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**Flexibility: demand and resource? How does flexible working
influence work-nonwork conflict and job satisfaction?**

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Abstract

Recent changes in the modern working life, especially developments regarding information and communication technologies, made it possible to be more flexible regarding the timing- and the place of work. Existing studies could not provide consistent results regarding the outcomes of workplace flexibility. Assuming that a more detailed conceptualization could help to explain the origin of the earlier conflicting results, four new scales to assess temporal and spatial flexibility were created, taking into account established organizational theories and recent findings in the field of flexible working. The first aim of this thesis was to investigate if temporal and spatial flexibility can be divided each into job demand and job resource, based on the experienced control of the employee. The second aim was to analyze the relations between job demands, personal- and job resources with work-nonwork conflict and job satisfaction. Scale analyses showed that temporal flexibility was in fact experienced as a job demand (temporal restriction) and a job resource (temporal autonomy). This could not be proven for spatial flexibility. Results showed that temporal restriction is positively related to work-nonwork conflict, this relation was moderated by flexibility related job resources. The job resources temporal autonomy and method control showed a positive relation to job satisfaction.

Keywords: Flexible work arrangements, JD-R model, autonomy, restriction, job satisfaction, work-nonwork conflict

Introduction

Over the last years there have been a lot of changes in the modern work life. Especially the developments regarding information and communication technologies (ICTs) have had a huge influence on our daily work environment. These technological developments allow the employees to organize their work more flexibly. Employees have the opportunity to decide when they work and where they work from (e.g. Demerouti, Derks, Brummelhuis, & Bakker, 2013). This new gained spatial- and temporal flexibility is also referred to as ‘new ways of working’ (NWW) or ‘flexible working arrangements’ (FWA).

Many studies have investigated the effects of flexibility in the workplace so far, however, there are different results regarding the outcomes of flexible working arrangements. Studies have shown beneficial effects of FWA such as to reduce the work family conflict (Kossek, Lautsch & Eaton, 2009; Byron, 2005) and to foster well-being (Moen et al., 2011) as well as work engagement (ten Brummelhuis, Bakker, Hetland & Keulemans., 2012). Whereas other studies showed different results - such as that telehomework and time restriction may lead to work family conflict (Peters, den Dulk, & van der Lippe, 2009; Kattenbach, Demerouti, & Nachreiner, 2010) and work intensification (Kelliher & Anderson, 2010). Flexibility is seemingly a highly complex research issue. Therefore a solid theoretical framework and a specific and more detailed conceptualization of flexibility may help to make it clearer, how the increasing flexibility influences our working life. One study provided some answers regarding the contradictory findings about flexibility, and defines why control regarding flexibility is important. Kattenbach et al. (2010) investigated temporal flexibility as a two dimensional construct, stating that the flexibility could be on behalf of the employer or the employee. Depending on whether the employee is autonomously able to decide when or where he works, or if this is mostly decided by his employer (Kattenbach et al., 2010). The evidence of this study confirmed the two dimensional construct of time flexibility and showed positive relations of time restriction with work-nonwork conflict and exhaustion, whereas time autonomy diminished these outcome variables (Kattenbach et al., 2010). This study showed that a further specification of the experienced flexibility could help to better understand how FWA influence workers and also why previous results were rather contradictory. However, the study by Kattenbach et al. (2010) did neither investigate the spatial flexibility of the workers, which is the second main factor of FWA (Hill et al., 2008) nor the factors regarding the employees (such as personal resources), which might lead to a better understanding of how FWA affects employees.

The first aim of the current study was, to investigate the structure of flexibility, based on a theoretical framework, using the available control of the worker versus the control on behalf of the employer (Kattenbach et al. 2010), to explain the different manifestations of workplace flexibility. Therefore, it was assumed that the employee can be restricted (if the control lies in behalf of the employer) and/or autonomous (if the employee is in control) while experiencing flexibility at work. This approach was applied not only to the temporal flexibility, but also to the spatial flexibility. To investigate the structure of temporal- and spatial flexibility, new items and scales were developed in order to gain a detailed view of the experienced flexibility of the worker.

The second aim of this study was to investigate interrelations of demands and resources occurring in FWA and how they influenced work related outcomes such as job satisfaction and work-nonwork conflict. Besides the temporal and spatial flexibility, job complexity, as a job demand and method control as a job resource, were also investigated. Job complexity has shown to further increase especially in the jobs of knowledge societies (e.g. Chung-Yan, 2010). In order to successfully cope with the rising complexity and flexibility, method control has proven to be a necessary job resource (Chung-Yan, 2010). Besides the resources regarding the job environment, also personal resources (occupational locus of control & occupational self efficacy) were investigated, which might help the employee to successfully cope with rising demands in the work environment and could also influence the way existing job resources are perceived (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

To sum up, this thesis should make it clearer, how demands and resources occurring in FWA influence modern working life. Furthermore, under what circumstances FWA show the most beneficial outcomes for the employee and therefore also for the employer, who might highly benefit from satisfied and healthy workers.

1. Theoretical background

On the following pages the theoretical background of this thesis is explicated and the two research questions extracted. At first the job demands-resources model (JD-R model; Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner & Schaufeli, 2001) including the extension of the model by personal resources (Xanthopoulou et al., 2007) is explained. This widely used framework served as a broad frame model for all the hypotheses and helped to classify the different constructs into demands, organizational and personal resources as well as work related outcomes.

In addition, definitions and conceptualizations of flexible working as well as the contrary findings were discussed. Further, concepts of control and their relation to flexibility were explained. Using a strong theoretical foundation, existing findings regarding FWA were concluded to a two dimensional conceptualization of flexibility, according to the level of experienced control.

Thirdly, findings regarding demands and resources that occur in FWA were treated and the investigated demands and resources defined. Finally, the two work related outcomes work-nonwork conflict and job satisfaction were defined and their importance in this field of research explained.

1.1 The job demands-resources model

In order to understand the effects of flexibility at work, the job demands-resources model (JD-R model; Bakker & Demerouti, 2007; Demerouti et al, 2001) was used as a theoretical framework. This well-known model was also used in a lot of research in the last decade to investigate work environments in general (e.g. Mauno, Kinnunen, Ruokolainen, 2007; Mastenbroek, Jaarsma, Scherpbier, van Beukelen & Demerouti, 2012) and also in the context of flexible working (e.g. Kattenbach et al., 2010). The JD-R model assumes that every work environment can be classified into two broad categories: job demands and job resources.

Job demands are those aspects of the job that require physical or mental effort and are therefore linked with certain physiological and/or psychological costs (for example high work pressure or emotionally demanding interactions with clients). Job demands are not necessarily negative, but they may turn into job stressors if the employee does not possess the required resources to cope with the occurring demands (Bakker & Demerouti, 2007). Job resources are aspects of the job, which are either functional in achieving work goals, reduce job demands or

stimulate personal growth. Those resources are not only necessary to deal with job demands, they are also important in their own right (Bakker & Demerouti, 2007).

Two main processes underlie the JD-R model, which play a role in the development of job strain and motivation. The first, health impairment process states that poorly designed jobs or chronic job demands exhaust employees and lead to depletion of energy and health problems (Bakker & Demerouti, 2007). For example have job demands like physical workload and time pressure shown to increase exhaustion (Demerouti et al., 2001). The second process states that job resources have motivational potential and can lead to work engagement and performance (Bakker & Demerouti, 2007). This process could also been confirmed, for example for the job resources autonomy and social support, which significantly increased work engagement (Xanthopoulou et al., 2007). Job resources are not only important in their own right but also buffer the relationship between job demands and exhaustion. Furthermore, employees with a high level of job resources are more capable of dealing with demanding work conditions and are therefore able to develop more engagement under circumstances with high job demands (Bakker & Demerouti, 2007).

The JD-R model was extended due to assumptions of the conservation of resources theory (COR – Hobfoll, 1989) by integrating personal resources. COR theory claims that resources are used to deal with threatening conditions thus preventing negative outcomes. Further COR theory states that individuals tend to protect and accumulate existing resources (Hobfoll, 1989). In line with these assumptions, personal resources were hypothesized to mediate the relationship between existing job resources and job related outcomes and moderate the relation between job demands and job related outcomes (Xanthopoulou et al., 2007). These assumptions could be confirmed and therefore the job resources were integrated into the JD-R model (Bakker & Demerouti, 2007).

1.2 A conceptualization of flexible working

An early study regarding research of flexible work environments, who investigated more than 80 published empirical studies, suggested a stronger use of existing organizational theories when investigating the influences of FWA (Bailey & Kurland, 2002). In line with this suggestion, it was tried to extract a conceptualization of flexibility, based on existing organizational theories, as well as recent findings regarding this concept.

1.2.1 Existing definitions and conceptualizations

Because of the technological progress in the last years, the working life, especially the working life of knowledge workers, has drastically changed regarding its flexibility. The increasing use of mobile devices such as notebooks, smartphones and tablets, took flexible working to a whole new level of flexibility. Never before has it been this easy to work from wherever you want, whenever you want (Demerouti et al., 2013). But what exactly does flexible working mean? Flexible working arrangements (FWA) are defined by two key characteristics: temporal- and spatial flexibility (Hill et al., 2008). FWA opened up a lot of new possibilities to the modern working life. Fixed work schedules and fixed offices for every employee are no longer necessary. The employee is able to work when he is needed or when it suits him best, from a place he might choose himself. A few examples for different work designs that exist in FWA are flexitime, ROWE, hotdesking, teleworking and home office. Obviously, these different designs are similar or overlap in the amount of possible spatial and temporal flexibility and should therefore be precisely surveyed, in order to investigate effects caused by them.

Why do companies support flexible working? FWA have for example shown to lead to better performance (Sánchez, Pérez, De Luis Carnicer, & Vela Jiménez, 2007). Increased flexibility could also help individuals to better manage their private lives along with their working lives, as it is possible to choose for yourself when you work and when you spend time with your family or for other private concerns (Shockley & Allen, 2007). On the other hand, one is available 24/7 because it is possible to receive work related emails and phone calls all the time with your smartphone, which might lead to an involuntary extension of the workday (Demerouti et al., 2013). Also if you work from home, the physical distinction between your workplace and your private environment no longer exists (Shamir & Salomon, 1985) which could also make it more difficult to maintain a healthy work-nonwork balance.

1.2.2 Contrary findings using existing concepts of flexibility

Whereas scientific findings regarding effects of organizational benefits due to the increased possibility of flexible working clearly speak for FWA (e.g. Sánchez et al., 2007), the findings regarding the person oriented outcomes of FWA are rather contradictory. Studies have shown, that FWA may have beneficial effects for the employee, such as to reduce work family conflict (Anderson, Coffey & Byerly, 2002; Kossek et al., 2009; Byron, 2005; Hill, Erickson, Holmes & Ferris, 2010) or to foster well being (Moen et al., 2011) as well as work engagement (ten Brummelhuis et al., 2012) and job satisfaction (Anderson et al., 2002; Baruch, 2000; Scandura & Lankau, 1997). Whereas other studies showed different results, for

example that telehomework and time restriction may lead to work family conflict (Peters et al., 2009; Kattenbach et al., 2010).

If you investigate the ways these studies investigated flexibility and its consequences, there are huge differences in how flexibility was conceptualized and assessed. Many studies regarding FWA merely measured the available flexibility, which does not necessarily imply its use (Bailey & Kurland, 2002). Further, most of the studies did not consider whether the employee itself is in control of the flexibility, or if the employer is in control of it. These different conceptualizations and ways to measure flexibility could explain the contradictory results regarding research of FWA.

