although women mostly earn less than their male counterparts they have a disposition to be happier at work (Clark, 1997). In contrast to this, Roxburgh (1996) claims that in some studies it was found out that women show higher rates of distress than men. This may be due to the so-called "differential vulnerability hypothesis". This hypothesis states that men and women respond differently to their social environment and that due to this, women perceive the same environmental cues as more stressful than their male counterparts (Roxburgh, 1996). In this study it is interesting to see whether or not male and female employees perceive NWW as differently stressful and if the percentage of female employees does have any influence on the regression between NWW practices and high stress in the job. Next to that, as the above mentioned facts may not only influence the work satisfaction of women, but may also have an influence on the turnover intention, the work-life balance and the stress level of the female employees and because of the fact that women tend to apply more flexible working opportunities, it is interesting to see what influence the percentage of women has on the regression between NWW concepts and the analysed employee outcomes.

Age is brought up as a second variable which possibly covaries with the regression between NWW practices and employee outcomes. This variable is brought up due to the fact that younger people are more focused on growth and learning than older people. In contrast to their older counterparts, they are focused on acquiring new resources, learning new things and developing themselves further (Bal & Kooij, 2011). This may also be the fact when it comes to implementing NWW as it may be that older people tend to be less keen than younger to implement NWW practices and change the working patterns they are used to. Therefore, it is also interesting to see if there is an influence of age on the analysed regressions.

2.4 Model

To sum the model for this study up, it is to say that it will be analysed whether there is an association between the independent variable 'New ways of working' and the dependent variable 'Employee outcomes'. Moreover, it will be controlled for several covarying variables that may bias the above mentioned relationship.

New ways of working will be represented by the indicators 'working at home', 'flexible working time' and 'autonomy'. Although, as also mentioned above, NWW is a blurry concept and can be explained by many different factors, these three NWW practices are regarded as the most important indicators, as they really specify whether a company applies NWW or whether an employee works under them.

The chosen employee outcomes are both, positive and negative in nature. Hence, it will be not only controlled for effects of the one side, but it will be checked whether there is a more positive or more negative trend in employee outcomes with changes in NWW. Moreover, these outcomes were chosen as these are the most common that have an effect on both, the employee's working attitude and his/her health.

Finally, it will be controlled for variables that are considered to covary with the relationship between NWW and employee outcomes. These are first of all, employees' age, as younger people may be more open to changes in their working system as older people and thus keener to adapt to NWW.

Next, to that it is controlled whether gender influences the relationship, as either men or women may be more open to NWW.

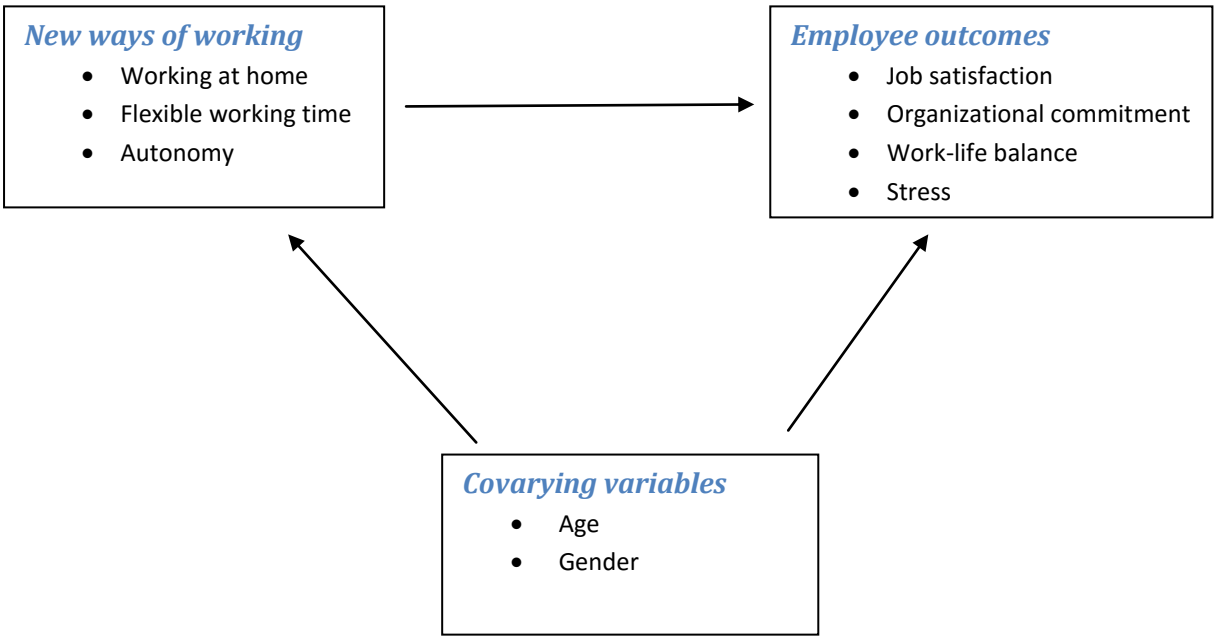

Figure1: The model of the study

Knowing about the concepts that are used in this study and their origin it is now possible to set up hypotheses which help answering the research question and its sub-question.
First of all, as mentioned in the theory NWW becomes more and more important and increased its significance over the years. Hence, it is expected that the usage of all NWW practices increased over the years.

Hypothesis 1: Over the last thirty years the application of NWW practices increased.

Based on the theory it is expected that NWW practices, on the one hand foster what in the JD-R model is called job resources, like work satisfaction and work-life balance. On the other hand, it is expected that NWW also foster what is called job demands in the JD-R model.
Hypothesis 2: New ways of working practices have a positive effect on all employee outcomes.

Again looking at the theory and the growing significance of NWW and its practices it is expected that its influence on all the employee outcomes grew over the last thirty years.
Hypothesis 3: The relationship between NWW and employee outcomes strengthened over the last thirty years.

Based on the theory about the covariation of gender and age, it is expected that the amount of women taking part in the survey and the average age do have an effect on the regressions.
Hypothesis 4a: The percentage of women taking part in the survey positively covaries with the regressions.

Hypothesis 4b: The average age of survey respondents positively covaries with the regressions.

Chapter 3: Methodology

3.1 Research Design

The research design applied within this study compares the application of NWW from 1984 up until 2013. Here, the application of NWW within the different years will be compared to each other as well as its impact on employee outcomes. As this study analyses observations that were collected once every year over thirty years, it is a cross-sectional study. This implies that an observation of a sample is made at one point in time. One problem that is inherent with cross-sectional studies is solved in this paper. This is that often conclusions of cross-sectional studies and therewith also the understanding of causal processes are based on only one observation, which captures only moment in time. However, in this paper observations that capture one point in time of thirty consecutive years are analysed. Consequently, the problem of understanding causal processes by observing only one point in time is solved.

Additionally, this study is as well an exploratory as an explanatory one. First of all it is exploratory, as it tries to better understand NWW and their development over the years. Next to that, it is explanatory as it tries to describe why certain employee outcomes arise on the basis of the application of NWW.

The units of observation are the people who participated in the survey. Respectively, the units of analysis will be the employees in Germany and how the application of NWW and the employees working outcomes developed and changed over time. The independent variable in this study will be the application of NWW practices in the various years of the survey. The respective dependent variable will be the employee outcomes of the participants of the survey. Moreover, it will be tested for variables that may covary with the regressions in this study, namely age and gender.

Furthermore, the analysis will be a quantitative one, as numerical data collected from the SOEP survey will be compared.

3.2 Sample

The sample will consist of one country, namely Germany. From this country around 30000 respondents took part in the SOEP survey that is analysed. In this study, Germany is taken as a sample as it is interesting to see the development of NWW and the relevant employee outcomes respective to the developments within the country. For example, the 1970s demark the first years of economic crisis and change after the years of growth following the Second World War. Moreover, it is appealing to analyse in how far the German reunification in 1990 and the respective economic change in the country had an impact on the application and implementation of NWW and the respective employee outcomes. Hence, it is interesting to see in how far in these years of change the NWW and the resulting employee outcomes also developed.

The research sample contains concepts which explain NWW, namely if people work from their homes, the number of flexible working hours they have per week and if they determine their job duties themselves. Next to that, certain features demarking negative as well as positive job outcomes are part of the research sample. More precisely, these are peoples' level of stress at work, if they enjoy their work, if they have undesirable working conditions and if their job allows for spare time. These features were used because, as already explained in Chapter 2, working from home, flexible working times and autonomy are essential parts of NWW. Moreover, the features explaining job outcomes perfectly display negative as well as positive job outcomes.

3.3 Data Collection

As already explained, the data used for this study will be concepts of NWW as well as respective employee outcomes. Moreover, these data will cover a time span of 30 years starting in 1984 and ending in 2013.

The data will be collected from the so-called Socio-Economic-Panel of Germany (SOEP), which is a repetitive survey by the German Institute for Economic Research (DIW Berlin) which already exists for 30 years. It is a longitudinal panel data set published by the DIW Berlin. The DIW annually asks 30000 persons in 11000 German households about their income, occupation, education and health. As every time the same people are asked, long-dated and social and economic trends can be observed effectively. Moreover, the people taking part in this survey were collected randomly to represent the people living in Germany and all respondents took part voluntarily.

3.4 Operationalization

As already mentioned above NWW will be explained by the practices working at home, flexible working hours and autonomy.

Hereby, working at home means that people have the possibility to not work from their designated work place but to complete their work at home. This practice will be measured by the item "work from home". In the SOEP survey, the item "work from home" is measured by eight different answer categories. The answer categories are"-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "1 = Yes" and "2=No".

Having flexible working hours means that employees themselves may decide when to start and when to end their working day. So they may autonomously decide over their working schedule. Whether employees have flexible working hours will be measured by the item "flexible hours of work per week". In the SOEP survey, the item "flexible hours of work per week" is measured by eight different answer categories. These categories are "-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "1 = No Fixed Work Hours" and "2=Weekly Hours Rounded".

Finally, having autonomy is another important practice of NWW. Within NWW, autonomy means that employees have the possibility to decide themselves about many aspects of their job, in this case mainly their job duties. The fact whether employees have autonomy at their work will be measured by the item "job duties determined by self". In the SOEP survey, the item "job duties determined by self" is measured by nine different answer possibilities. These answer possibilities are the following: "-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "1 = Applies Fully", "2=Applies partly" and "3= Does not apply".

Taking a closer look at the employee outcomes, it is to say that they will be, as already mentioned, explained by the factors job satisfaction, organizational commitment, work-life balance and stress. The variable job satisfaction, which displays how far people are content with their job, will be represented by the item "satisfaction with work". In the SOEP survey, the item "satisfaction with work" is measured by seventeen different answer categories. These answer categories are "-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the

questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "0 = 0 Satisfied: On Scale 0-Low to 10-High", "1 = 1 Satisfied: On Scale 0-Low to 10-High", "2 = 2 Satisfied: On Scale 0-Low to 10-High", "3 = 3 Satisfied: On Scale 0-Low to 10-High", "4 = 4 Satisfied: On Scale 0-Low to 10-High", "5 = 5 Satisfied: On Scale 0-Low to 10-High", "6 = 6 Satisfied: On Scale 0-Low to 10-High", "7 = 7 Satisfied: On Scale 0-Low to 10-High", "8 = 8 Satisfied: On Scale 0-Low to 10-High", "9 = 9 Satisfied: On Scale 0-Low to 10-High" and "10 = 10 Satisfied: On Scale 0-Low to 10-High".

The employee outcome called turnover intention illustrates the extent to which employees are willing to quit their jobs. This variable will be represented by the item in the survey "Quit job for better job". In the SOEP survey, the item "quit job for better job" is measured by seven different answer categories. These categories are the following: "-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "1 = Yes".

Having a good work-life-balance depicts to what extent there is a balance between an employee's work life and private or social life. Within the study this variable work-life balance will be displayed by the item "Satisfaction with social life". In the SOEP survey, the item "satisfaction with social life" is measured on by seventeen different answer possibilities. These answer possibilities are "-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "0 = 0 Satisfied: On Scale 0-Low to 10-High", "1 = 1 Satisfied: On Scale 0-Low to 10-High", "2 = 2 Satisfied: On Scale 0-Low to 10-High", "3 = 3 Satisfied: On Scale 0-Low to 10-High", "4 = 4 Satisfied: On Scale 0-Low to 10-High", "5 = 5 Satisfied: On Scale 0-Low to 10-High", "6 = 6 Satisfied: On Scale 0-Low to 10-High", "7 = 7 Satisfied: On Scale 0-Low to 10-High", "8 = 8 Satisfied: On Scale 0-Low to 10-High", "9 = 9 Satisfied: On Scale 0-Low to 10-High" and "10 = 10 Satisfied: On Scale 0-Low to 10-High".