For example in a study by Hill et al. (2010) flexibility was assessed as a dichotomous variable. The participants were asked where they complete *most* of their work, with an answering option of “at home”, which was coded as work at home: “yes” without any further grading. Another question was asked regarding their schedule flexibility (on a five point Likert scale) – therefore it was distinguished between temporal and spatial flexibility, which is common in studies regarding FWA (e.g. Hill et al., 2010; Shockley & Allen, 2007). On the other hand there are studies who just investigated the *temporal* flexibility of the participants, without surveying the spatial flexibility (e.g. Moen, Kelly, Tranby & Huang, 2011; Hoege, 2011). Another study assessed very specific flexibility types, assessing different measures regarding factors of temporal flexibility, spatial flexibility and the control over which (e.g. Kossek et al., 2009). All these different approaches to assess work flexibility had one thing in common: it was assumed that an employee may be either flexible or not flexible; therefore it is always a scale with two poles. Regarding the contradictory results of these studies one might assume, that the rather simple conceptualization of flexibility, as a coin with two sides, does not cover the complex construct of work flexibility.

1.2.3 Theoretical concepts of control in the work context

If you investigate literature about flexibility in the work environment, one does repeatedly encounter the term “control”. Most of the researchers do agree that control is relevant, especially regarding the increasing flexibility in the workplace (Lyness, Gornick, Stone & Grotto, 2012; Gajendran & Harrison, 2007). According to the job characteristics model of work motivation, (JCM – Hackman & Oldham, 1975, 1980) autonomy (control in your own hand) is one of the five core dimensions that lead to high work motivation and job satisfaction. Autonomy is further defined as the extent to which a job allows an employee to schedule his work and determine the procedures used to carry out the work (Hackman &

Oldham, 1975). The job demand-control model (JDC model – Karasek, 1979) states that psychological strain results from the joint effects of the present demands and the decision latitude. Job decision latitude is defined as “the working individual’s potential control over his tasks and his conduct during the working day” (Karasek, 1979, p. 289). Facing high demands with a low amount of job decision latitude (further referred to as method control) available, will most likely result in high job strain (Karasek, 1979). These two established models do agree that autonomy regarding the scheduling of one’s work as well as the control over the task itself do matter in order to develop work motivation and avoid job strain. In order to apply the concept of autonomy and external control (further referred to as restriction) to the concept of work flexibility, the self-determination theory (SDT - Ryan & Deci, 2000, Gagné & Deci, 2005) was used to provide a theoretical framework.

Self-Determination Theory (SDT - Ryan & Deci, 2000, Gagné & Deci, 2005) consists of five mini theories and provides a broad framework in order to explain different types of motivation, depending on the amount of experienced control, ranging from amotivation to intrinsic motivation. It has already been widely researched in various contents like work and organizations (e.g. Baard, Deci & Ryan, 2004), psychotherapy (e.g. Zeldman, Ryan & Fiscella, 2004) or sports and physical education (e.g. Vansteenkiste & Deci, 2003). SDT claims, that there are three basic needs in order to experience motivation: competence, autonomy, and relatedness. These needs can be facilitated by environmental factors (such as work environments) and if satisfied, may lead to positive outcomes such as self-motivation and mental health (Ryan & Deci, 2000). Two aspects of the theory are described in detail in order to provide a theoretical foundation for the conceptualization of control regarding flexibility.

SDT distinguishes between autonomous motivation and controlled motivation (Gagné & Deci, 2005). Intrinsically motivated behavior is prototypically autonomous, but SDT states that extrinsic motivation might vary in its degree whether the behavior is autonomous versus controlled. Higher amounts of autonomy lead to higher experienced external motivation (Ryan & Deci, 2000). Another process that, regarding SDT, influences extrinsic motivation is the process of internalization, which refers to the regulation of a behavior. A behavior is externally regulated if it is not interesting by itself, but the consequences of it are desired. The behavior is initiated and maintained only by factors external to the person and therefore an example for controlled behavior (Gagné & Deci, 2005). However, it is possible to transform externally regulated behavior into internally regulated behavior with the process of internalization. Internalization is defined “as people taking in values attitudes, or regulatory

structures, such that the external regulation of behavior is transformed into an internal regulation and thus no longer requires the presence of an external contingency” (Gagné & Deci, 2005, p. 334). For example, it could be possible that one starts working at home, because it is expected of the employer (external regulation). After a while one might be able to see the positive side effects made possible by this new gained flexibility (e.g.: free distribution of the working time, less time stuck in traffic) and internalize them and therefore experience internally regulated motivation. SDT further claims that this internalization takes place in a continuum between fully controlled and autonomous, which describes the degree to which this external regulation is internalized (Gagné & Deci, 2005).

These assumptions were applied to the context of flexibility in the course of this thesis. Therefore it was assumed that the amount of autonomy as well as restriction might describe the continuum between amotivation and intrinsic motivation. It was not intended to assess the grade of internalization in this thesis. Rather was assumed that the amount of autonomy and the amount of restriction together describe the grade of possible internalization.

1.2.4 Two dimensional conceptualization of flexible working

Kattenbach et al. (2010) tried to make a different approach regarding the structure of temporal flexibility, inspired by the JD-R model (Bakker et al., 2007). A two dimensional structure of temporal flexibility was assumed, depending on whether the flexibility is in the interest of the employer or the employee. If the flexibility was in the interest of the employer Kattenbach et al. (2010) spoke of temporal restriction (job demand). If the flexibility was in the interest of the employee, it was spoken of temporal autonomy (job resource). Therefore an employee might be restricted and autonomous at the same time. The two dimensional structure could be confirmed in the course of the study (Kattenbach et al., 2010). Though the scales used to assess these two dimensions of temporal flexibility by Kattenbach et al. (2010) were rather explorative, they showed inconsistent question and answer formats.

The two dimensional approach of temporal flexibility was adopted in the course of this thesis and expanded to the second main factor of FWA: spatial flexibility. According to SDT (Ryan & Deci, 2000) and based on ideas of earlier studies regarding FWA (Hoeye, 2011; Kattenbach et al., 2010; Thomas & Ganster, 1995; Hyland 2000), four scales were created in order to measure a complete, detailed and theory based assessment of workplace flexibility. Two scales for temporal flexibility (temporal restriction and temporal autonomy) and two scales for spatial flexibility (spatial restriction and spatial autonomy). Whether flexibility truly

exists in these expected dimensions had to be investigated. Therefore the first research question of this thesis was:

Is it possible to divide temporal- and spatial flexibility into two different dimensions: temporal- and spatial restriction (as a job demand) as well as temporal- spatial autonomy (as a job resource)?

1.3 Demands and resources of FWA

1.3.1 Job demands

In the current thesis, the control concept was described, in consensus with recent studies and established theories of work organization (SDT – Ryan & Deci, 2000; JCM – Hackman & Oldham, 1975; JDC - Karasek, 1979), in three different ways. One of which is *temporal- and spatial restriction* (job demand) that describes the external control (for example through the employer) over the temporal distribution of work and the location of work.

Another demand which is further increasing in the jobs of knowledge workers is *job complexity* (Chung-Yan, 2010). Complex jobs (or complex tasks) are characterized by multiple ways to find a solution and therefore by multiple desired outcomes, uncertainty between solution and outcome, high levels of information load, diversity and rate of change (Campbell, 1988). The importance of job complexity was also highlighted in a sub theory of SDT, namely the cognitive evaluation theory (CET – Ryan & Deci, 2000). CET specifies that feelings of competence will enhance motivation. Though in order to develop feelings of competence, a certain amount of complexity of the task is needed (Ryan & Deci, 2000). Similar to flexibility, job complexity has shown positive relations with job related outcomes like job satisfaction, well-being and affective commitment (Grebner et al., 2003; Ilgen & Hollenbeck, 1991; Morgeson & Campion, 2003; Chung-yan, 2010). Too much flexibility, without equally available job resources can also lead to negative outcomes, such as less job satisfaction (Chung Yan, 2010). Facing the fact that flexibility and complexity are simultaneously growing aspects of the modern working life, with similar outcomes, the idea was to survey both variables in order to verify the effects of each variable, to make sure that there is no disturbance between these two simultaneously occurring factors and also whether there is an interaction between them.

1.3.2 Job resources

The second conceptualization regarding control in this thesis said that flexibility might act as a job resource, under the circumstance that the control is in the hand of the employee. In this thesis it is spoken of *temporal*- and *spatial autonomy* (job resource) if the employee is able to decide autonomously when he attends to his working tasks or where he works from.

The third conceptualization of control which was investigated in this thesis refers to another job resource occurring in FWA: method control. Method control describes the control of the employee, over the procedures used to carry out his work. Many studies have proven the beneficial effects of method control, for example to foster job satisfaction (e.g. Chung Yan, 2010) or work engagement (e.g. Xanthopoulou et al., 2007). Also the JDC model (Karasek, 1979) states that method control is essential in order to avoid job strain. Further, method control is the second aspect of the autonomy core dimension according to the JCM (Hackman & Oldham, 1975) besides temporal autonomy.

1.3.3 Personal resources

Besides environmental factors, also personal characteristics (such as locus of control, self-efficacy or optimism) have shown to influence job related outcomes such as exhaustion, work engagement (e.g. Xanthopoulou et al., 2007) affective strain or musculoskeletal pain (Meier et al., 2008). Personal resources might also help the individual to accumulate existing resources (Hobfoll, 1989). The person-environment fit theory (P-E fit theory - Edwards, Caplan & Harrison, 1998) states that job related outcomes are not caused by personal or environmental factors separately, but by their fit with one another. To describe the flexible work environments of the participants, demands and resources with a strong relation to control were chosen. Therefore also personal resources with a relation to perceived control were chosen in order to detect a possible fit or misfit in line with P-E fit theory (Edwards et al., 1998).

Studies have shown that the stress buffering effect of job control was only evident by participants with the personal resource of internal locus of control (Rodriguez, Bravo, Peiro & Schaufeli, 2001). Further, internal locus of control and high self-efficacy has shown to help individuals to cope with occurring job demands (In Park, Beehr, Han & Grebner, 2012). A study by Meier et al. (2008) showed that individuals with internal locus of control and high self-efficacy are better capable to reduce stress and develop well-being while facing a high amount of method control and temporal autonomy and therefore experience a good person-environment fit (Meier et al., 2008). Self-efficacy and locus of control also both describe

internal control beliefs and might therefore influence how individuals perceive control opportunities of their environment, like increases flexibility (Meier et al., 2008). Because of their interrelations to demands and resources related to control as well as their influence on job related outcomes, the personal resources self-efficacy and locus of control were investigated in this thesis.

Locus of control (LoC) describes the belief that behavioral outcomes are under one's own control (internal locus of control) or depending on outside factors like luck, faith, or powerful others (external locus of control) (Rotter, 1966). Self-efficacy refers to the conviction that you are able to deal effectively with upcoming situations (Bandura, 1982). These two personal resources might have an interesting interrelation because locus of control describes the belief that things can be influenced in general, whereas self-efficacy indicates the belief to be able to exert this influence in an effective way. In order to ensure a domain specific assessment of the personal resources, they were measured with the "occupational" adaptations of the scales (therefore occupational locus of control and occupational self-efficacy).