Finally, stress is another concept portraying employee outcomes. Stress is meant as any response of a person's body to a negative environmental condition that challenges the body or constitutes a threat to it. Whether employees have stress will be depicted by the item "job is high stress". In the SOEP survey, the item "job is high stress" is measured by nine different answer possibilities. These answer possibilities are the following: "-6 = version of questionnaire with modified filtering", "-5 = No included in this version of the questionnaire", "-4 = Inadmissible multiple response", "-3 = Answer improbable", "-2=Does not apply", "-1 = No answer", "1 = Applies Fully", "2=Applies partly" and "3= Does not apply".

3.5 Data Analysis

In order to analyse the collected data, a so-called time series analyses will be applied. A time-series analysis is a tool to express the long-term trend in a regression and also could 'provide a way of testing explanations for the trend' (Boselie, p.490) Regression is the way to describe the relationship between two variables. In the case of this study the variables explaining NWW and the variables explaining the respective employee outcomes. This will be done by running a regression between all NWW practices and the employee outcomes for each year of the survey separately and then comparing the betas or standardized coefficients of the years for the time span between 1984 and 2013. To be more precise the standardized coefficient explains how many standard deviations the dependent variable will change, per increase in standard deviations of the independent variable.

Hence, for the time span of nearly 30 years, it is analysed in how far the development in the employee outcomes can be explained by the change in NWW. Next to that, it is controlled for several covarying variables, which correlate with both the dependent and the independent variable and thus affects the relationship between these and even introduce systematic bias into the relationship. Hence, for each year a regression analysis will be made for the relationship between every variable representing NWW and every variable indicating employee outcomes. Ensuing, the outcomes of the regression analyses will be compared for the mentioned 30 years and a possible trend might be detected.

Chapter 4: Analysis

4.1 Descriptive Statistics

In Table 1 the results of an analysis of the descriptive and a correlation analysis are given. To be able to find out the strength and the direction of the different relationships a Pearson correlation analysis was applied. The table mainly shows positive, as well as significant values. However, first of all, for several relationships it was not possible to compute a correlation too much data is missing. Next to that, the correlation between Turnover intention and flexible working hours, is indeed positive, but not significant as 0,01 lays beneath the significance level of 0,05.

Table 1: Descriptive Statistics and bivariate correlations (based on Pearson Correlation analysis)

	Mean	Standard Deviation	1	2	3	4	5	6
Work from home	1,1089	0,31153						
Flexible Working hours	1,0931	0,29056	0,0387**					
Autonomy	1,4505	0,49754	.[a]	0,269**				
Work satisfaction	1,4563	0,49809	0,237**	0,179**	0,592**			
Turnover intention	1,0175	0,13129	.[a]	0,010*	0,100**	0,099**		
Work-life balance	1,8020	0,39847	.[a]	0,013**	.[a]	0,222**	.[a]	
High Stress	1,4362	0,49592	.[a]	0,194**	0,615**	0,540**	0,075	.[a]

[a] cannot be computed because too much data is missing
*correlation is significant at the 0,05 level (two-tailed)
**correlation is significant at the 0,01 level (two-tailed)
1: correlation with work from home
2: correlation with flexible working hours
3: correlation with autonomy
4: correlation with work satisfaction
5: correlation with turnover intention
6: correlation with work-life balance

4.2 NWW over the years (1984-2013)

This chapter will briefly explain the development of the variable NWW and its three components over the thirty years between 1984 and 2013.

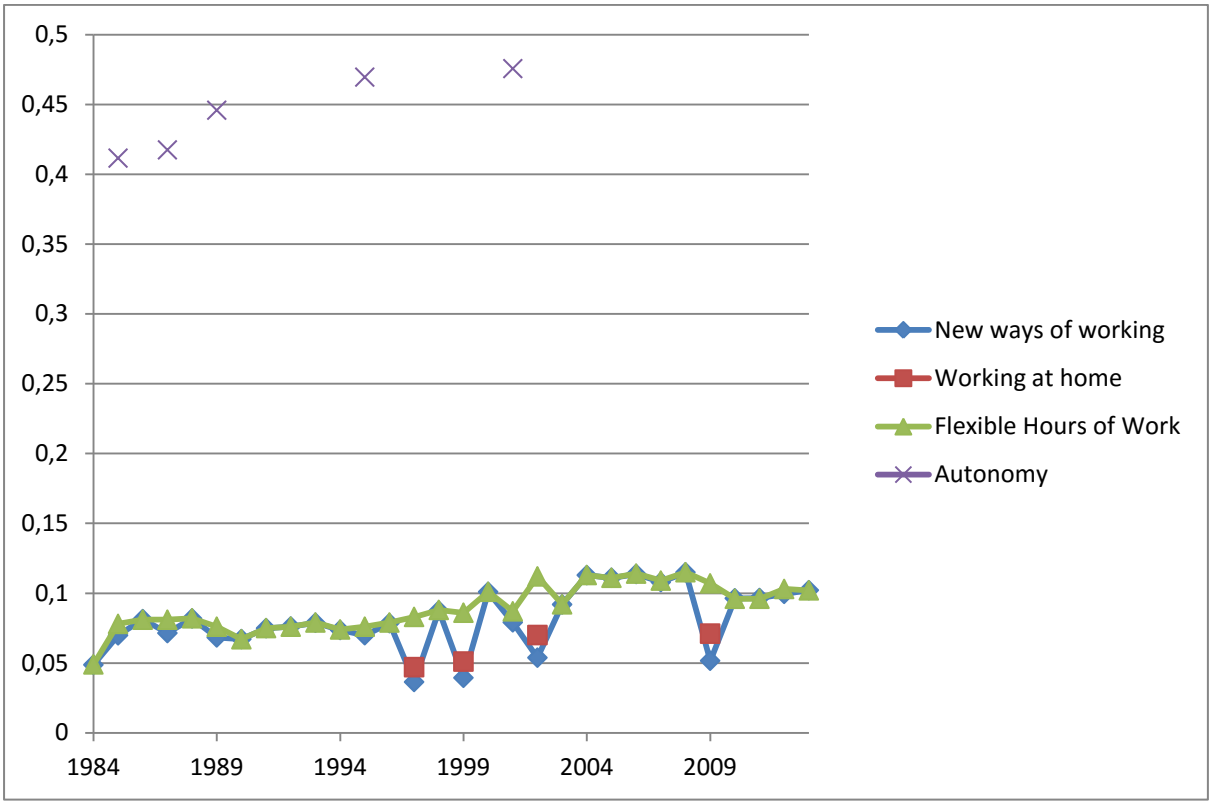

Figure 2: Development of NWW and its practices over the years

Taking a look at the concept of NWW, it becomes obvious that overall the percentage of people that apply NWW rose in the thirty years between 1984 and 2013 by around 5,5% from 4,87% to 10,21%, with the minimum being 3,64% in 1997 and the maximum being 11,49% in 2008. When taking a closer look at the percentages of people who apply NWW, it is striking that these numbers generally fluctuated a lot, especially in the years 1984 to 2002, with huge drops in 1997 and 1999, with 3,64% and 3,94% respective. Furthermore, it is salient that from 2004 onwards until 2008 the percentage of people applying NWW constantly is above 10%. Suddenly, in 2009 there was a huge drop, down to 5,16%. One explanation for this drop could be the economic crisis that began in 2008. Figure 1 shows that after 2009 the percentage of people that apply NWW again constantly rose between 2009 and 2013, from 5,16% to 9,65% in 2011 and finally 10,21% in 2013.

Generally, one can see that the percentages of people working at home regularly are lower than the once of all other NWW concepts and hence, also for NWW in general. Still, it is perceptible in Figure 2 that the percentages gradually increase over the years. Starting at 4,7% of people who work at home regularly in 1997. This number rose in 1999 to 5,1% and again to 7% in 2002. Finally, there is a small increase noticeable in 2009, namely to 7,1%.

Next to that, as already mentioned earlier in this chapter, the curve of flexible working hours is nearly similar to the curve of overall NWW. Hence, same as the overall NWW curve, the percentages of flexible working hours fluctuate a lot over the years. In the first years it rises by nearly 3%, from 4,9% in 1984 to 7,8% in 1985. Then it slightly rises up to 8,2% in 1988. From that year on until 1999 the percentages of employees having flexible working hours fluctuate between 6,7% and 8,6%.

Between 2000 and 2011, these percentages even vary between 8,7% and 11,2%. Following, from 2004 until 2009 the percentages even never drop below 10,7% with the high peak being at 11,5%. In 2010 there is a drop below 10%, to 9,6%. Yet, from 2011 until 2013 it again rose to 10,2%. To sum it up, the percentage of employees having flexible working hours fluctuate a lot over the years, but all in all, it more than doubled in the thirty years between 1984 and 2013.
Taking a look at the whole Figure 2, what also strikes is that nearly all variables are at the same level, except for the variable autonomy which ranges higher, at around 45%. Furthermore, what attracts attention when look at the curve of survey respondents who work at least partly autonomously is that it steadily rose over the year. In 1985 already 41,15% of the respondents of the SOEP survey indicated that they at least party had the autonomy to determine their job duties themselves. Until 1989 this number rose to 44,58%. Finally, in 2001 even 47,56% of the survey respondents specified that they had autonomy over their job duties.
To sum it up, for all practices of NWW the percentage of respondents who claimed that they applied these rose over the years until 2013. Hence, the same is true for the overall percentage of people applying NWW.

4.3 Employee Outcomes over the years (1984 – 2013)

In this chapter the development of the employee outcomes that are analysed in this paper will be described shortly.
One of these employee outcomes is work satisfaction. Taking a look at Figure 3 it catches one's eye that the work satisfaction of the survey respondents ranges constantly between 40% and 51%, but barely rises over 50%. This means that most of the time less than half of the respondents are satisfied with their job. The minimum, which was observed in 2011, even lies at "only" 40,17%. In contrast, the maximum is the only data point that rises over the 50%. More precise, in 1990 50,94% of the survey respondents claimed that they were satisfied with their work. Moreover, it is observable that the work satisfaction fluctuates from year to year. The time that generally shows the highest work satisfaction among the survey respondents are the years 1984 till 1992. In this time span the lowest point can be marked at 46,25% in 1988 and the highest point is also the overall maximum, namely 50,94 % in 1990. In contrast to that the years 2004 till 2012 demark the time of the highest percentage of dissatisfied workers measured among the survey respondents. In this time, the maximum even lay beneath the minimum of the years 1984-1992, namely at 45,49% of respondents being satisfied with their work. The minimum work satisfaction of these years also demarks the overall minimum of work satisfaction in the years 1984-2013, to be precise 40,17% in 2011. All in all, Figure 3 shows a slight rise in work satisfaction between the years 1984 to 2013. This is to say from 46,67% respondents in 1984 who claimed that they were satisfied with their work to respective 47,02% in 2013. This demarks an increase of 0,35%. Thus, one can say that generally the work satisfaction of the respondents remained the same over the years, with some weaker and some stronger years in between.
Next to that, Figure 3 shows the development of the turnover intention of the survey respondents over the years. Unfortunately, there are only data for the years 1985 till 1990 available. Compared to the other employee outcomes displayed in Figure 3 it is also obvious that turnover intention resides on a rather weak level. Still, over the years it rises slightly. In 1985 around 1,15% of the survey respondents declared that they intended to quit their job for a better job. Up until 1990 this percentage rose to 2,36%. Although it seems like only a small rise, the percentage of survey

respondents with turnover intention more than doubled in these six years. Hence, it may be that up until 2013 more people would have claimed that they intended to quit their job for a better job.

Another employee outcome that is presented in Figure 3 is Work-Life Balance. Again for this employee outcome not for all years data are available, in this case even only for two years data are available. Striking in this case is that from the year 2006 until the year 2011 the percentage of survey respondents who claimed that they were content with their work-life balance declined by almost 10%, to be precise from 84,82% in 2006 to 75,31% in 2011. Still, compared to the other employee outcomes shown in Figure 3 the amount of people claiming that they are happy with their Work-Life balance is rather high.

Finally, the last employee outcome depicted in Figure 3 is high stress. Same as for the already analysed employee outcomes, it is observable that data are only available infrequently for this employee outcome. Unfortunately, there are no data available that show whether the survey respondents' job is high stress that go beyond the year 2001. Yet, Figure 3 shows that from 1985 until 1995 the percentage of survey respondents who claimed that their job was high stress was constantly rising, from 41,94% in 1985 to 44,86% in 1989 to 45,05% in 1995. However, until 2001 the percentage dropped again to 43,86%. Nevertheless, overall the percentage of employees who claim that their job is high stress rises by nearly 2% from 1985 until 2001. Although, the percentage of survey respondents claiming that their job was high stress overall rises, still less than 50% of the respondents perceive their job as high stress.

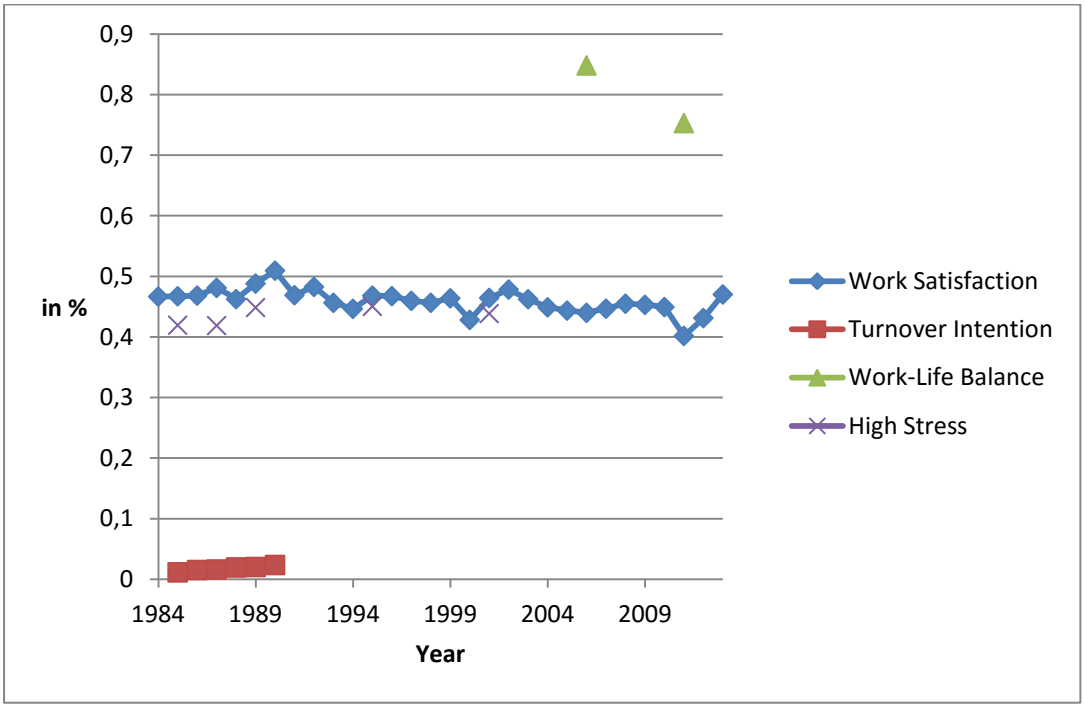

Figure 3: Development of the analysed employee outcomes over the years

4.4 Working from home and employee outcomes

4.4.1 Regression with work satisfaction

This chapter deals with the correlation between the NWW-variable Working from home and the employee outcome called Work Satisfaction. As already explained above, the variable Working from home will be depicted by the item 'Work from home' from the SOEP survey and the variable work satisfaction will be represented by the item satisfaction with work' from the SOEP survey.

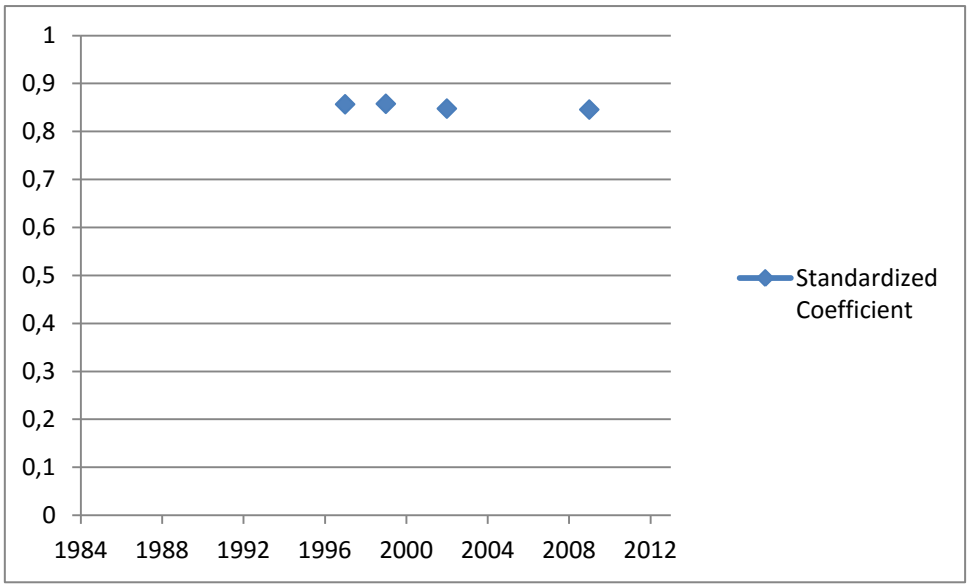

Figure 4: Regression of Working at home and Work Satisfaction

Taking a closer look at Figure 4 one can already see that the regression between working at home and Work Satisfaction is strong, with a minimum of 0,846 in 2009 and a maximum of 0,858 in 1999. This means that at least 84,6% and at most 85,8% of changes in Work Satisfaction can be explained by changes in Working at home. This strong influence can also already be seen when taking a closer look at Table 1. Here one can see that the correlation between working at home and work satisfaction is not only significant, but also strong, namely at 0,387. What also catches one's eye is that for many years in the figure data on the regression between Working from home and Work Satisfaction are missing. This is due to the fact that for the dependent variable 'Satisfaction with work', the variable 'Work from home' is constant or has missing correlations. Hence, a regression could not be computed. However, taking a closer look on the available data for this regression one can see that in the years 1997,1999, 2002 and 2009 the level of regression was constantly high at around 0,85. This lets the assumption prevail that the correlation between the two tested variable is not influenced by time, but that it remains constant at a high level.

Regarding the development of the percentage of employees who regularly work at home, it is to say that over the years we can observe this number gradually increased from 8,9% in 1997 to 9,5% in 1999 to 11,3% in 2002 and finally 12,6% in 2009 (Figure 5). However, comparing these numbers to the change in the standardized coefficient (beta), what is recognisable is that the beta does not change in the same direction but that it only slightly decrases. Hence, one could say that either there is no effect of the number of people working regularly at home or that the percentage of employees regularly working at home negatively influences the regression. This would mean that the more

people make use of the possibility to work at home, the weaker the influence of working at home on work satisfaction be. However, one cannot say that this finding is significant as only four findings could be analysed.

Controlling for other variables that may covary with the relationship between Working at home and Work Satisfaction, we take a closer look at the percentage of females who took part in the survey (Figure 5). What one can see in Figure 5 is that the percentage of female respondents remained constant between a level of 50,8% and 53,2%. However, one cannot see that a changing percentage of female respondents covaries with the relationship between Working at home and Work Satisfaction, as both numbers constantly remain on the same level.

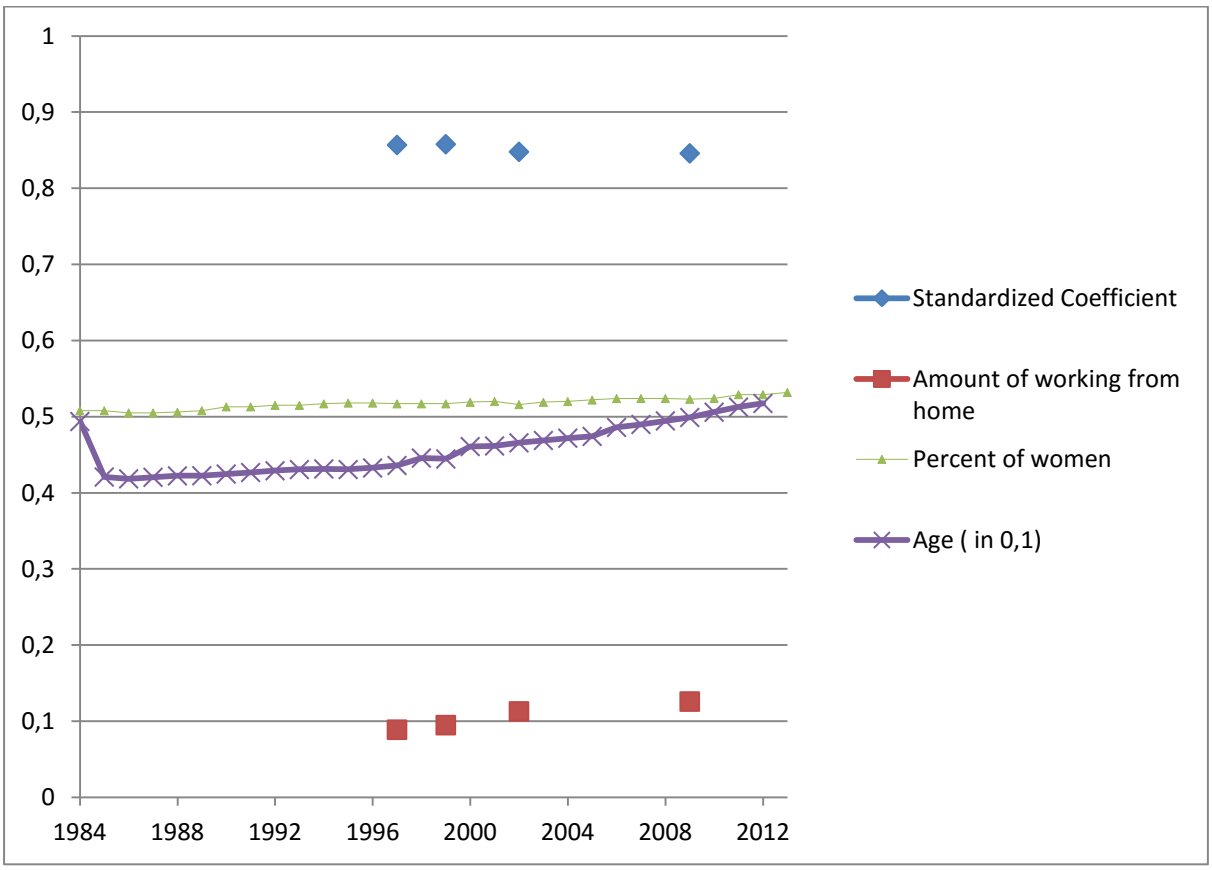

Figure 5: Variables that may covary with the regression between working at home and work satisfaction

Taking into account the average age of the people that took part in the survey, it is remarkable that in the beginning, namely in 1984, the average age was at around 49,38 years. This number decreased by more than seven years in 1985, namely to 42,09 years. From 1985 onwards up to 2012 the average age of the people taking part in the survey rose to an average of 51,75 years, which demarks a rise in average age of nearly 10 years. However, one cannot say that there is a covariation of the age of the respondents on the regression between work from home and work satisfaction, as not much data is available for the regression. Yet, what is observable is that as the standardized coefficient slightly goes down, the average age of the respondents slightly increases. Hence, if we had more data on the regression between work at home and work satisfaction it might have been possible to observe a negative trend between the average age of the respondents and the analysed regression. Namely, that the older the people, the less intense is the influence of working at home and the satisfaction of employees with their work.

4.4.2. Regression with other employee outcomes

Unfortunately, for the regressions between working from home and the other three employee outcomes, namely turnover intention, work-life balance and high stress we do not have any data available as much data was missing and regressions could not be computed.

4.5 Flexible working hours and employee outcomes

4.5.1.Regression with Work Satisfaction

This chapter deals with the regression between the NWW-variable flexible working hours and the employee outcome called work satisfaction. As already explained above, the variable flexible working hours will be depicted by the item 'Flexible hours of work per week' from the SOEP survey and the variable work satisfaction will be represented by the item 'satisfaction with work' from the SOEP survey.