1.4 Work related outcomes

The rising flexibility makes it difficult to clearly distinguish between work- and private hours (Kattenbach et al., 2010). The increased use of ICTs has led to an increased connectivity (ten Brummelhuis et al., 2012). It is possible to receive work related emails or calls everywhere at any given moment. Therefore, the physical distinction between work and private environment no longer exists (Shamir & Salomon, 1985). On the other hand, if one is free to choose when and where to work from it should be easier to integrate work and private life. According to these two conflicting assumptions, the results of recent studies showed also contradictory results. Whereas some studies showed that FWA might reduce work-nonwork conflict (Kossek et al., 2009; Byron, 2005; Hill et al., 2010), others found that telehomework and time restriction may lead to work family conflict (Peters et al., 2009; Kattenbach et al., 2010). Seemingly, the effects of FWA on work-nonwork conflict are not yet sufficiently discovered; further the private life is the most important matter which may suffer under the increasing flexibility in the eyes of the employee (Kattenbach et al., 2010). Therefore, work-nonwork conflict (WNW-conflict) was chosen as a dependent variable. WNW-conflict relates to situations where the requirements of work and non-work life are incompatible (Greenhaus and Beutell, 1985).

In line with the JD-R model (Bakker et al., 2008) a second, positive outcome variable was defined. The idea was to choose a dependent variable which assessed the personal outcomes regarding the working life of the employee (besides the impacts on the private life). In a review study that investigated more than 80 published academic empirical studies in the context of FWA, they found that two outcome variables received the most attention in this field of research: productivity and job satisfaction (Bailey et al., 2002). Studies have shown that temporal flexibility and method control can foster job satisfaction (Scandura & Lankau, 1997; Baruch, 2005; Chung-Yan, 2010). The JCM (Hackman & Oldham, 1975) underlined the importance of job satisfaction in organizational research by identifying job satisfaction as one of the five work-related outcomes of the model. Also in research regarding the personal resources locus of control and self-efficacy in the work environment, job satisfaction is a common used outcome variable (e.g. Judge, Bono & Locke, 2000; Chung Yan, 2010). In order to investigate the interrelations of the independent variables in this thesis, job satisfaction was chosen as an outcome variable besides WNW-conflict. Therefore the second research question of this thesis was:

How are demands and resources that occur in flexible working arrangements related to work-nonwork conflict and job satisfaction?

2. Study model and hypotheses

Based on the health impairment process of the JD-R model, (Bakker et al., 2007) it was assumed that the presence of flexibility based job demands depletes energy and thereby results in the exhaustion of the employee. Which further results in private life problems and work-nonwork conflict. The total amount of working hours is an important predictor for work-nonwork conflict, as time and energy are limited resources (van Rijswijk et al., 2002). Because of that, involuntarily extended workdays should be positively related to work-nonwork conflict. Also the spatial restriction, which describes the extent your work requires you to work from different locations, might increase the work-nonwork conflict (e.g. because you have to work from home involuntarily). The study model including the schematic view of the hypotheses can be found in Figure 1.

H1) Job demands (temporal- & spatial restriction) are positively related to work-nonwork conflict.

Based on the motivational process of the JD-R model (Bakker et al., 2007) it was predicted that job resources are positively related to job satisfaction. Studies show, that if the worker has the control over its own working tasks and his temporal distribution of working time, he experiences more job satisfaction (e.g. Chung-Yan, 2010). So it was predicted that if the worker experiences control over his temporal and local flexibility he should experience a higher level of job satisfaction.

H2) Job resources (time-, spatial autonomy & method control) are positively related to job satisfaction.

Several studies have shown that job resources (e.g. social support, method control or autonomy) are necessary to successfully cope with existing job demands, such as workload, organizational changes or time pressure (e.g. Demerouti, Bakker, Nachreiner & Schaufeli, 2001; Bakker et al., 2007; Bakker, Demerouti & Euwema, 2005). Based on these results it was predicted that job resources reduce the positive relationship of job demands and work-nonwork conflict.

H3) Job resources (time-, spatial autonomy & method control) buffer the effect of job demands (temporal-, spatial restriction) on work-nonwork conflict.

There is also evidence for the fact that employees experience the highest levels of positive outcomes, when they are facing challenging job demands while simultaneously

possessing resources to cope with the occurring demands (e.g. Billings, Folkman, Acree & Moskowitz, 2000; Hakanen, Bakker & Demerouti, 2005). Confirming these results, Chung-Yan (2010) showed that the highest job satisfaction was experienced when high job complexity meets high job control. These results lead to my fourth hypothesis.

H4) Job resources (temporal-, spatial autonomy & method control) are most beneficial in maintaining job satisfaction under conditions of high job demands (temporal- spatial restriction & job complexity).

According to findings related to the JD-R model it was assumed that the personal resources mediate the relationship between job resources and job satisfaction and moderate the relationship between job demands and work-nonwork conflict. Studies have shown that employees with high levels of personal resources are able to deal efficiently with demanding conditions and in turn prevent them from negative outcomes (e.g. Xanthopoulou et al., 2007; Mäkikangas, & Kinnunen, 2003). It was also assumed that there is an interrelation between the job- and personal resources. Earlier findings have shown that a resourceful environment can foster the development of personal resources and this in turn may result in positive organizational outcomes (Luthans, Avey, Avolio, Norman, & Combs, 2006). On the other hand, the existence of personal resources may change the way people perceive their environment (Judge, Bono, & Locke, 2000) and this might cause the employees to focus more on job resources than on job demands and in turn, they will experience higher levels of job satisfaction and lower levels of work-nonwork conflict. Thus the following hypotheses are formulated:

H5) Personal resources (occupational self efficacy & occupational locus of control) moderate the relationship between job demands (temporal-, spatial restriction & job complexity) and work-nonwork conflict (time & stress).

H6) Personal resources (occupational self efficacy & occupational locus of control) mediate the relationship between job resources (temporal -, spatial autonomy & method control) and job satisfaction.

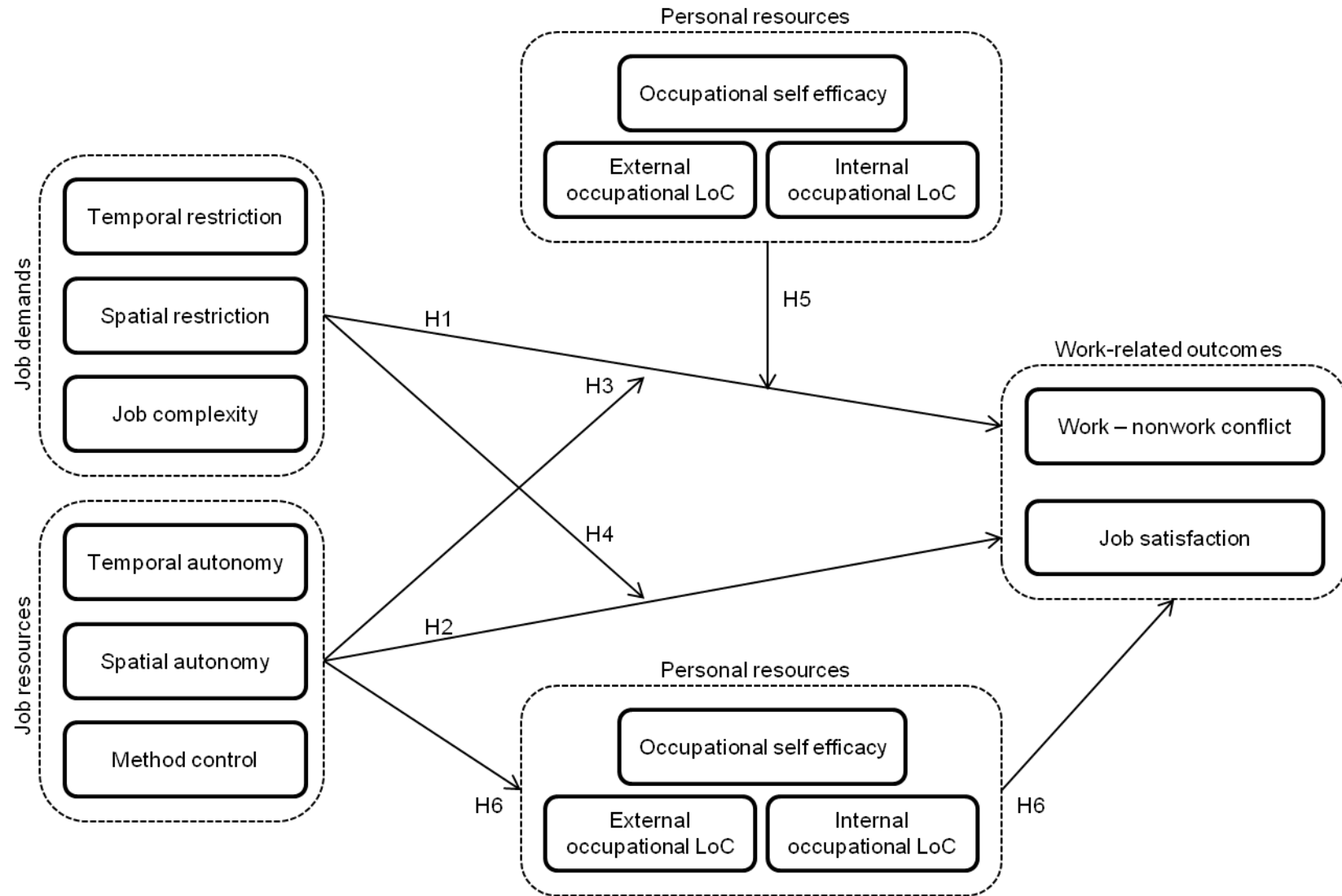


Figure 1. Study model

3. Method

In order to collect data to test the hypotheses, a questionnaire was developed and spread online and in a paper pencil version. Using a construct-based method, variables have been defined and operationalized by items in study variables. Sample, procedure, material, and analyses are presented in the following.

3.1 Sample and procedure

The sample size was 172 participants; all of them were currently working in Austria. 98 of them were female (57%), and the mean age was 30 with a standard deviation of 9. Participants were well educated with 59% holding a high school degree and 30% a university degree.

The average working hours per week were 31 with a standard deviation of 14. A total of 42 participants were in a leading position (24.4%) and the average tenure was 8.5 years ($SD = 9.9$), ranging from professional beginners to participants with 45 years of work experience. A quarter of the participants worked very seldom or never at their own workplace in the office. A total of 64.5% worked there at least multiple times a week. The remaining 9.3% worked at least once a month at their own workplace in their office (2 missing values). From all participants, 42.3% worked at least once a month at other offices than their own (e.g. at clients or external offices). Home office was quite common in the current sample, 30 participants worked almost daily, or daily from their homes (17.4%), Of all participants, 12.8% worked multiple times a week from their homes and 20.3% multiple times per month. Only 10.5% worked from their home office at least once per month and 39% seldom or never.

The criterion to participate in this study was to have some work experience in a flexible work environment. Flexible work environments are defined, as environments in which there are at least flexitime conditions. In order to recruit the participants, the private network was used, which consisted of several knowledge workers who are working in modern and flexible work environments and also several students working in a junior enterprise in the consulting sector who experienced also very high amounts of flexibility. On the other hand it was possible to spread the questionnaire in three courses on the faculty for occupational and organizational psychology in Vienna, gaining access to a broad sample of students who were working flexibly besides their education. The investigation started on the 11th of April 2013 and ended on the 24th of June 2013.