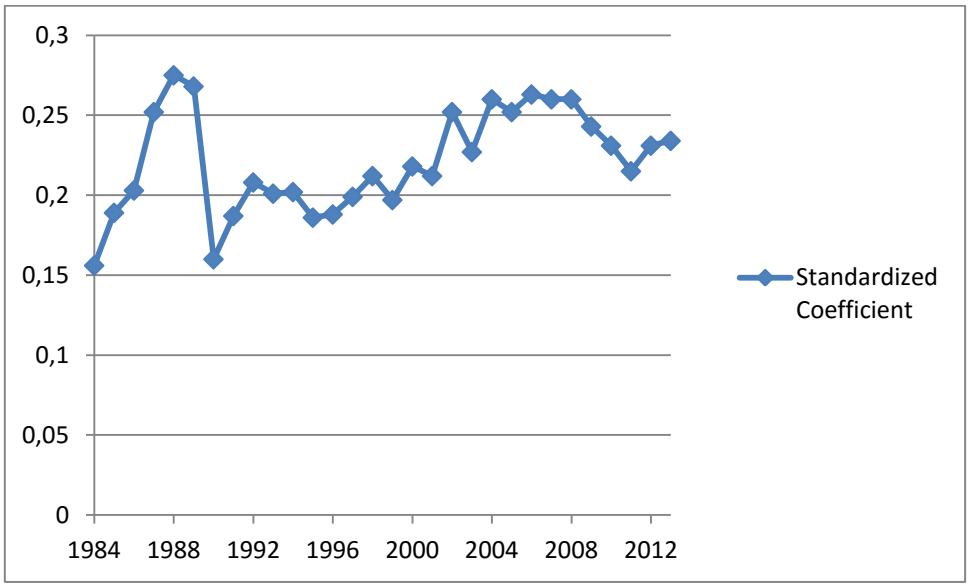

Figure 6: Regression of Flexible working hours and Work Satisfaction

Taking a closer look at Figure 6 one can see that the regression fluctuates a lot, but that in general it is, compared to other regressions in this study, on a low to medium level, with a minimum at 0,156 in 1984 and a maximum of 0,275 in 1988. This means that at least 15,6% and at most 27,5% of variation in work satisfaction can be explained by variation in flexible working hours. That the relation between those two variables is on a medium level can also be seen at the correlation, which is at 0,179 (Table1). In the five years following 1983 the standardized coefficient of the regression between flexible working hours and work satisfaction constantly rose, for example from 0,156 in 1984 to 0,203 in 1986 to 0,275 in 1988. However, from 1989 onwards there was a constant fluctuation in the level of regression between the two analysed variables, for example from 0,160 in 1990 to 0,202 in 1994 0,197 in 1999 and 0,234 in 2013. Consequently, it is to say that no trend is observable in the regression between Flexible working hours per week and satisfaction with work. All in all, it is to say that in general the influence of flexible working hours on the work satisfaction of employees is not high, it remains at a standardized coefficient between 0,156 at its minimum and 0,275 at its maximum, which only indicates for a weak relationship between the independent and the dependent variable.

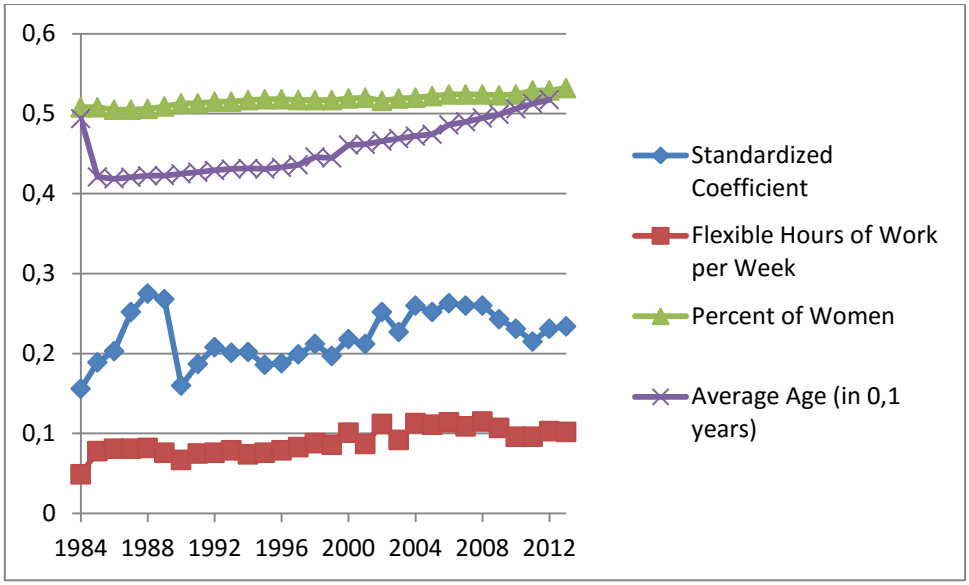

Figure 7: Variables that may covary with the regression between Flexible working hours and Work Satisfaction

Taking a closer look at the development of flexible hours of work per week over the years 1984 until 2013 one can see that it all in all increases over time. However, observing these numbers more closely one can see that there is also a slight fluctuation in the amount of flexible hours of work per week. In contrast to the regression between flexible working hours and work satisfaction however, one can say that it generally slightly rises from 1984 up to 2013. Namely, from 4,9% of the employees claiming that they do not have fixed working hours in 1984 to 10,2% in 2013 (Figure7). Consequently, one can say that the amount of employees that do not have fixed working hours doubled within 30 years. As a result, one cannot say that the amount of flexible working hours does covary with the regression between flexible working hours and work satisfaction, as the regression constantly fluctuates over 30 years and the amount of flexible working hours, in contrast, shows an upwards trend. Regarding another variable that could covary with the analysed relationship, one can see that the percentage of women that took part in the survey constantly remained between 50,8% and 53,2%, showing only a slight upwards trend and obviously not showing the same trend as the regression and that's why it apparently does not covary with the same (Figure 7). Next to that, as already observed in the previous chapter, apart from a drop in the average age of around seven years from 1984 to 1985, the average age of the respondents in the survey constantly rose from 1985 until 2013. Consequently, one can say that there is no covariation with the regression between flexible working hours per week and work satisfaction observable, as this constantly fluctuates.

4.5.2.Regression with Turnover Intention

This chapter entails an analysis of the correlation between the NWW-variable Flexible working hours and the employee outcome denoted as turnover intention. As already explained in an earlier chapter, the variable Flexible working hours will be depicted by the item 'Flexible hours of work per week' from the SOEP survey and the variable turnover intention will be represented by the item 'quit job for better job' from the SOEP survey.

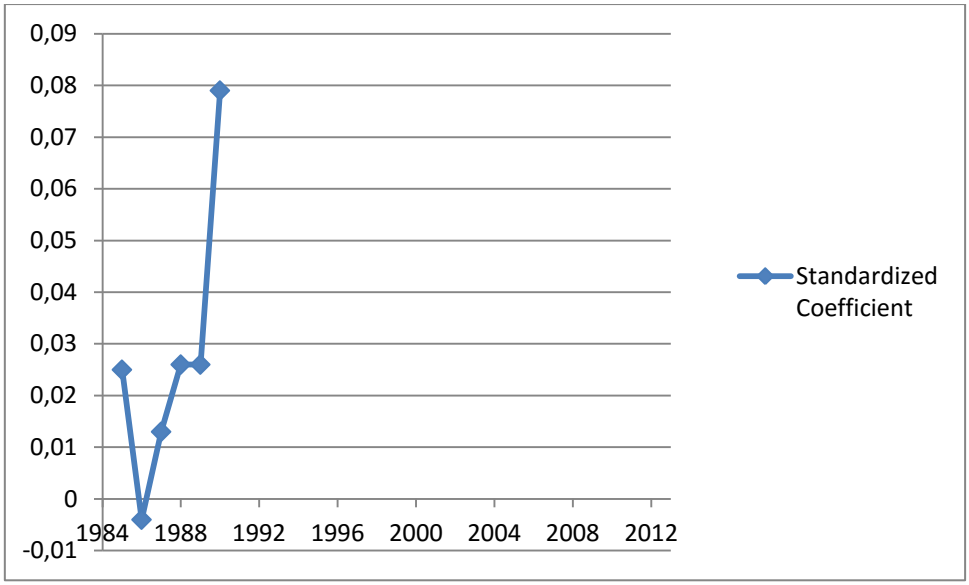

Figure 8: Regression of flexible working hours and turnover intention

What leaps out at fist when looking at Figure 8 is that again, a regression could not be computed for every year. Again this is due to the fact that data was missing and hence, for the years after 1990 no regression between flexible hours of work per week and turnover intention could be computed. Secondly, when looking at the y-axis what catches one's eye is that the correlations between flexible hours of work per week and turnover intention is low. Namely, the maximum is at 0,079. Hence, one can say that the slight influence flexible working has on turnover intention is not relevant. The fact that this regression is weak is also reflected in the correlation, which is at 0,01 and therefore not significant (Table 1). Moreover, in 1985 the regression is even negative, which means that the more flexible working hours people had that year the lower was their desire to search for a better job. Moreover, what also stands out when looking at Figure 8 is that from 1989 until 1990 the regression between flexible working hours and turnover intention heavily increases. Nonetheless, when taking a closer look at the y-axis one can see that it is on a relatively small scale. More precisely it ranges from 0 to 0,09, instead as from 0 to 1,0. Therefore, the increase is only around 0,05, which does not demark a big change.

Observing, again, the development of flexible working hours per week from 1984 until 2013 more closely (Figure 9), one can see that there is not much of a covariation observable between flexible working hours per week and the regression between flexible working hours and turnover intention. However, all in all one can see that over the years the percentage of employees that make use of flexible working hours increased. Namely, from 4,9% in 1984 to 10,2% in 2013, which demarks and increase of more than 5%, which means that the amount of employees making use of flexible working hours more than doubled in those 30 years.

As already mentioned in earlier chapters, the percentage of women, which could also covary with the relationship between flexible working hours and turnover intention, only showed a slight upwards trend (Figure 9), more precisely from 50,8% of women answering the survey in 1984 to 53,2% female respondents in 2013. Observing Figure 9 more closely, one can see that the regression between flexible working hours and turnover intention and the percentage of women answering the survey, do somehow show the same trend, as they both slightly increase over the years. However, it is difficult to say that the percentage of women taking part in the survey covaries with the development in the regression as we only have data from 1985 until 1990 for the regression.

Consequently, it is possible that the regression became stronger following the year 1990, but one can just as well say that it is possible that the regression became weaker after these years. Hence, a covariation of gender with the analysed regression is possible but one cannot confirm this for sure. If there would be a covarying effect it would be that the more women took part in the survey the higher the influence of flexible working hours on turnover intention would be.
Taking into account another variable that may covary with the regression between flexible working hours and turnover intention, a closer like is taken at the average age of the survey respondents, just like in the previous chapters. In Figure 9 one can see that over the years the average age constantly rose, with the only exception being the first years observed, namely 1984 and 1985. Between these years the average age of respondents decreased by around 7 years, namely from 49,38 years to 42,09 years. What is remarkable here is that the standardized coefficient and the average age of the respondents somehow show the same pattern. To be exact, they both show a decrease in the first year of recorded data and then constantly rise. So one could say that the older the people, the stronger is the influence of flexible working hours on turnover intention. However, one has to take into account that the drop in age is between the years 1984 and 1985, whereas the drop in regression is between the years 1985 and 1986. However, just as for the covariation of gender with the regression we cannot say for sure the average age of respondents covaries with the analysed regression as for this we only have data until 1990. Consequently, one cannot for surely confirm that for the average age of the respondents a covariation with the regression exists, but on the other hand on also cannot deny a covariation for sure.

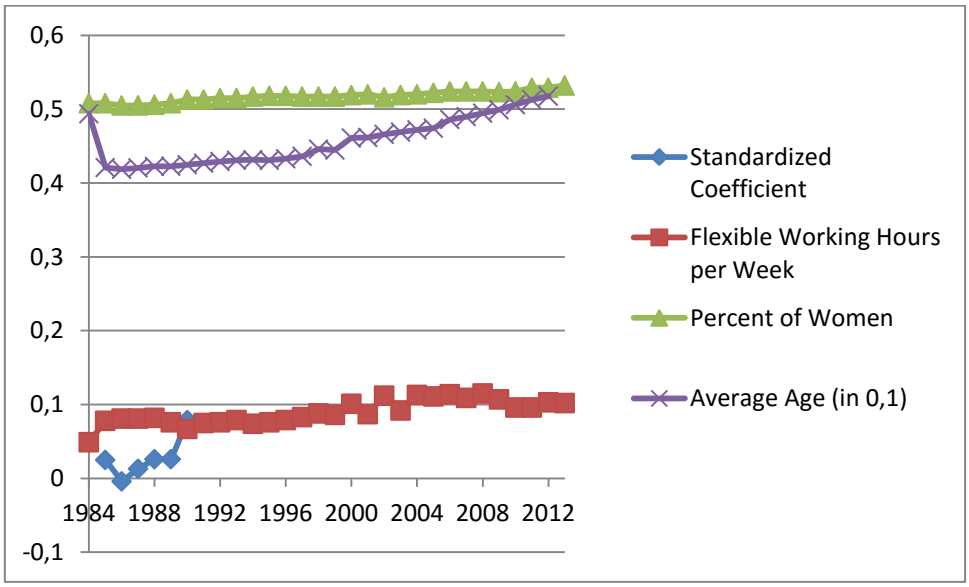

Figure 9: Variables that may covary with the regression between flexible working hours and turnover intention

4.5.3. Regression with Work-Life-Balance

This chapter comprises an analysis of the regression between the NWW-variable Flexible working hours and the employee outcome denoted as work-life-balance. As already explained in an earlier chapter, the variable Flexible working hours will be depicted by the item 'Flexible hours of work per week' from the SOEP survey and the variable work-life-balance will be represented by the item 'satisfaction with social life' from the SOEP survey.

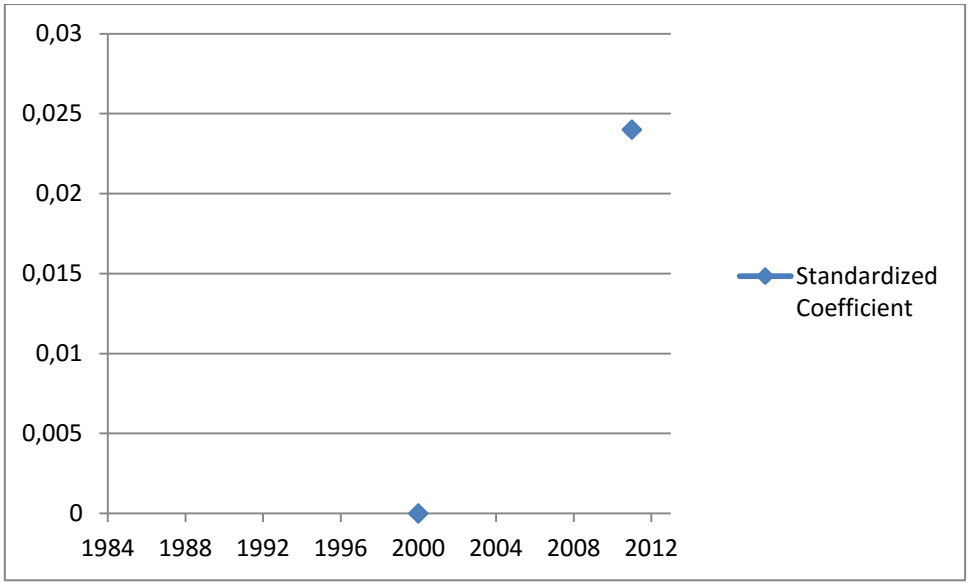

Figure 10: Regression of flexible working hours and work-life-balance

Unfortunately, as one can see in Figure 10, there are only two data points for the regression between flexible working hours and work-life balance, to be precise in 2000 and 2011. Whereas in 2000 0% of the variance in work-life balance could be explained by a change in flexible working hours, in 2011 this were already 2,4%. The fact that this regression is not strong could also be foreseen in Table 1, which shows that the correlation between flexible working hours and work-life-balance is at 0,013. This indicates that the correlation is significant but not very strong. At first sight, this seems as a huge change when looking at the diagram in Figure 10. However, when taking a closer look at the y-axis one can see that it is only a small scale with a range from 0,0 to 0,03. Hence, it is only a small increase in the regression. Furthermore, no real trend is observable, as too many data points are missing, which allow for a real analysis for the development of the regression between flexible working hours and the employees' work-life balance. Next to that, a regression of 0,024 indicates that there is only a weak relationship between those two variables analysed and that a change in the level of flexible working hours has nearly no effect on the work-life balance of employees.

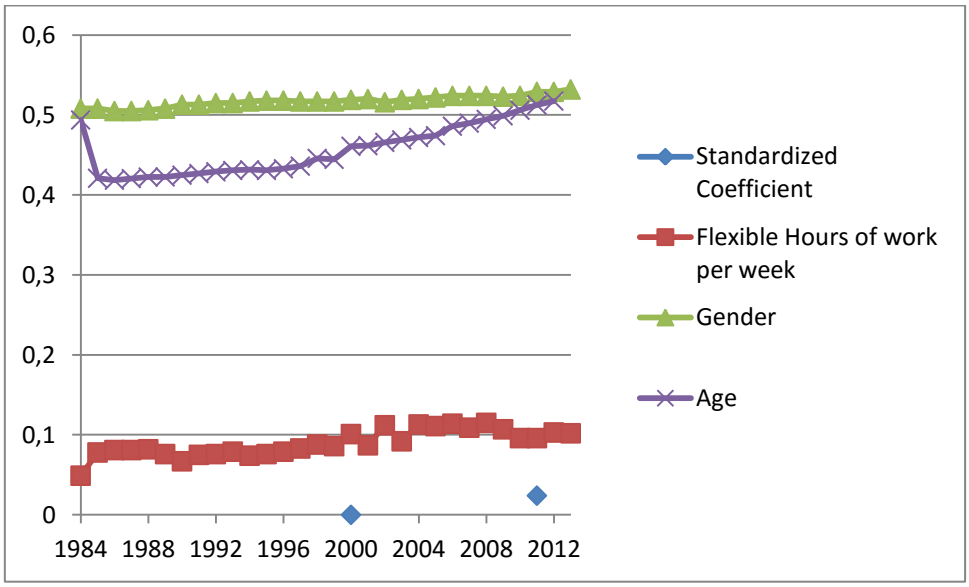

Figure 11: Variables that may covary with the regression between flexible working hours and work-life-balance

Observing more closely the variables that may covary with the regression between flexible working hours and work-life balance, one can see, as already mentioned in the previous chapters, that the level of flexible working hours rose constantly between the years 1984 and 2013. However, as we only have two data points for the regression it is difficult to say whether the level of flexible working hours does covary with the analysed regression.
The same holds true for the other possibly covarying variables that are shown in Figure 11. They might all be influencing the level of how much a change in flexible working hours has an effect on the work-life balance of the employees. However, one cannot say this for sure as we only have two data points for the regression, as already mentioned earlier. The average age of the survey respondents and the percent of women taking part in the survey both rise, as does the regression. Hence, these variables could have an influencing effect on the regression, but it cannot be confirmed only on the basis of two data points.

4.5.4. Regression with High Stress

This chapter deals with the analysis of the regression between the NWW-variable Flexible working hours and the employee outcome named high stress. As already explained in an earlier chapter, the variable Flexible working hours will be depicted by the item 'Flexible hours of work per week' from the SOEP survey and the variable high stress will be represented by the item called the same , namely 'high stress' from the SOEP survey.

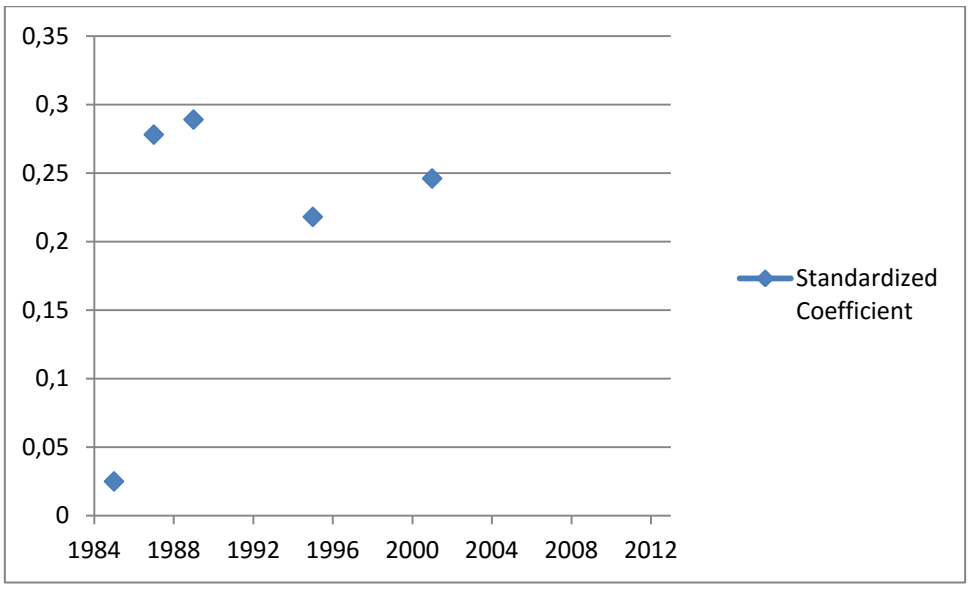

Figure 12: Regression of flexible working hours and high stress

Taking a look at Figure 12 what strikes is that again a lot of data points are missing. Of the thirty years between 1984 and 2013, we only have data for five years, which are 1985, 1987, 1989, 1995 and 2001. Taking a look at the descriptives in Table 1 one can see that the correlation between flexible working hours and high stress is at 0,194. This indicates that the regression is also at a medium level which can be observed in Figure 11. Taking a look at the data one can see that in the beginning the regression is still low. More precisely, only 2,5 % of high stress in the job can be explained by flexible working hours in the year 1985. In contrast to that, from 1987 onwards the regression does not drop below 21,8%, which mean that from 1987 onwards, at least 21,8% of high stress in the job could be explained by flexible working hours. However, again there is no real trend observable, but the regression first rises to 0,278 in 1987 and again to 0,289 in 1989, but then

decreases to 0,218 in 1995 and again increases to 0,246. All in all, there is a slight upwards trend observable as in the beginning the regression was at a low level. However, one cannot say for sure that the regression remained on a high level as we do not have data for the years after 2001.

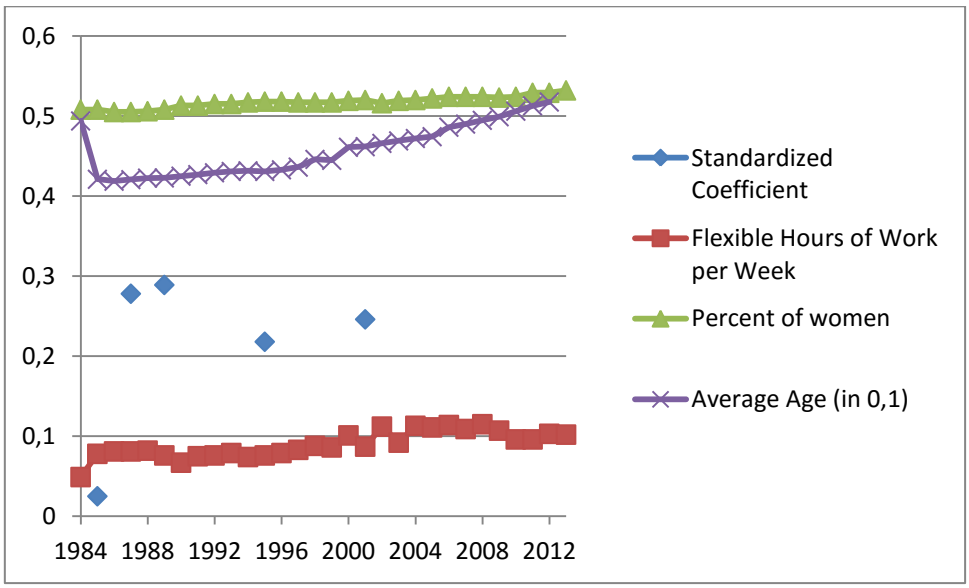

Figure 13: Variables that may covary with the regression between flexible working hours and high stress

Observing Figure 13 more closely, it becomes clear that, as already mentioned, in general the amount of people that make use of flexible working hours more than doubled over the 30 years between 1984 and 2013, to be more precise from 4,9 % in 1984 to 10,2% in 2013. Furthermore, what is striking in Figure 13 is that in the beginning in 1984 the regression line was below the percentage of people that make use of flexible working hours. However, already in year 1987 and the following years, the regression line is above the percentage of employees that make use of flexible working hours. Still, both seem to rise from 1984 onwards and show some fluctuations during the years, although they do not show the same trends between the years. To clarify, between 1985 and 1987 both showed an upwards trend, the regression between flexible working hours and high stress showed a huge rise from 0,025 to 0,278, while the percentage of people who made use of flexible working hours only rose from 7,8% to 8,1%. In contrast, between the years 1987 and 1989, the regression again increased, whereas the percentage of people making use of flexible working hours decreased. Again, between the years 1989 and 1995 the regression increased, while the percentage of respondents making use of flexible working hours remained at exactly the same level. Finally, between the years 1995 and 2001 both again showed an increase. The regression rose in fact from 0,218 to 0,246 and the percentage of employees making use of flexible working hours rose from 7,6% to 8,7%, which both demark only small increases. All in all, one can say that the amount of people who make use of flexible working hours might covary with the regression between the same and high stress in the job. However, as again only a few, in this case five, data points are available one cannot confirm this for sure.