Because many participants were students working besides their education, it was important to make sure that everybody answered the questionnaire regarding his or her work. In order to ensure that an instruction question (*“While filling out this questionnaire, I thought of: my study / my work.”*) was asked, whether the participant answered the questions in respect to his/her work, or study life. Nevertheless, everybody was pointed out, to answer the questions regarding his or her working life. The candidates who filled out the questionnaire regarding their study life were excluded from the data analysis.

3.2 Materials

In order to measure the different variables, for all constructs except the flexibility demands and resources, existing scales were used. All constructs were clustered, based on the findings of the JD-R model (Bakker & Demerouti, 2007), in job demands, job resources, personal resources and work related outcomes. For the flexibility scales, the basic idea of Kattenbach et al.’s (2010) study was adopted. In combination with existing items concerning flexibility, and items of a recent study by Prem, Gerdenitsch, & Korunka (2014), new scales were developed. The whole questionnaire in its original, German version can be found in Appendix A - Questionnaire).

3.2.1 Flexibility items, separated for demands and resources

The items of the four newly developed flexibility scales (temporal restriction and spatial restriction as job demands; temporal autonomy and spatial autonomy as job resources) can be found in Table 1. For this study the items were used in their German version, therefore all values regarding reliability, factor structure or similar, refer to the German items, which can be found in the appendix. If existing, the references of the original items are also shown, although no item was used in its original version. All adopted items were at least so far edited, to fit the introduction phrases *“My work requires me to...”* for the restriction scales, or *“I have the option to...”* for the autonomy scales. For all the flexibility items, an instruction was given. For the autonomy items the instruction was *“The following section contains statements regarding your autonomy at the workplace. Please indicate to what degree you can decide about your work location independently.”* and for the restriction items the instruction was *“The following section contains statements regarding restriction at the workplace. Please indicate to what degree your schedule is determined by your work/your employer.”* All four flexibility scales were scored on a five point Likert scale from (one) “never” to (five) “always”. The reliabilities for the flexibility scales can be found in Table 2 (see 4.1 Flexibility Scale Analyses).

Table 1

Flexibility items, references if existing

	Temporal restriction	Reference
TR01	My work requires me to be available for overtime at short notice.	Höge (2011)
TR02	My work requires me to be available outside of the usual working hours.	Kattenbach et al. (2010)
TR03	My work requires me to be able to attend appointments spontaneously.	
TR04	My work requires me to be available when necessary.	
TR05	My work requires me to be flexible regarding my work-hours.	Höge (2011)
TR06	My work requires me to work outside my usual working hours.	
TR07	My work requires me to answer e-mails/phone calls outside my working hours.	
	Temporal autonomy	
TA01	I have the option to determine when I start my workday/work-week.	Thomas & Ganster (1995)
TA02	I have the option to arrange the temporal schedule of my work-week on my own.	Kattenbach et al. (2010)
TA03	I have the option to choose my daily work-hours freely.	Kattenbach et al. (2010)
TA04	I have the option to take a few hours off from work.	Thomas & Ganster (1995)
TA05	I have the option to determine when I take a vacation.	Thomas & Ganster (1995)
TA06	I have the option to autonomously determine when I take a few days off.	Thomas & Ganster (1995)
TA07	I have the option to schedule for myself when (e.g. on which days, at which time) to attend my tasks.	
TA08	I have the option to allocate my working hours autonomously.	Hyland (2000)
	Spatial restriction	
SR01	My work requires me to carry out certain tasks at a specific location.	
SR02	My work requires me to work at home as well as at my usual work location.	
SR03	My work requires me to go to the office to carry out certain tasks.	
SR04	My work requires me to attend to tasks on the go as well as at my usual work location.	
SR05	My work requires me to work on the go with clients/customers.	
SR06	My work requires me to attend to tasks at different locations.	
SR07	My work requires me to find a suitable workspace within the office.	
	Spatial autonomy	
SA01	I have the option to determine the amount and hours of work, I have to attend to at home, in order to meet my work demands.	
SA02	I have the option to work at home instead of at my usual work location.	Thomas & Ganster (1995)
SA03	I have the option to specifically choose an adequate work location for different tasks.	
SA04	I have the option to determine if I work at home/on the go or in my office, depending on where it suits me most.	Hyland (2000)
SA05	I have the option to autonomously arrange where I attend to my tasks.	
SA06	I have the option to be physically absent even in meetings (instead/but e.g. conference call, videotelephony).	
SA07	I have the option to determine my work location within the company.	

As seen in Table 1, there was a lot of existing literature regarding temporal autonomy items (compared to the temporal restriction items), which endorses the fact, that temporal flexibility was mostly measured with positively formulated items. All in all, it was evident, that there existed a lot more literature regarding temporal- in comparison to spatial flexibility.

3.2.2 Job demand: Job complexity

Job complexity was measured with three items of the German adaption of the work design questionnaire (WDQ, Stegmann, van Dick, Ullrich, Charalambous, Menzel, Nikolai Egold & Tai Chi Wu, 2010). Average Cronbach's alpha for the German adaptation was .79 (mean alpha of the 4 validation studies) (Stegmann et al., 2010). An exemplary item was "My work is not particularly demanding". The scale was scored on a six point Likert scale from "1 = *strongly agree*" to "6 = *strongly disagree*". Reliabilities for the job complexity scale, as well as the other remaining scales used in the current study, can be found in Table 7 (see also chapter 4.2).

3.2.3 Job resource: Method control

Method control was measured with four items of the method control subscale of the "Instrument zur Stressbezogenen Tätigkeitsanalyse" (ISTA, Semmer et al. 1999). Cronbachs alpha for the original scale was .78 (Semmer & Dunkel, 1991). The answers for the four items were ranging from one "very little" to five "very much". An exemplary item was "How much influence do you have on what work will be assigned to you?"

3.2.4 Personal resources: occupational locus of control and occupational self-efficacy

Occupational locus of control was measured with the German edition of the locus of control scale (Kovaleva, Beierlein, Kemper & Rammstedt, 2012), which is based on the theoretical concept of Rotter (1966) and Levenson (1972). The scale was adapted for the occupational context in this thesis. The original scale had a retest reliability of .56 for internal locus of control and a retest reliability of .64 for external locus of control. It contains four items (e.g. "I have control over my occupational life."), whereas two items scored on the internal locus of control subscale and two items on the external locus of control subscale. The scale was scored on a six point Likert scale from "*strongly disagree*" to "*strongly agree*".

Occupational self-efficacy was measured with four items of the German adaptation of the English occupational self-efficacy scale by Rigotti, Schyns & Mohr (2008). An exemplary item was "I can remain calm when facing difficulties in my job because I can rely on my abilities". Items were rated on a six-level response scale ranging from one (*not at all true*) to six (*completely true*).

3.2.5 Dependent variables: Work-nonwork conflict and job satisfaction

Work-nonwork conflict was measured with four of the six items of the German adaptation of the work family conflict scale (Wolff & Rieger, 2009). The scale was scored on a 7 point Likert scale from “strongly disagree” to “strongly agree”. This scale was originally divided into two subscales (time conflict and stress conflict), in this study, a one factor structure was chosen. Results of an exploratory factor analysis recommended the one factor approach (see Appendix B – Factor analysis for the work-nonwork conflict scale).

Job satisfaction was measured with one of the three items of the Michigan Organizational Assessment Questionnaire (MOAQ-JSS) of Cammann, Fichman, Jenkins & Klash (1983), because single item measurement regarding overall job satisfaction has proven to be acceptable (Wanous, Reichers & Hudy, 1997). The item read “*All in all I am satisfied with my job.*”

3.2.6 Control variables

Age and gender were chosen as control variables. There is evidence for a low, but significant, correlation between age, gender and work-nonwork conflict and also between age and schedule flexibility (e.g. Hill et al., 2010). Furthermore, there is evidence, that job satisfaction is related to the age and gender of the individual (Mora & Ferrer-i-Carbonell, 2008). In addition, there is an assumption that young employees react differently to the rising flexibility, because they are more used to it as they never worked differently. To avoid the distortion of the data through these two variables, they were included as control variables.

3.2.7 Other variables

In order to describe the work environments of the participants, they were asked about how often they worked at different places (e.g. in your own office, in coworking spaces, at home) and how often they used different technologies while they work (notebook, tablet, mobile-/smartphone, social networks, chat or messaging services) answered on a six point Likert scale ranging from “*seldom/never*” to “*daily*”. Further the participants were asked whether they are autonomous in deciding when to be reachable by these technologies (“*To what amount can you decide for yourself, when to be available by the following technology in your spare time?*”) answered, for each ICT on a 5 point Likert scale ranging from “*never*” to “*always*”.

3.3 Analysis

All constructs measured in this thesis, except the flexibility scales were empirically grounded by various studies. The flexibility scales were almost entirely new developed in the course of this thesis. Therefore it was very important to make sure that the structure of the flexibility scales was described properly. That is why a great part of the analysis was focused on the flexibility scales, their reliability and their factor structure.

Two different analyses were conducted. Firstly, in order to investigate the structure of the flexibility scales, an exploratory factor analysis (EFA) with varimax rotation and Kaiser normalization was run. To confirm the explored structure, also a confirmatory factor analysis (CFA) was calculated for the four flexibility scales with AMOS (Arbuckle & Wothke, 1999).

Second, in order to measure the main effects as well as the mediations and moderations, multiple regression analyses were run to investigate the relations of the demands and resources of FWA and their impact on work-nonwork conflict and job satisfaction. The mediation and moderation analyses were calculated with the PROCESS custom dialog box (Hayes, 2012) for SPSS, which automatically centered the predictors using grand mean centering and calculates the heteroscedasticity-consistent standard errors.

4. Results

4.1 Flexibility Scale Analyses

Firstly, the results of the flexibility scale analyses are presented. Because of their high relevance regarding the proper interpretability of the further showed results of the regression analyses they are shown in the first place.

The results of the reliability analysis of the flexibility scales (Cronbachs α and descriptive can be found in Table 2) showed, for both temporal flexibility scales and for the spatial autonomy scale reliabilities over the generally accepted value of $\alpha = .8$ (Kline, 1999). Spatial restriction, on the other hand, showed a relatively low reliability with an alpha of only .557.

Table 2
Reliabilities and descriptives of the flexibility scales

Scale	Cronbachs α	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Temporal restriction	.905	3.10	1.02	-0.060	-0.939
Temporal autonomy	.894	3.40	1.04	-0.140	-1.080
Spatial restriction	.557	2.47	0.69	0.107	0.591
Spatial autonomy	.884	2.36	1.06	0.597	-0.545

In order to investigate the factor structure of the flexibility scales, a principal factor analysis was conducted on the 15 temporal flexibility items and on the 14 spatial flexibility items, both analyzes with orthogonal rotation (varimax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analyses, with KMO = .86 for the temporal flexibility items and KMO = .82 for the spatial flexibility items (both values are regarded as ‘meritorious’ according to Hutcheson & Sofroniou, 1999). All KMO values for the individual temporal flexibility items were greater than .63, which is well above the acceptable limit of .5 (Field, 2013). One spatial flexibility item was slightly below the acceptable limit (KMO = .429) but was not excluded from the analysis.

To obtain the eigenvalues for each factor in the data, an initial analysis was run. The two factors of the temporal flexibility scale showed high eigenvalues (6.2 & 3.0), both over Kaiser’s criterion of one, and in combination they explained a total of 61.7% of the variance. The scree plot also showed an inflexion that recommended the two factor structure (see Appendix C – Scree Plots for the exploratory factor analyses).