Moreover, as already stated in the previous chapter, the amount of women that took part in the survey may also covary with the regression between flexible working hours and high stress in the job. First of all, it is to say that the percentage of women that took part in the survey overall rises over the years, from 50,8% in 1984 until 53,2% in 2013, and is constantly over 50%, which means that in all years more women took part in the survey than men. Looking at Figure 13 it becomes clear that, although overall the percentage of women rose, that there are also minor fluctuations in

the percentage and that it did not rise constantly from year to year, but that the percentage of women sometimes also decreased, However, as already mentioned it is important to say that all the time more women took part in the survey than men. Comparing the standardized coefficient and the percentage of women taking part in the survey in Figure 13, it is obvious that both numbers rose in the 30 years that are analysed in this study. To be more precise in 1985 only 2,5% of stress could be explained by flexible working hours, whereas in 2011 already 24,6% of stress could be explained by flexible working hours. However, it is also observable that in contrast to the regression between flexible working hours and high stress, the percentage of women taking part in the survey could only draw a small increase of 2,4%. Hence, there might be an, even though only slight, covariation of the amount of women taking part in the survey with the regression between flexible working hours and high stress. Consequently, it might be that the more women take part in the survey, the more of high stress can be explained by flexible working hours per week. However, again this statement cannot be surely confirmed, as there are only a few data points which direct to this.

The same holds true for the average age of the respondents in the survey, which might also be covarying with the regression between flexible working hours and high stress. All in all, the average age of the respondents rises, with only some minor fluctuations, except for in the years 1984 to 1986 where the average age of respondents heavily decreased by more than 7 years. Overall, also the regression between flexible working hours and high stress rises. However, here one can observe more and bigger fluctuations (Figure 13). Still, as the overall direction is the same it could be that there is an influencing effect of the respondents' average age on the analysed regression. Nonetheless, again this cannot be fully confirmed as too many data points are missing in the regression.

All in all, it is to say that all the variables named might be covarying with the regression between flexible hours of work and high stress, but that it is not possible to validate this for sure as only a few data points are available for the regression.

4.6 Autonomy and employee outcomes

4.6.1.Regression with Work Satisfaction

This chapter deals with the regression between the NWW-variable called autonomy and the employee outcome of work satisfaction. As already explained above, the variable autonomy will be depicted by the item 'Job duties determined by self' from the SOEP survey and the variable work satisfaction will be represented by the item 'satisfaction with work' from the SOEP survey.

Taking a closer look at the regression between autonomy and work satisfaction (Figure 14) it becomes obvious that, as in many previous analysed regressions there are only few points of data available. In this case, there are only five, in the years 1988, 1987, 1989, 1995 and 2001. Comparing this regression to the previous one (Figure 12), what stands out is that this regression, in contrast to the one in Figure 12, is quite strong, more precisely its minimum is at 0,807 in 1995 and its maximum at 0,859 in 1985. This means that at least 80,7% and at most 85,9% of work satisfaction can be explained by autonomy. This can also be sensed when taking a look at the correlation between autonomy and work satisfaction which is significant and strong at 0,592 (Table 1) When trying to detect a trend, however, it is observable that from 1985 until 1995 it goes slightly downwards, from 0,859 to 0,807 and again up to 0,815 in 2001. Still, all in all this is a strong regression with only a minor downwards trend (Figure 14).

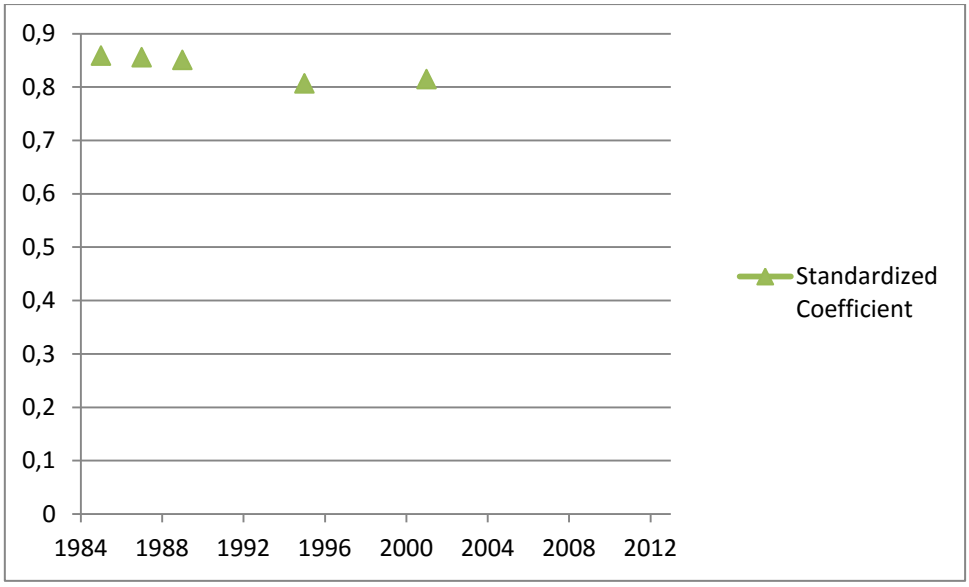

Figure 14: Regression of autonomy and work satisfaction

Analysing again some variables that might be covarying with the analysed regression (Figure 15), it is to say that at first sight all of these variables show an upwards trend, while the regression seems to go downwards. First of all, in this chapter the amount of autonomy the respondents of the survey have at work is taken into account. As just explained, autonomy rises over the years. At least the five points of data indicate that employees may more and more determine, at least partially, their job duties by themselves. Overall, the percentage of employees that may determine their job duties by themselves rose from 1985 until 2001 by around 6,4 %, from 41,15% to 47,56%. This biggest step was recorded between 1987 and 1989 where the amount of people who have autonomy in their jobs rose by nearly 3%, from 41,47% to 44,58%. This signifies that in the later 1980s the employees seemed to become more and more autonomous. This seems to have a reverse effect on the regression between autonomy and work satisfaction, as this decreases while at the percentage of people working autonomously increases. Consequently, this would mean that the more autonomous the employees become the less this autonomy seems to be a reason for work satisfaction. Yet, as already argued in some previous chapters it is not safe to state this for sure, as too few data points are available for the regression, as well as the percentage of respondents that work at least partially autonomous.

Next to that, the other presented variables that may covary with the regression between autonomy and work satisfaction, if so, also have a reverse effect on the named regression. As already extensively explained in various previous chapters, both variables, the percentage of women taking part in the survey and the average age of the survey respondents generally rise over the years 1984 to 2013. A reverse effect would mean that the more women take part in the survey or the older the average respondent of the survey, the less can work satisfaction be explained on the basis of autonomy. Still, no effect can be detected for sure, as there is, again, two few data available on the analysed regression.

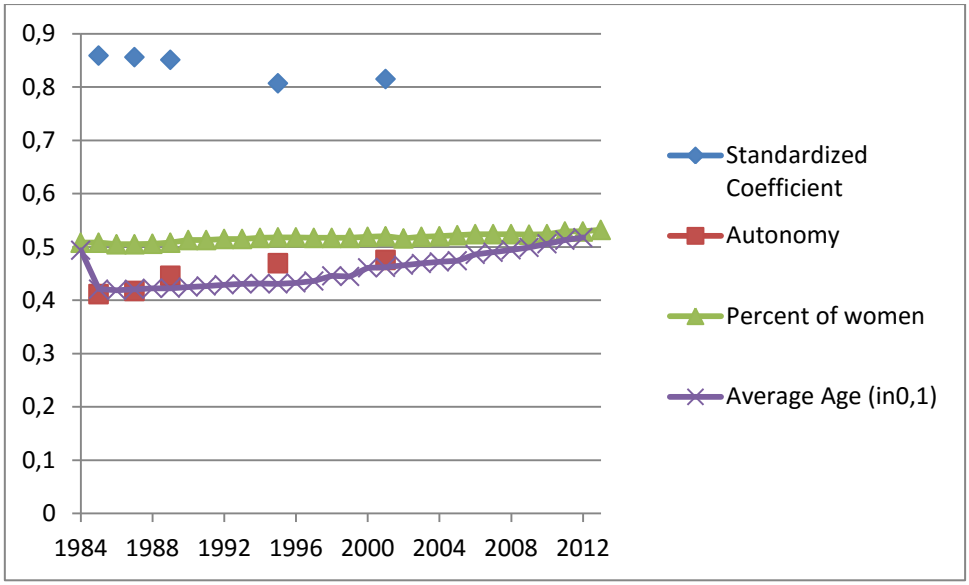

Figure 15: Variables that may covary with the regression between autonomy and work satisfaction

4.6.2.Regression with Turnover Intention

This chapter deals with the analysis of the regression between the NWW-variable autonomy and the employee outcome named turnover. As already explained in an earlier chapter, the variable autonomy will be depicted by the item 'job duties determined by self' from the SOEP survey. The variable turnover intention will be represented by the item called quit 'job for better job' from the SOEP survey.

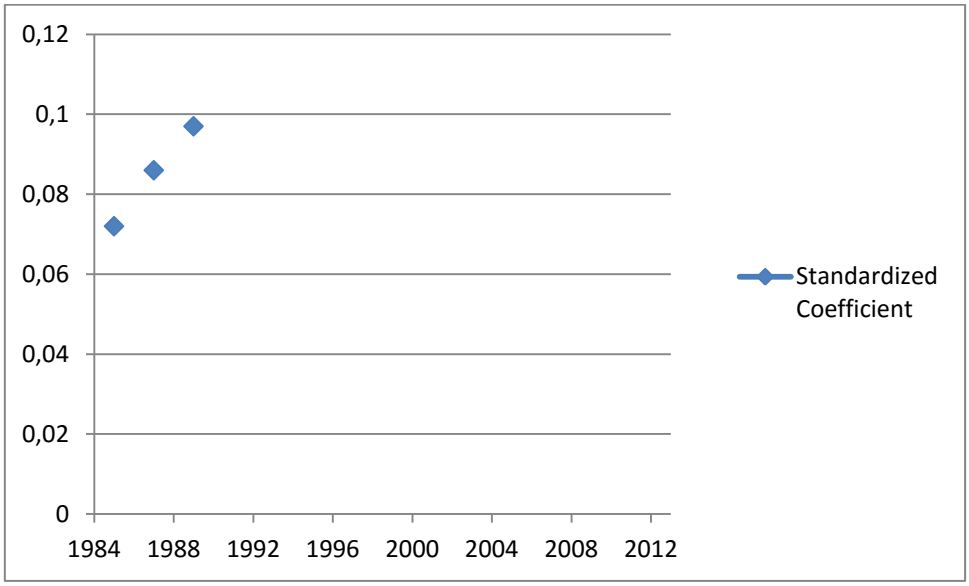

Figure 16: Regression of autonomy and turnover intention

What first strikes the eye when taking a closer look at Figure 16 is that for the regression between autonomy and turnover intention only data from before the German reunification were available and only three data points are presented. Still, in the overall pattern a rise in the strength of the regression can be detected. Namely, the regression increased from 0,072 in 1985 to 0,086 in 1987 to finally 0,097 in 1989. This means that despite the increase it is, compared to earlier analysed regression, a rather weak one. More precisely at most 9,7% of turnover intention could be explained by autonomy. This level of the relationship can also be observed when taking a look at the correlation between autonomy and turnover intention, which is at 0,100 (Table 1). With only these few data points at hand it is hard to draw a conclusion about the trend of the data. To sum it up, this regression is rather weak, but when taking a look at Figure 16 it seems that the regression is rising and that turnover intention can be more and more explained on the basis of autonomy. Yet, we only have three points of data and it is impossible to draw a conclusion on such a weak basis.

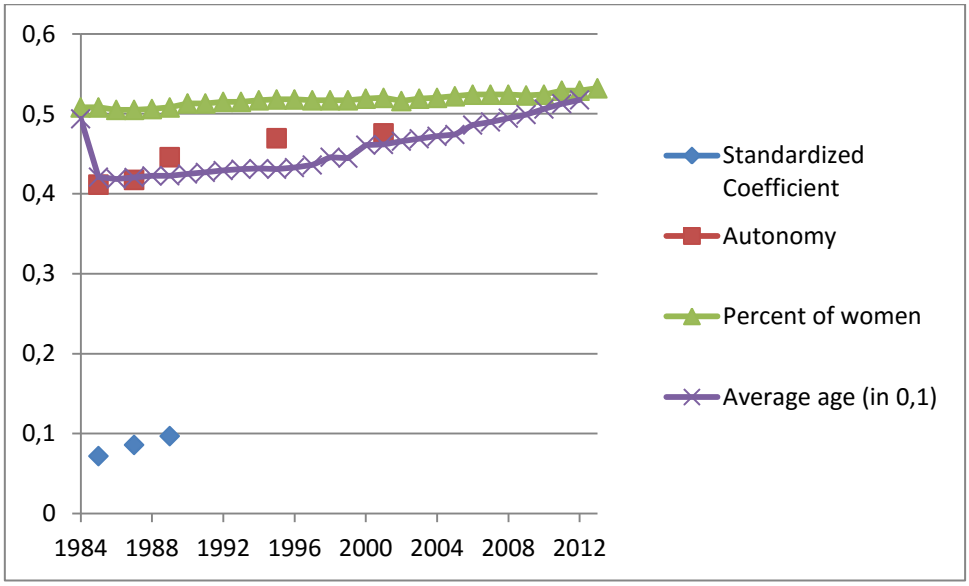

Figure 17: Variables that may covary with the regression between autonomy and turnover intention

Observing more closely the variables that might be covarying with the regression (Figure 17), it seems that they all point into the same direction, upwards. Furthermore striking is that, in contrast to the other variables, the regression is at a relatively low level.