For the spatial flexibility items, the two factors also had, with eigenvalues of 5.2 and 1.6, values over Kaiser's criterion of one; the scree plots inflexion also suggested the selection of two factors (see Appendix C – Scree Plots for the exploratory factor analyses). In combination, the two factors explained 40.35% of the variance. Factor loadings for the temporal flexibility items of the rotated factor matrix can be found. As it is clearly visible, the temporal restriction items and the temporal autonomy items loaded on two different factors. Regarding the results of the factor analysis, one might further assume the dual structure of the temporal flexibility scale (see Table 3).

Table 3

Factor loadings of the temporal flexibility scales for the exploratory factor analysis with varimax rotation and Kaiser normalization

Scale	Item	Factor loadings			
Restriction	My work requires me to...	Factor 1	Factor 2	M	SD
TR01	...be available for overtime at short notice.	.55	.04	3.01	1.22
TR02	... be available outside of the usual working hours.	.85	.14	3.00	1.30
TR03	... be able to attend appointments spontaneously.	.81	.18	3.06	1.13
TR04	... be available when necessary.	.85	.01	3.33	1.25
TR05	... be flexible regarding my working hours.	.77	.18	3.42	1.23
TR06	... work outside my usual working hours.	.72	.14	3.04	1.33
TR07	... answer e-mails/phone calls outside my working hours.	.73	.23	2.85	1.45
Autonomy	I have the option to...				
TA01	... determine when I start my workday/work-week.	.21	.81	3.31	1.50
TA02	... arrange the temporal schedule of my work-week on my own.	.25	.79	3.36	1.42
TA03	...choose my daily work-hours freely.	.24	.84	3.05	1.55
TA04	... take a few hours off from work.	.12	.71	3.06	1.43
TA05	... determine when I take a vacation.	-.010	.46	3.91	1.17
TA06	... autonomously determine when I take a few days off.	-.051	.49	3.79	1.20
TA07	... schedule for myself when (e.g. on which days, at which time) to attend my tasks.	.24	.59	3.42	1.29
TA08	... allocate my working hours autonomously.	.17	.84	3.35	1.42

Note. Factor loadings >.40 are in boldface.

The factor loadings of the spatial flexibility scales can be seen in Table 4. The spatial flexibility items did not load on the two expected factors spatial autonomy and spatial restriction. The seven spatial autonomy items did load on one factor. However, the spatial

restriction items did not load on one single factor but they loaded on Factor 1 as well as Factor 2 – and the factor loadings were rather low. The expected dual structure of the spatial flexibility could therefore not be confirmed by the results of the exploratory factor analysis.

Table 4

Factor loadings of the spatial flexibility scales for the exploratory factor analysis with varimax rotation and Kaiser normalization

Scale	Item	Factor loadings			
Restriction	My work requires me to...	Factor 1	Factor 2	M	SD
SR01	... carry out certain tasks at a specific location.	-.24	.43	3.28	1.30
SR02	... to work at home as well as at my usual work location.	.30	.39	2.24	1.36
SR03	... go to the office to carry out certain tasks.	.31	.12	2.86	1.47
SR04	... attend to tasks on the go as well as at my usual work location.	.20	.62	2.40	1.27
SR05	... work on the go with clients/customers.	.06	.37	2.37	1.40
SR06	... attend to tasks at different locations	.46	.51	2.30	1.24
SR07	... find a suitable workspace within the office.	.25	.08	1.89	1.11
Autonomy	I have the option to...				
SA01	... determine the amount and hours of work, I have to attend o at home, in order to meet my work demands.	.59	.03	2.98	1.56
SA02	... work at home instead of my usual work location.	.88	.05	2.27	1.37
SA03	... specifically choose an adequate work location for different tasks.	.75	.30	2.58	1.43
SA04	... determine if I work at home/on the go or in my office, depending on where it suits me most..	.88	.10	2.17	1.40
SA05	... autonomously arrange where I attend to my tasks.	.88	.16	2.51	1.39
SA06	... be physically absent even in meetings (instead/but e.g. conference call, videotelephony).	.48	.20	1.78	1.07
SA07	... determine my work location within the company.	.54	.06	2.24	1.36

Note. Factor loadings >.40 are in boldface.

Because regarding spatial flexibility only one factor was observed, another explorative factor analysis was run in order to investigate whether there is a common factor between spatial- and temporal flexibility (see Table 5). The three factors explained a total of 52.2% of the variance of all flexibility scales and therefore the three factor model is worse than the solution with two distinct factors, each for temporal- and spatial flexibility. Regarding the results, the possibility that spatial restriction have loaded on a mutual factor with temporal restriction (or even autonomy) could be excluded.

Table 5

Factor loadings for all flexibility scales for the exploratory factor analysis with varimax rotation and Kaiser normalization

Item	Factor 1	Factor 2	Factor 3
TR01	-,087	,579	,064
TR02	,185	,828	,123
TR03	,186	,786	,149
TR04	,132	,832	,003
TR05	,200	,766	,117
TR06	,164	,693	,095
TR07	,377	,679	,133
TA01	,421	,155	,663
TA02	,270	,219	,713
TA03	,415	,195	,706
TA04	,425	,073	,617
TA05	-,197	,064	,664
TA06	-,134	,016	,660
TA07	,387	,178	,485
TA08	,417	,124	,710
SR01	-,038	,012	-,136
SR02	,276	,364	,048
SR03	,261	,128	,178
SR04	,345	,294	,129
SR05	,178	,134	-,042
SR06	,475	,475	,031
SR07	,295	,026	-,090
SA01	,569	,006	,205
SA02	,780	,204	,270
SA03	,694	,210	,314
SA04	,749	,259	,327
SA05	,786	,209	,345
SA06	,484	,159	,063
SA07	,422	,127	,266

Note. Factor loadings > .40 are in boldface.

The results of the confirmatory factor analysis (see Table 6) also supported the dual structure of temporal flexibility, because the two-factor model (temporal autonomy and temporal restriction) fit better than the one factor model did (temporal flexibility). The two factor model showed a Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI) close to the recommended standard of .90 (Tucker & Lewis, 1973; Bentler, 1990), as well as the lowest Akaike Information Criterion (AIC) of the two tested models, indicating a better model fit of the two factor model. Regarding spatial flexibility, the two factor model fit the data better, yet only slightly better than the one factor model regarding the results of the confirmatory factor analysis (see Table 6). Because of the unsatisfactory results regarding spatial restriction, this scale was excluded from further analyses.

Table 6
Results of the confirmatory factor analysis

Temporal flexibility								
Model	χ^2	df	$\Delta\chi^2$	χ^2/df	TLI	CFI	AIC	RMSEA
One-factor	1031.868	90	-	11.47	.263	.447	1121.868	.247
Two-factor	352.869	89	678,999	3.97	.869	.845	444.869	.132
Spatial flexibility								
Model	χ^2	df	$\Delta\chi^2$	χ^2/df	TLI	CFI	AIC	RMSEA
One-factor	289.558	77	-	3.64	.715	.791	364.558	.124
Two-factor	239.849	76	40.709	3.16	.755	.831	325.849	.112

Note. $N=172$. All χ^2 and $\Delta\chi^2$ values are significant $p < .00$. χ^2 = Chi-square Fit Index; df = degrees of freedom; $\Delta\chi^2$ = difference in Chi-square from the previous factor structure; $\Delta\chi^2$ = difference in Chi-square from the previous factor structure; χ^2/df = Chi-square relative to its degrees of freedom; TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; AIC = Akaike Information Criterion; RMSEA = Root-Mean-Square Error of Approximation.

4.2 Analyses of the remaining scales and intercorrelations

The reliabilities of the remaining scales (see Table 7) were, with exception of the locus of control scale, all over the suitable cut-off point of .7 (Kline, 1999).

Table 7
Reliabilities of the remaining scales

Scale	Cronbachs α	M	SD	Skewness	Kurtosis
Job complexity	.865	4.44	1.33	-0.868	-0.113
Method control	.864	3.52	0.95	-0.454	-0.141
Internal occupational LoC	.578	4.12	0.62	-.499	0.460
External occupational LoC	.478	2.43	0.78	.539	0.922
Occupational self efficacy	.766	4.90	0.77	-0.431	-0.462
Work-nonwork conflict	.825	3.13	1.34	0.371	-0.444
IT Control	.842	3.38	1.20	-.354	-.927

External- and internal occupational LoC showed rather mediocre reliabilities. Although the reliabilities both lied near the sufficient reliability value of .50 for psychological constructs (Nunnally, 1978) and the reliability of the original scale was not much higher in the published study. Because of these not too satisfying results, an exploratory factor analysis with varimax rotation and Kaiser normalization was run for the occupational LoC scales (see Table 8). The Kaiser-Meyer-Olkin measure lied, with a value of .561, at least over the minimum criterion of .5 (Hutcheson & Sofroniou, 1999). Two factors showed eigenvalues over Kaisers criterion of one (1.6 & 1.14) and explained 70% of the variance. Also the factor loadings suggested the existence of two different factors regarding occupational LoC.

Table 8

Factor loadings of the occupational locus of control scales for the exploratory factor analysis with varimax rotation and Kaiser normalization

Item	Factor 1	Factor 2	M	SD
iLoC_01	,594	-,130	3.96	0.696
iLoC_02	,685	-,021	4.27	0.786
iLoC_03	-,316	,559	2.73	0.956
iLoC_04	,036	,582	2.13	0.961

Note. Factor loadings >.40 are in boldface.

Table 9

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Temporal autonomy	3.40	1.05													
2 Temporal restriction	3.11	1.02	.35**												
3 Spatial autonomy	2.36	1.06	.62*	.42**											
4 Spatial restriction	2.47	0.69	.29**	.43**	.47**										
5 Job complexity	4.44	1.33	.23**	.23**	.35**	.32**									
6 Method control	3.52	0.95	.49**	.25**	.54**	.40**	.48**								
7 Occup. Self efficacy	4.92	0.77	.15*	.30**	.26**	.19*	.20**	.23**							
8 internal occup. LoC	4.21	0.62	.32**	.20**	.28**	.13	.13	.21**	.29**						
9 external occup. LoC	2.43	0.78	-.08	-.12	-.23**	-.06	-.19*	-.35**	-.32**	-.19*					
10 Job satisfaction	5.33	1.52	.28**	.16*	.32**	.24**	.33**	.37**	.20**	.08	-.19*				
11 W-NW conflict	3.13	1.34	-.13	.15*	-.04	.07	.08	-.09	-.02	-.05	.07	-.31**			
12 Age	30	9	.22**	.27**	.16*	.21**	.27**	.27**	.10	.05	-.13	.12	.04		
13 Gender	-	-	.14	.17*	.22**	.24**	.32**	.32**	.30**	.14	-.20	.16*	-.08	.24**	
14 IT Control	3.37	1.21	.21**	.11	.32**	.15	.06	.12	.02	.07	-0.08	.08	-.08	-.02	.04

Note. * $p < .05$, ** $p < .01$.

As seen in Table 9, the flexibility scales showed significant intercorrelations, reaching from $r = .28$ to $r = .62$ (all $p < .01$). The autonomy scales were more highly correlated with each other than with the restriction scales. Method control and job complexity showed significant correlations with all flexibility scales. Method control was more highly correlated with the autonomy scales than with the restriction scales. Job complexity was more highly correlated with the spatial flexibility scales than with the temporal flexibility scales. There could be found significant but rather low correlations between occupational self-and almost all constructs (not with age and work-nonwork conflict). Internal occupational LoC showed significant positive correlations with all flexibility scales but temporal restriction. It was also positively related to method control and occupational self-efficacy ($p < .01$). For external occupational LoC on the other hand, significant negative correlations with spatial autonomy, job complexity, method control, occupational self-efficacy, internal occupational LoC and job satisfaction were observed. Job satisfaction was higher correlated with the autonomy scales than with the restriction scales, highest negative correlation with work-nonwork conflict ($r = -.31$, $p < .01$). Age was, as expected, significantly correlated with the flexibility scales and was therefore used as a control variable in the further analyses. Little, yet significant correlation between gender and job satisfaction could be seen. Gender was therefore also included as a control variable for the regression analyses. The variable that measured the IT use of the participants was highly correlated with almost all variables, though not with age and WNW-conflict. IT control showed positive and significant correlations with both autonomy scales.

4.3 Hypothesis testing

The main effects were tested with hierarchical regression analyses with stepwise entry method. Before the actual analysis, a graphical analysis from the residual plots showed that the assumptions of linearity, normal distribution of residuals and homoscedasticity were satisfactory fulfilled. To avoid the possibility of multicollinearity, the variance inflation factor (VIF) and tolerance were used as indicators and compared with the critical values of 10 for the VIF (Bowerman & O'Connell, 1990; Myers, 1990) and 0.2 for the tolerance (Menard, 1995). None of the VIF values exceeded the critical value of 10, and none of the tolerance values fell below the critical value of 0.2, therefore the possibility of multicollinearity could be discarded. The Durbin-Watson statistics for the two analyses showed, with values very close to the optimum of 2 (2.12 for the first analysis and 1.95 for the second), also very satisfactory results, therefore the assumption of independent errors might be seen as fulfilled (Durbin & Watson, 1951).

4.3.1 Main effects of job demands on work-nonwork conflict (H1)

The first hypothesis was that job demands (temporal restriction, spatial restriction and job complexity) are positively related to work-nonwork conflict. The control variables age and gender were included during the first step in the regression model. However there was no significant influence to the model in order to predict work-nonwork conflict. In step two, the predictors that forecasted the outcome variable the best were included in the model. As seen in Table 10, only temporal restriction improved the explained variance of the model and was therefore included in the regression. As predicted, temporal restriction showed a barely significant positive influence on the work related outcome variable WNW conflict ($\beta = .230$, $p = .049$), though the ANOVA was not significant ($p = .095$). The two other job demands showed no significant improvement in order to explain job satisfaction and were therefore not included in the final model.

Table 10

Hierarchical linear regression analysis of predictors of work-nonwork conflict.

Hypothesis 1	<i>b</i>	<i>SE B</i>	β	<i>p</i>
Step 1				
Constant	3.324	.420		< .001
Age	.009	.012	.064	.428
Gender	-.280	.220	-.102	.205
Step 2				
Constant	2.782	.467		< .001
Age	.004	.012	.025	.762
Gender	-.337	.219	-.123	.126
Temporal restriction	.230	.108	.172	.034

Note. $R^2 = .011$ for Step 1; $R^2 = .038$ for Step 2 ($p = .034$)

Hypothesis 1 was therefore partly supported, since one of the job demands showed a significant relationship with work-nonwork conflict.

4.3.2 Main effects of job resources on job satisfaction (H2)

The job resources temporal autonomy, spatial autonomy and method control, were hypothesised to be positively related to job satisfaction. As seen in Table 11 the control variables age and gender were inserted in the analysis during the first step, showing no significant influence to the model. In the second step temporal autonomy was included in the analysis, which showed a significant positive relationship with job satisfaction. In the last step, method control was integrated in the model, increasing the explained part of variance of the model from 11.6% to 14.2%. Temporal autonomy ($\beta = .208, p = .017$) and method control ($\beta = .213, p = .018$) both showed significant positive effects on job satisfaction. Spatial autonomy showed no improvement to the model in order to predict job satisfaction and was therefore not included in the final model.

Table 11

Hierarchical linear regression analysis of predictors of job satisfaction.

Hypothesis 2	<i>b</i>	<i>SE B</i>	β	<i>p</i>
Step 1				
Constant	4.449	.459		< .001
Age	0.011	.013	.069	.389
Gender	0.402	.240	.133	.095
Step 2				
Constant	3.261	.528		< .001
Age	0.001	.012	.008	.914
Gender	.151	.237	.050	.526
Method control	.517	.128	.319	< .001
Step 3				
Constant	2.957	.540		< .001
Age	-.002	.12	-.010	.895
Gender	.169	.235	.056	.472
Method control	.361	.145	.223	.014
Temporal autonomy	.272	.123	.190	.028

Note. $R^2 = .027$ for step 1; $R^2 = .116$ for step 2; $R^2 = .142$ for step 3 ($p = .028$)

Therefore Hypothesis 2 (H2) was partially supported, since two of the three job resources showed a positive relationship with job satisfaction.

4.3.3 Moderation effects of job resources on the relationship between job demands and work-nonwork conflict (H3)

Interaction effects of all job resources with all job demands were investigated in the moderation analysis. In Table 12 the results of the first moderation analysis can be found. As seen, all main effects and the interaction effect were significant ($p < .05$). The moderation model explained 11% of the variance of work-nonwork conflict.

Table 12

Moderation analysis – linear model of predictors of work-nonwork conflict

Hypothesis 3	<i>b</i>	<i>SE B</i>	<i>t</i>	<i>p</i>
Constant	3.200	.1022	31.299	< .001
Temporal autonomy (centered)	-.232	.1090	-2.132	.035
Temporal restriction (centered)	.287	.098	2.930	.004
Temporal autonomy x temporal restriction	-.288	.084	-3.424	< .001

Note. $R^2 = .110$

In the condition of high temporal autonomy, the increase of temporal restriction has no significant effect on work-nonwork conflict. Facing low temporal autonomy and low temporal restriction had also no effect on work-nonwork. But if the temporal autonomy was low and the temporal restriction high, a significant increase of work-nonwork conflict was evident (see Figure 2).

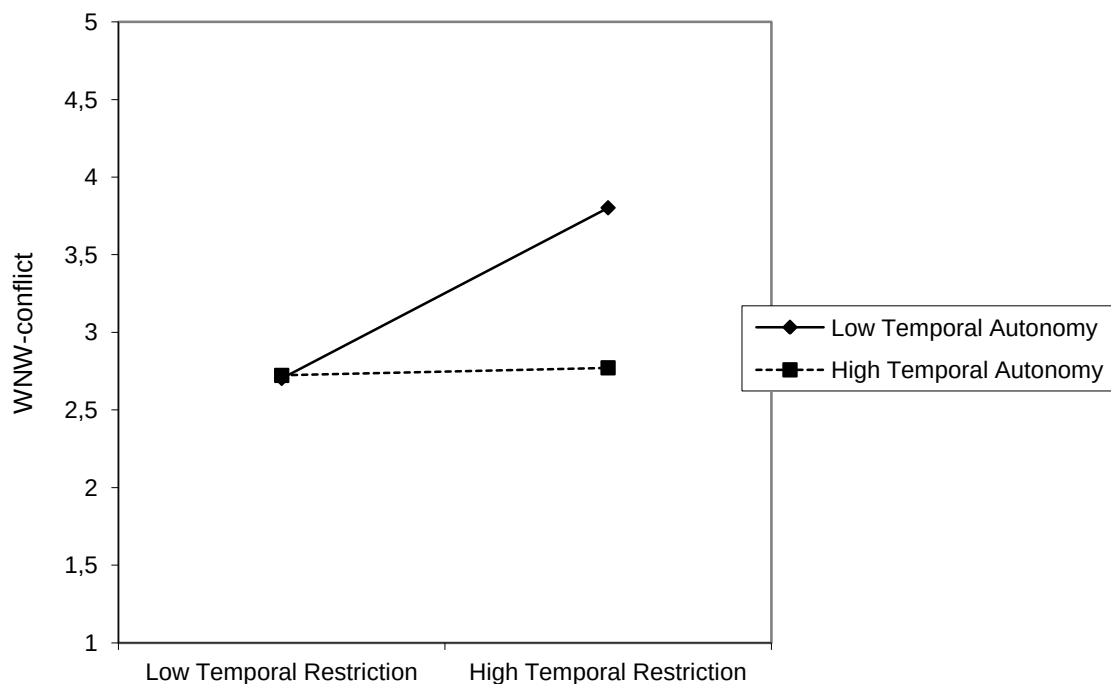


Figure 2. Interaction of the moderation analysis

As seen in Table 13, spatial autonomy significantly moderated the relationship between temporal restriction and work-nonwork conflict ($b = -.224$, $p = .027$), with the model explaining 6% of the variance of work-nonwork conflict.

Table 13

Moderation analysis – linear model of predictors of work-nonwork conflict

Hypothesis 3	<i>b</i>	<i>SE B</i>	<i>t</i>	<i>p</i>
Constant	3.217	.113	28.572	< .001
Spatial autonomy (centered)	-.045	.125	-.363	.717
Temporal restriction (centered)	.228	.110	2.082	.039
Spatial autonomy x temporal restriction	-.224	.101	-2.23	.027

Note. $R^2 = .060$

If the working individual faced a high level of spatial autonomy, the experienced work-nonwork conflict was not influenced by the rising temporal restriction. Though, if confronted with low spatial autonomy, the positive interaction effect of temporal restriction was evident: whereas the combination of low spatial autonomy and low temporal restriction showed the lowest level of work-nonwork conflict in this interaction, if the temporal restriction was high, also the work-nonwork conflict was significantly higher than in all other combinations (see Figure 3).

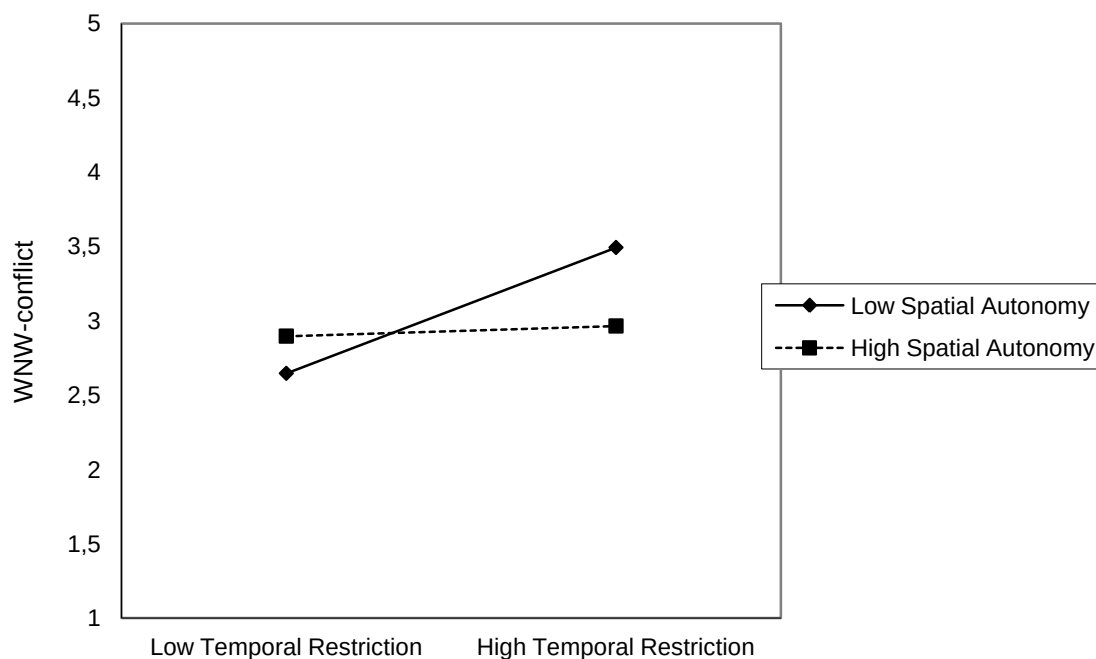


Figure 3. Interaction of the moderation analysis.