Studying more precisely the covariation of the percentage of people that have at least partially worked autonomously with the regression between autonomy and turnover intention, they appear to rise in similar distances. However, when taking a look at the exact numbers, the differences become clearer. The regression rose by 0,014 from 1985 to 1987, while the percentage of respondents of the survey who work autonomously rose by 0,006. Again between 1987 and 1989 the regression rose by 0,011, while the rise in the percentage of people working autonomously is higher now, namely 0,025. Hence, they do not show the same distances. However, they still both increase gradually. Next to that, it is again hard to definitely confirm an effect of the percentage of respondents working autonomously, as too many data points are missing. On the other side, when only looking at the available data, it is possible to conclude that the more autonomy there is the more it can explain the turnover intention of employees.

Once more, for the average age of the respondents it is hard to see an effect on the analysed regression, as it goes down by more than 7 years between 1984 and 1985 and then again gradually

rises until 2013 (Figure 17). It is not known at which level the regression was in 1984, but if it was also a lot higher than the regression in 1985, it could be possible to confirm a covariation of the average age of survey respondents with the regression between autonomy and turnover intention. Yet, once again it is difficult to prove this as there are only three points of data for the regression and especially the one for 1984 which could show a higher-level regression, is missing. Hence, it is not provable that there is a covariation of the average age of respondents and the analysed regression.

As to gender of the respondents as variable that may possibly covary with the regression between autonomy and turnover intention, the percentage of women taking part in the survey, as already mentioned in various pervious chapters, slightly rises by 2,4% over the thirty years between 1984 and 2013. Taking into account the analysed regression which increased by 2,5% in, compared to the percentage of women, only 4 years (Figure 17). Hence, as they rise in such different levels, there is possibly no, or if only a slight, effect of the percentage of women on the regression between autonomy and turnover intention.

To sum it up, it is, once more, difficult to detect a covariation of any of these variables with the regression, as we have too few data available concerning the regression. However, is so, there is only a light covariation of the variables on the regression.

4.6.3.Regression with Work-Life-Balance

Unfortunately, for the regression between autonomy and the work-life balance of employees, we do not have any data available as too much data was missing and the regression could not be computed.

4.6.4.Regression with High Stress

This chapter comprises an analysis of the regression between the NWW-variable autonomy and the employee outcome denoted as high stress. As already explained in an earlier chapter, the variable autonomy will be depicted by the item 'job duties determined by self' from the SOEP survey and the variable high stress will be represented by the item 'high stress in the job' from the SOEP survey.

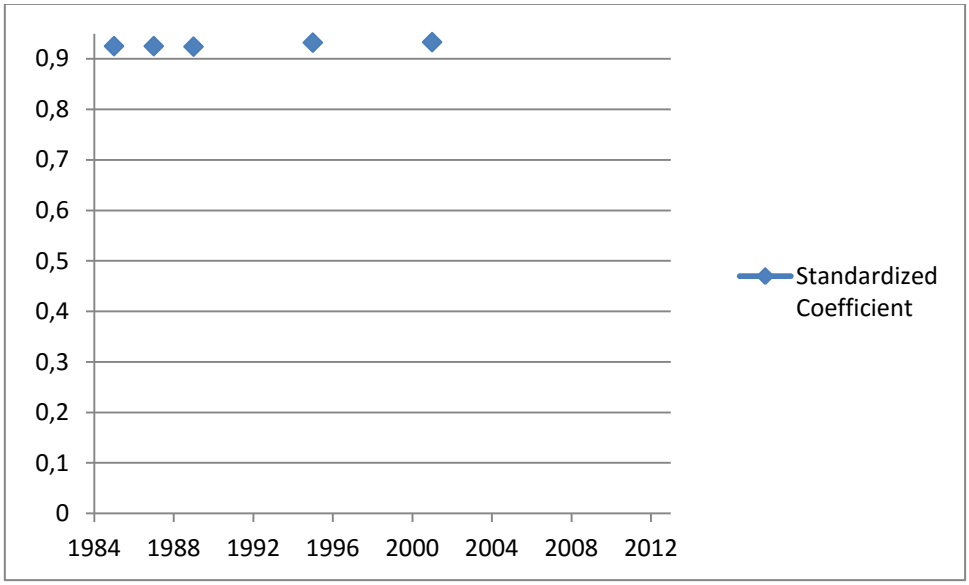

Figure 18: Regression of autonomy and high stress

Generally, the regression between autonomy and high stress is strong, it never drops under 0,924. The maximum even lies at 0,933, which means that at least 92,4% and at most 93,3% of high stress in the job can be explained by autonomy of the employees (Figure 18). The correlation between autonomy and high stress, which is at 0,615 (Table 1) also points to a strong relationship between the two variables. The percentages of the regression also indicate that there is not much of a change observable and hence, the trend seems to be that the regression is staying at the same high level. Additionally, what again catches ones eye when having a look at Figure 18, is that due to missing data, the regression could again only be computed for five years.

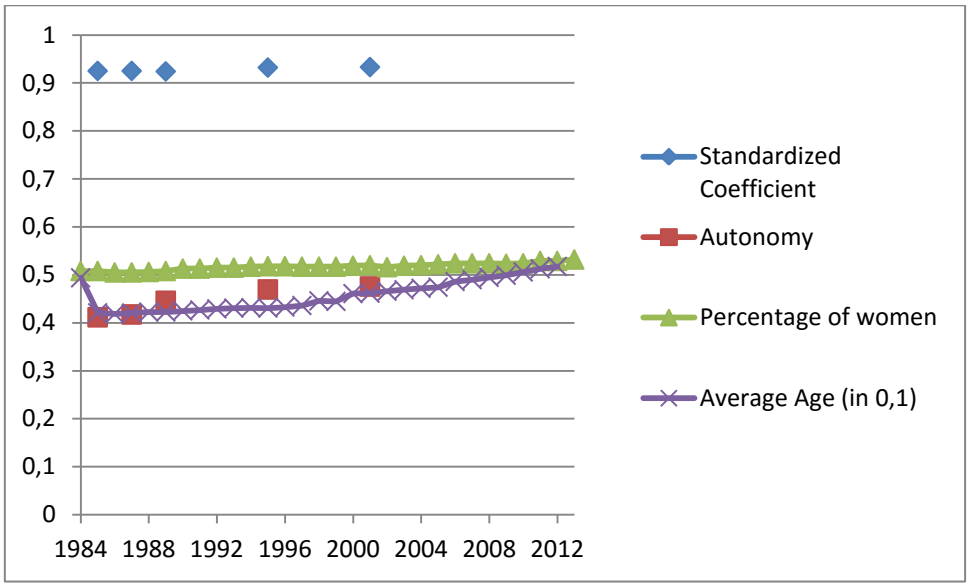

Figure 19: Variables that may covary with the regression between autonomy and high stress

As to the variables possible covarying with the regression between autonomy and high stress, what strikes out (Figure 19) is that the percentage of respondents of the survey who work, at least, partly, autonomously rises faster than the regression between autonomy and high stress. The regression first weakens a little bit, from 0,925 in 1985, the same as in 1987, to 0,924 in 1989. After the German reunification it goes again up a little bit to 0,932 in 1995 and finally to 0,933 in 2001. In contrast to that, the percentage of respondents of the survey who work autonomously rises gradually, from 41,15% in 1985, to 41,74% in 1987, to 44,58% in 1989, to 46,95% in 1995 and finally to 47,56% in 2001. Consequently, as these two lines develop differently, it cannot be assumed that the percentage of respondents of the survey who work autonomously does covary with the regression between autonomy and high stress. Furthermore, it would also be difficult to confirm this, as too few data is available on both, the regression and the percentage of respondents who at least partially have autonomy in their job.

A closer look is taken at the other two variables that are considered to possibly be covarying with the regression between autonomy and high stress in the job, namely gender and age (Figure 19). It is obvious from Figure 19 that these two variables both rise more than the analysed regression. As already expounded in previous chapters the percent of women taking part in the survey gradually rose by around 2,5% over the analysed thirty years. Next to that, the average age of respondents rose by more than 7 years in those thirty years. In contrast to that the regression fluctuates and only rises by 0,008. Therefore, there is possibly neither a covariation of the percentage of women taking part in the survey nor of the average age of the respondents with the regression between autonomy and high stress.

Chapter 5: Discussion and limitations

In this study, the main finding demonstrates that not all employee outcomes react in the same way to changes in the same NWW practice and that not all NWW practices influence the same employee outcome similarly. For example, the influence of autonomy is high on work satisfaction, but low on turnover intention. On the other hand, the influence of flexible working hours on high stress is relatively low, whereas the influence of autonomy on high stress is strong.

Taking a closer look at the NWW development over the years it is to say that there are several explanations for the major drops in 1997, 1999, 2002 and 2009. One explanation for the last drop may be the economic crisis that began in 2008. It may be that in the aftermath of it people longed for more security at work and therefore did not trust NWW enough, as this implies loosening of security. Another explanation for the drop in the overall percentage of NWW can be explained by the percentage of people who work at home. As visible in Figure 2, the percentages for this NWW practice only appear in the low peaks of the NWW line of percentages. Hence, it is obvious that they decrease the percentage of NWW for the years in which data on working at home is present. It may be that if data on working at home was available also for all other years, it may have decreased the overall percentages of people who apply NWW.

Moreover, what strikes the eye when taking a look at Figure 2 is that the curve of flexible working hours is nearly similar to the curve of NWW in general. This makes the percentages of NWW in general less convincing and informative, as flexible working hours is the only NWW practice for which there are data on all years, as for the other two practices data for many of the years are missing. Hence, flexible working hours has a bigger influence on the overall NWW data than the other two NWW practices and therefore it biases the overall impression of the development of NWW over the years. Consequently, the data for the overall NWW could not be used in this study, as the numbers are biased as for the practice of flexible working hours more data were used to compute the NWW variable, while for the other two practices data for many years were missing.

Next to that, a reason for the overall growth of the different employee outcomes could be the change in the industry structure. Over the years, the industry structure changed from agriculture being the primary sector to more manufacturing. Following, the service sector took the position as primary sector over from manufacturing. In contrast to the service sector, it is difficult to implement practices like working at home and flexible working hours within the manufacturing industry. This is because in manufacturing employees mostly have to be present at the company's venue to do their work. Moreover, they often work in shifts and therefore are not able to determine their working hours themselves. Consequently, with a shift from the manufacturing to the service sector, it gave employers as well as employees more opportunities to implement NWW practices.

On the topic of the development of employee outcomes over the years 1984 till 2013 it is to say that for the change in the percentage of survey respondents who state that they are satisfied with their work no explanation can be given. It may first come to one's mind that the drop in work satisfaction in the early 1990s may be due to the fact that after the German reunification citizens from East Germany were added to the survey and these people may have been less satisfied with their work. However, if this was the case the first drop in the work satisfaction of the survey respondents must have been in 1991, however, looking at Figure 3 one can see that it not happened until 1993. Still, it may be that people from Eastern Germany were only added to the survey in 1993. Unfortunately, this cannot be confirmed for sure.

The minimum in work satisfaction among the survey respondents in 2011 may be the consequence of a painful aftermath of the world economic crisis that began in 2008. According to Figure 3, work satisfaction already began decreasing in 2009 and 2010, but the minimum was not met until 2011. Furthermore, the developments in turnover intention are also hard to explain. It seems to develop in reverse to the work satisfaction, which sounds unrealistic, because it seems that as people become more satisfied with their work, turnover intention increases. Hence, it appears that higher work satisfaction may be a driving force for turnover intention. Still, turnover intention is low, compared to the other analysed employee outcomes and it may be that as some people become satisfied with their work, others become more unsatisfied and more people intend to quit their job for a better one.
Next to that, for the development of Work-Life Balance it is difficult to name any reasons as only two points of data are available for this employee outcome. Finally, the development of the percentage of employees who assert that their job is high stress can also not be explained as too little data is available.

Regarding the regression between working at home and the analysed employee outcomes it is hard to draw any comparisons, as there are only data for the regression with work satisfaction, for the other three regression data are missing.
Taking a closer look at the regression between working at home and work satisfaction it is to say that they are highly correlated and that the regression between both is also strong. Next to that it could not be observed that any of the tested variables has any influence on the regression between Working at home and work satisfaction. Still what could be observed was that from 1985 onwards the average age of the survey respondents rose. A reason for this could be that from 1985 onwards mostly the same people took part in the survey and naturally they all age constantly and hence the average age also rose constantly. Consequently, the average age of respondents rose similar to the rising age of the people that continuously took part in the survey every year.