Hypothesis 3 (H3) could be partly confirmed, although only the relationship between temporal restriction and work-nonwork conflict was moderated by the job resources temporal- and spatial autonomy. The moderation analyses of the interactions of the other combinations of job demands and resources were all not significant.

4.3.4 Moderation effects of job demands on the relationship between job resources and job satisfaction (H4)

The relations between job resources and job satisfaction were not significantly moderated by any of the observed job demands. Therefore, Hypothesis 4 could not be confirmed.

4.3.5 Moderation effects of personal resources on the relationship between job demands and WNW-conflict (H5)

The relationships between job demands and WNW-conflict were assumed to be moderated by personal resources (H5). For these hypotheses, two significant moderation effects could be found. The first significant moderation that could be found was for the relation between temporal restriction and WNW-conflict. This relation was moderated by the personal resource internal occupational LoC (see Table 14), explaining 6.8% of the variance of WNW-conflict.

Table 14

Moderation analysis – linear model of predictors of work-nonwork conflict

Hypothesis 5	<i>b</i>	<i>SE B</i>	<i>t</i>	<i>p</i>
Constant	3.165	.1064	29.732	< .001
Internal occupational LoC (centered)	-.131	.171	-.766	.444
Temporal restriction (centered)	.242	.104	.022	.022
Temporal restriction x internal occup. LoC	-.372	.155	-2.394	.018

Note. $R^2 = .068$

The exact nature of the moderation can be seen in Figure 4. Interaction of the moderation analysis.: under the condition of high internal occupational LoC, more temporal restriction had no positive effect on WNW-conflict, it even reduced the experienced WNW-conflict in the high temporal restriction condition. The participants with low internal occupational LoC showed the lowest amount of WNW-conflict in the condition of low temporal restriction, though under the condition of high temporal restriction they experienced the highest WNW-conflict.

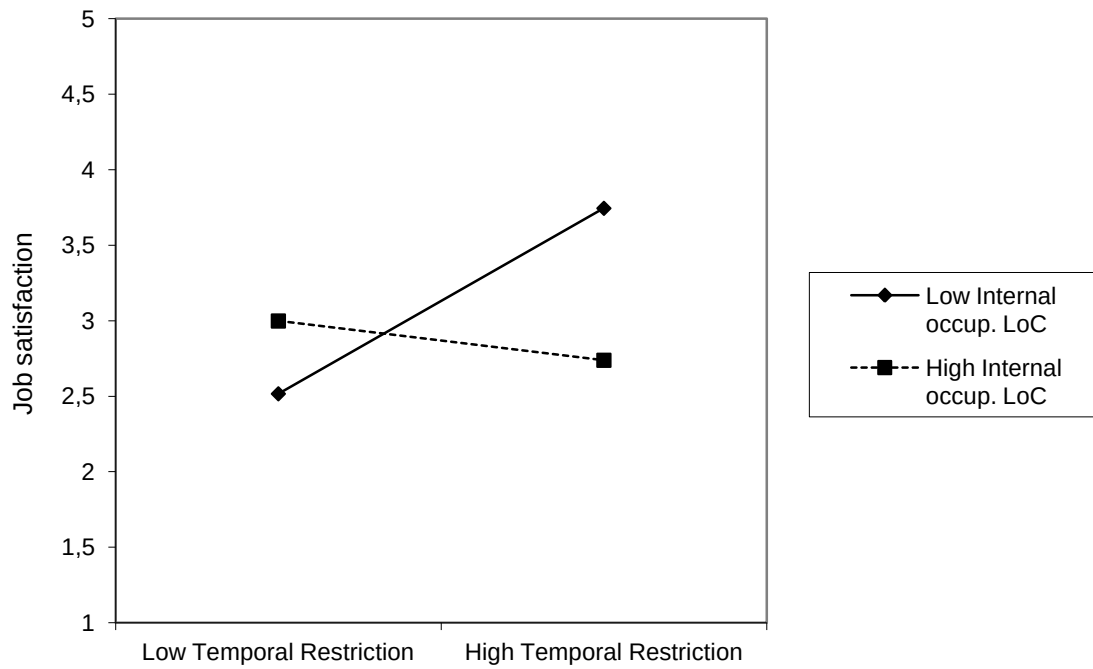


Figure 4. Interaction of the moderation analysis.

The results of the second significant moderation analysis can be found in Table 15. The relation between job complexity and WNW-conflict was moderated by external occupational LoC. Both main effects were not significant, though the interaction was.

Table 15

Moderation analysis – linear model of predictors of work-nonwork conflict

Hypothesis 5	<i>b</i>	<i>SE B</i>	<i>t</i>	<i>p</i>
Constant	3.174	.108	29.312	< .001
External occupational LoC (centered)	.204	.143	1.425	.156
Job complexity (centered)	.066	.098	.670	.504
Job complexity x external occup. LoC	.240	.115	2.087	.038

Note. $R^2 = .057$

As seen in Figure 5 under the condition of low job complexity, there was no influence of external occupational LoC on the relation between WNW-conflict. Although, when facing high job complexity, participants with high external occupational LoC experienced more WNW-conflict than those with low external occupational LoC.

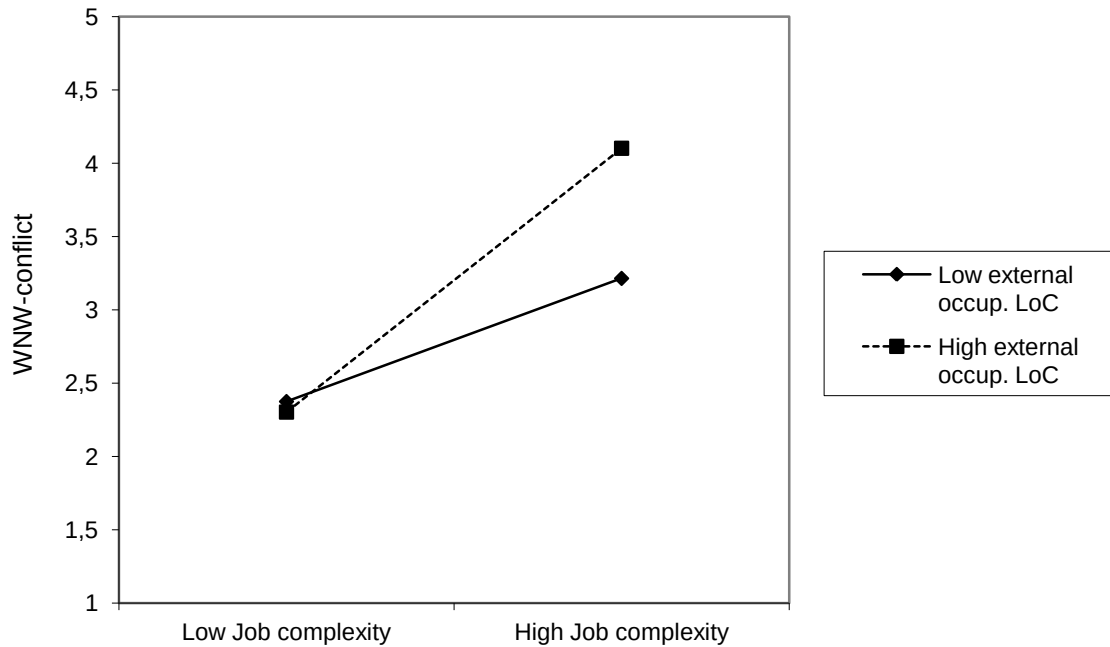


Figure 5. Interaction of the moderation analysis

4.3.6 Mediation effects of personal resources on the relation between job resources and job satisfaction

In order to test Hypothesis 6, it was investigated if the relation of job resources on job satisfaction was mediated by personal resources. However no significant moderation could be found.

4.3.7 Research model with supported Hypotheses

After statistically testing all hypothesized effects, the original research model (see 2.1 Study model and hypotheses) was reduced, showing only the supported hypotheses (see Figure 6).

As seen, regarding Hypothesis 1, only the main effect of temporal restriction on work-nonwork conflict was significant. In order to predict job satisfaction (Hypothesis 2), two of the three job resources were significant (temporal autonomy and method control). Temporal autonomy and spatial autonomy significantly moderated the relationship between temporal restriction and work-nonwork conflict. Therefore, Hypothesis 3 was also partially supported. The relationship between job resources and job satisfaction was not moderated by any job demand, hence Hypothesis 4 was rejected. The personal resources internal and external occupational control showed mediation effects for the relation of temporal restriction and job complexity with WNW-conflict, so Hypothesis 5 could also be partially supported. Regarding the mediation effects of personal resources for the relationship between job resources and job satisfaction, no significant effects could be found, therefore Hypothesis 6 was also rejected.