Regarding the regression of the NWW practice flexible working hours with the analysed employee outcomes, it is to say that they all could be computed, but that they have different outcomes and that the regressions are mostly on a weak level.
The regression between flexible working hours and work satisfaction for example is on a low to medium level. On the minimum level 15,6% of variation in work satisfaction could be explained by variations in flexible working hours. At the maximum point these were 26,8%. However, a trend could not be observed as the regression is constantly fluctuating. One explanation for this constant fluctuation which mainly arose from 1990 onwards could be the German reunification which was followed by a period of high unemployment.
The following regression between flexible working hours and turnover intention is generally low. In 1986 it is even negative, which means that the more people had access to flexible working hours, the lower the turnover intention among employees. Still, this effect is only observable for one year. In the other years the maximum was “only” at 0,079 in 1990. Hence, one can say that up to this point an upwards trend in the regression is observable. What leaps out is that only regression data until 1990 is available. This may be due to the German reunification and difficulties in measuring the regression also in Eastern Germany.
Next to that, for this regression the covariation with several variables is hard to explain as to little data on the regression are available. Still, Figure 8 shows that the regression between flexible working hours and turnover intention and the average age of the survey respondents seem to show

a similar decrease, but for the average age in the year 1984/1985 and for the regression in the year 1985/1986. An explanation for this could be that the effect of the changing average age is retarding and only can be seen in the regression one year later.
Next to that, for many regressions, like for the one between flexible working hours and work-life balance, it is hard to give any results as only little data is available. In the mentioned case, the regression could even only be computed for two of the thirty analysed years. The same holds true for the regression between flexible working hours and high stress, for which regressions could be computed for five years. Still, what strikes is that between the years 1989 and 1995 there is, compared to the other years, a rather huge decrease in the regression. One reason for this decrease could be the German Reunification and its effects on the labour market. However, unfortunately for that space of time we do not have any relevant data and hence, we cannot say that the reunification had any influence on the regression. As already mentioned what is also difficult, is to give any information about the covariation of the analysed variables with the regression, as too many data are missing in order to draw any conclusion about their effect.

Finally, a closer look is taken at the regression between autonomy and the analysed employee outcomes. As to the regression between autonomy and work satisfaction, it is to say that it is on a high level. Figure 14 shows that between 80,7% and 85,9% of variation in work satisfactions can be explained by variations in autonomy. Still, this number is decreasing. Hence, a downwards trend is observable.
Taking a look at the covariation of the amount of survey respondents who work autonomous and the regression, one can see that it decreases as the amount of people who work autonomously increases. This means that the more autonomy employees are granted at work, the less this autonomy has an influence on employees' work satisfaction. A reason for this may be that as people become more used to autonomy they less see it as enrichment for their work satisfaction. Yet, as already pointed out earlier it is difficult to confirm this for sure as too many data points are missing for drawing a concrete conclusion on this. For the other two possibly covarying variables, age and gender, it is to say that, if so, they would have a reverse effect on the regression between autonomy and work satisfaction. This means that the more women take part in the survey or the older the average respondent of the survey, the less work satisfaction could be explained on the basis of autonomy. Still, no effect can be detected for sure, as there is, again, two few data available on the analysed regression.
Figure 16 shows that the regression between autonomy and turnover intention is, compared to the previous regression, rather low. At most 9,7% of variation in turnover intention can be explained by variations in autonomy. Still, for the three years for which a regression could be computed an upwards trend is detected. Taking, again, into account the variables that might be covarying with the regression between autonomy and turnover intention, it is also for this regression hard to present any results, as data for too many years are missing in order to draw a reasonable conclusion. However, if so, there is only a slight covariation observable of age, gender and the amount of people who work autonomously on the regression between autonomy and turnover intention.
As to the regression between autonomy and work-life balance, it is not possible to give any information as this regression could not be computed due to constant or missing variables. Taking a look at the final regression, the one between autonomy and high stress, Figure 18 shows that it is a strong one. At least 92,4% of variation in high stress can be explained by autonomy. Additionally, there can be detected an upwards trend, if only a slight one. As to the variables that may possibly be

covarying with the regression between autonomy and high stress it is to say that the data do point to the fact that there is no such covariation observable for all variables. Still, again, it is difficult to confirm this, as only few data are available for analysis.

Naturally, also for this study there are several limitations. The first one can easily be detected when reading the whole paper.
For most of the regressions not for every year results could be computed due to missing data and constant variables. For some regression results could only even be computed for two years. Hence, it was difficult to draw any reasonable conclusion with only few data at hand.
Next to that, as already mentioned no one NWW variable, for which the regressions with employee outcomes could be calculated, could be computed. This is due to the fact that only for the NWW practice of flexible working hours data were available for all years. For the other two practices, working at home and autonomy, data were only available sporadically. Hence, when computing one NWW variable out of the three variables for the three NWW practices, flexible working hours would have a bigger influence than working at home and autonomy. Consequently, the overall impression of the NWW variable would be biased.
Finally, there was a third variable that was originally taken into account for testing its covariation with the regressions between NWW practices and employee outcomes, namely the industry sector the survey respondents work in. Obviously, it is for employees in some industry sectors easier to make use of NWW practices. For example, it is easier for employees of the service sector, for example accountants or consultants to work at home or determine their time of work flexibly, than for workers of the manufacturing sector. In the manufacturing sector employees have to be present at the factory in order to make use of the machines. Hence, it is impracticable for them to work at home. Next, to that many employees work in predetermined shifts so that all the time somebody is at work. Hence, it is impossible for employees to determine their working times themselves. Consequently, it would be interesting to see the effect of the industry sector on the analysed regressions. However, it is unpractical to do that as the variable industry sector in the SOEP survey had more than 100 answer possibilities, which were hard to categorize into three or four different industry sectors. Hence, as for this too much time would have been spend and the workload would have been too high, it was not possible to take the industry sector into account as a third covarying variable.

Chapter 6: Conclusion and Recommendation for further research

All in all, it is to say that the application of NWW practices increased since 1984. The application of all three practices increased between 1984-2013, while it is natural that some practices, like autonomy, are more often applied than the others. Next to that, data were not available for all NWW practices analysed in this study. For example for working at home and autonomy, data were only available for four, respective five years. Still, one can observe in Figure 2 that the graphs for all NWW practices increased over the years. Hence, Hypothesis 1, which states that over the thirty years between 1984 and 2913 the application of NWW practices increased, can be confirmed. However, as already mentioned no development of NWW as one variable could be analysed as the missing data for working at home and autonomy would have biased the whole outcome.

Regarding Hypothesis 2, which claims that the NWW practices have a positive impact on all employee outcomes, it is to say that it can be fully confirmed as all NWW practices had a positive influence on the employee outcomes. Still, huge differences were detected when it comes to the level of power of the regression. For example, the regressions between working a home and work satisfaction, as well as the one between autonomy and work satisfaction and the one between autonomy and high stress are strong. In contrast to that, the regressions between flexible working hours and turnover intention, as well as the one between autonomy and turnover intention are on a low level. Whereas, the regression between flexible working hours and work satisfaction, the regression between flexible working hours and work-life balance and the one between flexible working hours and high stress are on a medium level. What strikes is that flexible working hours influences the employee outcomes mostly on a medium level, while the other two NWW practices influence the employee outcomes more strongly. Moreover, it is observable that turnover intention is less influenceable by NWW practices than the other employee outcomes, as the regressions between NWW practices and the employee outcomes are all on a low level.

Taking a closer look at Hypothesis 3, which states that the regression between NWW practices and employee outcomes strengthened over the last thirty years, it is to say that it cannot be confirmed for all cases analysed in this study. This hypothesis can only be confirmed for the regression between flexible working hours and work satisfaction, which fluctuates a lot, but all in all increases over the years 1984 – 2013. For other regressions, namely the one between flexible working hours per week and turnover intention, the one between flexible working hours per week and work life-balance , the regression between flexible working hours and high stress and the one between autonomy and turnover intention, it may be that they also strengthened over the years, but is not possible to confirm this for sure, as too many years of data are missing in order to give a valid and reliable result. In contrast to that, for three regression, more precisely the one between working at home and work satisfaction, the one between autonomy and work satisfaction and the one between autonomy and high stress, hypothesis 3 has to be denied as the strength for these regression either stays the same or even slightly decreases.

Taking a closer look at both, hypothesis 4a and hypothesis 4b, they can both not be confirmed for sure. Of the eight analysed regression, four might show a positive covariation with both age and gender, but this covariation cannot be confirmed for sure, as too many years of data are missing in order to give any reliable and valid conclusion. This holds true for the regressions between flexible working hours and the three employee outcomes turnover intention, word-life balance and high stress, as well as for the regression between autonomy and turnover intention. Next to that, for the regression between flexible working hours and work satisfaction, as well as for the regression between autonomy and high stress, a covariation with age and gender could be denied. Finally, for

the regression between working at home and work satisfaction, as well as for the one between autonomy and work satisfaction, there might be a covariation with age and gender, but if so, these are negative covariations.

Still, there are some recommendations for further research. First of all, it would be interesting to have a dataset for a study about NWW practices and employee outcomes that comprises a complete dataset without any missing data. With a full data set the conclusion made would be more valid and reliable, which was not possible within this paper. Unfortunately, for this study, collecting data over a time span of thirty years from around 30 000 people each year, would have been a workload to high to manage.

Moreover, it would be interesting to have a forecasting study, which shows the regression between NWW practices and employee outcomes for the future in order to find solutions for upcoming problems. It may, for example, be that in the future NWW more and more foster high stress and turnover intention. It would be good to know that in advance in order to get rid of such problems early.

Finally, it would be interesting to be able to analyse to what extent the structure of the industry and a possible change of this structure would have influenced the regressions between New ways of working and employee outcomes. As already mentioned in the service sector it is easier to apply NWW practices than in , for example, the manufacturing sector. Hence, if there would be a change towards a growing service sector, if would be interesting to know if also the application of NWW practices grew. Consequently, it would be a recommendation for further research to analyse the influence of the industry structure on the regression between NWW practise and employee outcomes.

References

Atkinson, C., & Hall, L. (2009). The role of gender in varying forms of flexible working. *Gender, Work & Organization, 16*(6), 650-666.

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309-328.

Bal, P. M., & Kooij, D. (2011). The relations between work centrality, psychological contracts, and job attitudes: The influence of age. *European Journal of Work and Organizational Psychology, 20*(4), 497-523.

Blok, M. M., Groenesteijn, L., Schelvis, R., & Vink, P. (2012). New ways of working: does flexibility in time and location of work change work behavior and affect business outcomes? *Work: A Journal of Prevention, Assessment and Rehabilitation, 41*, 5075-5080.

Clark, A. E. (1997). Job satisfaction and gender: why are women so happy at work? *Labour economics, 4*(4), 341-372.

De Leede, J., & Kraijenbrink, J. (2014). The Mediating Role of Trust and Social Cohesion in the Effects of New Ways of Working: A Dutch Case Study. *Human Resource Management, Social Innovation and Technology (Advanced Series in Management, Volume 14) Emerald Group Publishing Limited, 14*, 3-20.

Johns, T., & Gratton, L. (2013). The third wave of virtual work. *Harvard Business Review, 91*(1), 66-73.

Kelliher, C., & Anderson, D. (2009). Doing more with less? Flexible working practices and the intensification of work. *Human relations*.

MacDuffie, J. P. (2007). 12 HRM and Distributed Work: Managing People Across Distances. *The Academy of Management Annals, 1*(1), 549-615.

Matzler, K., & Renzl, B. (2006). The relationship between interpersonal trust, employee satisfaction, and employee loyalty. *Total quality management and business excellence, 17*(10), 1261-1271.

Peters, P., Poutsma, E., Van der Heijden, B. I., Bakker, A. B., & Bruijn, T. d. (2014). Enjoying New Ways to Work: An HRM-Process Approach to Study Flow. *Human resource management, 53*(2), 271-290.

Roxburgh, S. (1996). Gender differences in work and well-being: Effects of exposure and vulnerability. *Journal of Health and Social Behavior*, 265-277.

Slijkhuis, J. M. (2012). *A structured approach to need for structure at work*: University Library Groningen][Host].

Ten Brummelhuis, L. L., Bakker, A. B., Hetland, J., & Keulemans, L. (2012). Do new ways of working foster work engagement? *Psicothema, 24*(1), 113-120.

Wilson, J. M., O'Leary, M., Metiu, A., & Jett, Q. R. (2008). Perceived Proximity in Virtual Work:: Explaining the Paradox of Far-but-Close. *Organization Studies*.