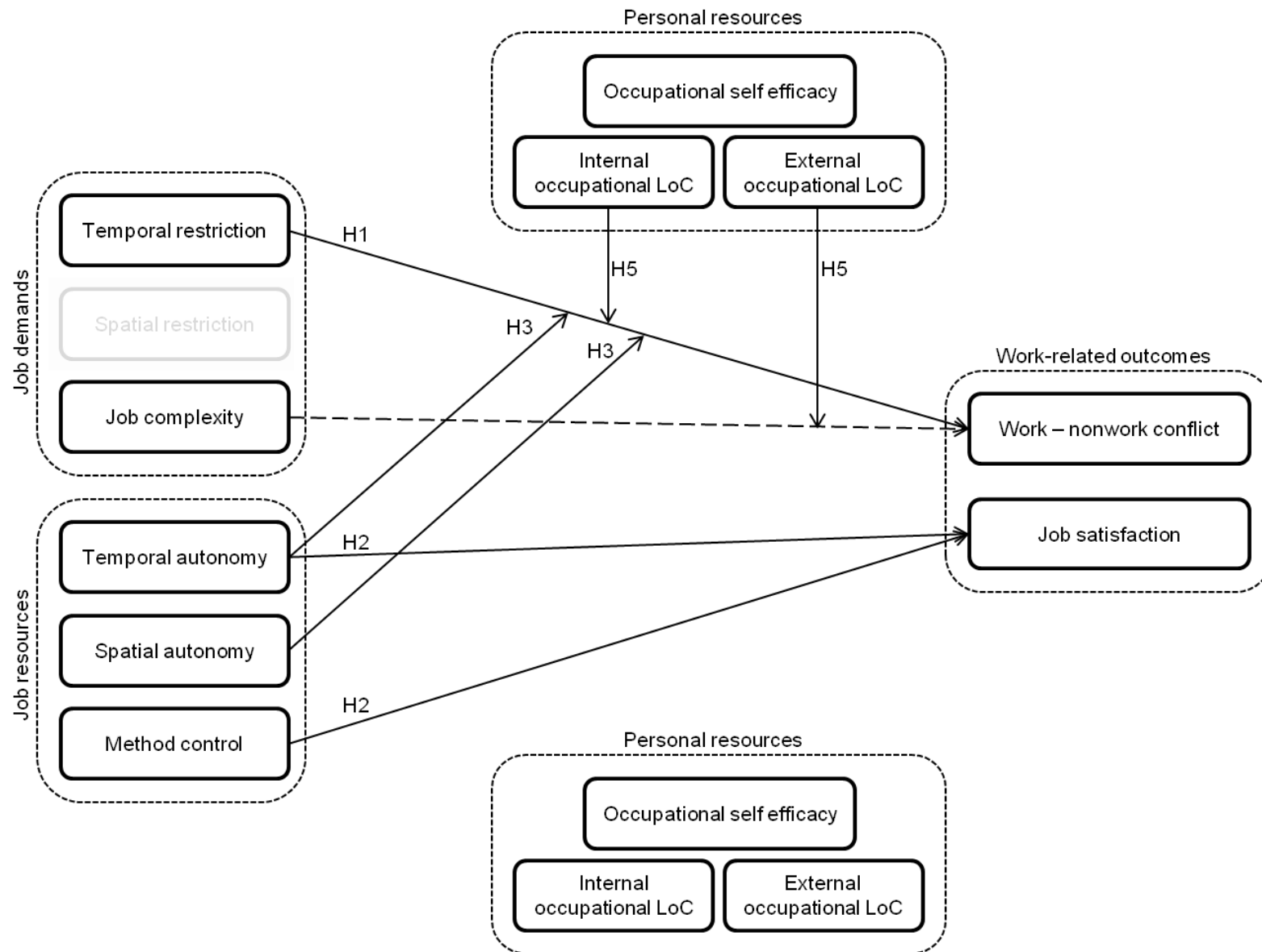


Figure 6. Research model with the supported hypotheses

5. Discussion

5.1 Summary of results

The first aim of this thesis was to investigate the structure of flexibility regarding the experienced control of the worker versus the control in behalf of the employer. The second aim was to investigate the interrelations of the demands and resources occurring in FWA and how they influence work related outcomes like work-nonwork conflict and job satisfaction.

During the investigation of earlier studies in this field of research, many contradictory results were encountered (see also chapter 1.2 A conceptualization of flexible working). For example did some studies show that FWA can foster work family conflict (Peters et al., 2009; Kattenbach et al., 2010), where other studies showed that FWA might reduce work family conflict (Hill et al., 2010; Kossek et al., 2009; Byron, 2005). One possible explanation of these conflicting results, apart from different samples and study designs, might be the different and rather simple conceptualization of flexibility. All studies merely measured the available flexibility as a possible resource which could be present or absent, therefore it was either a dichotomous variable (e.g. Hill et al., 2010) or a scale with two poles (e.g. Moen et al., 2011). The possibility that FWA might comprise demands was mostly ignored regarding the conceptualization and assessment of flexibility related constructs.

Kattenbach et al. (2008) investigated a more specific conceptualization of temporal flexibility, by dividing it into a demand and a resource, depending on whether the control over the flexibility lies in the hand of the employee or the employer. This new dual structured conceptualization of flexibility was adopted in this thesis. Inspired by these findings and in line with propositions suggesting a theory guided and more precise measurement of flexibility (Bailey & Kurland, 2002; Shockley & Allen, 2007), it was tried to create a theory based and exhaustive conceptualization of flexibility, in order to assess this complex construct. This detailed conceptualization of flexibility was necessary to measure the relations of demands and resources in FWA with work related outcomes.

In order to measure and confirm the theory guided conceptualization of flexibility, four new scales were created. The expected two dimensional structures were investigated via different statistical methods. At first, reliability analyses were run to measure the internal consistency of the scales. These analyses indicated very satisfying results for the two temporal flexibility scales. Regarding the spatial flexibility scales, the results for the spatial autonomy scale were also satisfying, while the results for spatial restriction were not. These results were

similar regarding the explorative- and confirmatory factor analysis, which was run in order to investigate the factor structure of the constructs. Temporal autonomy and –restriction loaded on two distinct factors. Spatial autonomy also loaded on one separate factor, while spatial restriction showed only low and ambiguous factor loadings. The confirmatory factor analysis also verified the two dimensional structure of temporal flexibility, showing a better fit using the two factor model compared to a one factor model. Regarding spatial flexibility, the confirmatory factor analysis showed that the two factor model fitted the data slightly better (but still showed an overall unsatisfying fit); yet regarding the results of the explorative factor analysis these results were not of much importance.

Why could the dual structure of spatial flexibility not be confirmed? Spatial flexibility is regarded, besides temporal flexibility, as the second major factor of FWA (Hill et al., 2008; Demerouti et al., 2013) – therefore it was assumed that it might be experienced in the same, two dimensional way. Regarding the results, this assumption could not be confirmed.

One possible reason for the results could be the lacking theoretical foundation of the spatial flexibility items. Unlike the temporal flexibility items, the spatial flexibility items had to be created, with exception of two items (both related to spatial autonomy), from scratch (for a detailed overview of the items and according references see also 3.2.1 Flexibility items, separated for demands and resources). Therefore it could just be because of the items and their wording itself that the scale did not assess the restriction experienced by spatial flexibility properly, and therefore did not show the expected reliability and structure.

Because the assumed spatial restriction items did not really load on one factor while investigating the factor structure of the spatial flexibility items (three items loaded on the same factor, one item showed factor loadings on the spatial autonomy factor as well on the second factor, though all factor loadings were low), one might assume that they probably load on the same factor like temporal restriction. Since temporal and spatial flexibility are obviously somewhat interrelated. In order to make sure that there was no interrelation between the spatial and temporal scales regarding the factor structure, an additional explorative factor analysis was run (see Table 5). The only co-loading between two scales could be found for temporal- and spatial autonomy and they were lower than their loadings for their intended factors. As for spatial restriction, only one item loaded on any factor: SR06 (*“My work requires me to attend to tasks at different locations.”*). This item already loaded on both factors in the main explorative factor analysis (see 4.1 Flexibility Scale Analyses). In this

analysis it showed loadings on the same factors as the spatial autonomy items and the temporal restriction items.

Regarding these results, the possibility that there is any factorial interrelation between the spatial restriction scale and the other flexibility scales could be discarded. Concluding the unsatisfactory results of the scale analyses regarding spatial restriction, it could have been concluded that the exploratory approach to create the scale did not suffice in order to find fitting formulations for the items. Which could have been the reason for the low reliability, which in succession made it impossible to prove the two dimensional structure.

Another, possible reason could be that the negative aspects are not that salient to experience a restriction by the increased spatial flexibility, compared to the positive effects of spatial autonomy. Regarding the descriptive statistics of the flexibility scales (see also chapter 4.1 Flexibility Scale Analyses), it can be said that the spatial flexibility scales both showed smaller means compared to the temporal flexibility scales. Which would speak for the fact that spatial flexibility was not experienced as strong as a demand or resource compared to temporal flexibility. Spatial restriction also showed the smallest standard deviation of all four flexibility scales ($SD = 0.69$) as well as the smallest skewness (0.107) and the only positive kurtosis (0.591) of all flexibility scales. All three values indicated that the distribution of spatial restriction was not that widespread and therefore most values lay around the mean. A total of 82.5% of the participants showed values of 3 or lower regarding spatial restriction (min: 1; max: 5), compared to temporal restriction where 53,8% of the participants showed higher values than 3. These results also speak for the argument that spatial restriction was not so much experienced as a demand in the current sample.

To sum up, the results clearly speak for a two dimensional structure of temporal flexibility. Therefore it might be experienced as a job resource (temporal autonomy) as well as a job demand (temporal restriction). Regarding spatial flexibility the answer is not that clear. Facing the results, spatial flexibility was obviously experienced as a job resource (spatial autonomy), although the existence of spatial flexibility as a job demand could not be confirmed. Concerning the first research question, temporal flexibility might be divided into demand and resource, spatial flexibility not.

In addition to the analysis of the structure of flexibility, the hypotheses regarding the effects of the demands and resources occurring in FWA on work related outcomes were investigated. The first findings apply to the relation between job demands (temporal restriction and job complexity) and WNW-conflict, which were assumed, in line with the

health impairment process of the JD-R model (Bakker et al., 2007) and earlier findings of research regarding FWA (e.g. Shockley & Allen, 2007; Peters et al., 2009; Kattenbach et al., 2010) to be positively related. The hierarchical regression analysis showed a significant and positive connection between temporal restriction and WNW-conflict. The job demand spatial restriction was excluded from the analysis because of insufficient scale and factor structure. Job complexity was assumed to be positively related with WNW-conflict, especially in combination with increased flexibility, because attending to highly complex jobs while working from home could make it harder to avoid WNW-conflict, compared to noncomplex job tasks. However, no significant main effect of job complexity on WNW-conflict could be found. As can be seen further in this chapter, the relation between job complexity and WNW-conflict was more complicated and dependent on a second variable.

Secondly, the main effects of job resources on job satisfaction were investigated via hierarchical regression analysis. In line with assumptions concerning the motivational process of the JD-R model (Bakker et al., 2007) it was predicted that job resources were positively related to job satisfaction. All three job resources were based on the experienced autonomy of the individual. In sense of control over temporal distribution of work (temporal autonomy), choice of workplace (spatial autonomy) and control in order to choose how your work tasks are tended (method control). Approved organizational theories (SDT - Ryan & Deci, 2000; Gagné & Deci, 2005; JCM – Hackman & Oldham, 1975; JDC model – Karasek, 1979) and recent studies (Scandura & Lankau; Baruch, 2005; Chung Yan, 2010) agree that temporal autonomy as well as method control are beneficial in order to experience job satisfaction. In line with these findings, significant main effects of method control, as well as temporal autonomy, on job satisfaction could be found in this thesis. The assumption that also spatial autonomy was related to job satisfaction was rather explorative, though quite appropriate regarding the importance of control in order to experience job satisfaction and the fact that spatial flexibility is the second main factor of FWA (Hill et al., 2008). Nevertheless, no significant relation between spatial autonomy and job satisfaction could be found. This result also speaks for the argument that spatial flexibility is not experienced as strong as temporal flexibility and therefore does not lead to higher job satisfaction.

In order to test Hypothesis 3, possible moderation effects of job resources on the relationship between job demands and WNW-conflict were examined. Job resources have shown to moderate the relation between job demands like work overload or physical demands and burnout (e.g. Bakker et al., 2005). Therefore it was assumed that also job resources in FWA would buffer the relationship between job demands and negative work related

outcomes. The results showed that the relation between temporal restriction and WNW-conflict was moderated by the job resources temporal autonomy, as well as spatial autonomy. Both interactions showed similar results: when the worker possessed high amounts of autonomy (temporal or spatial) there was no change in WNW-conflict while facing high temporal restriction. Whereas under the condition of low autonomy (temporal or spatial), WNW-conflict was significantly higher while facing high temporal restriction. These findings show that though spatial autonomy did not prove to be beneficial for the job satisfaction of the employee, it can help to reduce, or even avoid WNW-conflict caused by temporal restriction. The moderator effect of temporal autonomy was stronger than the effect of spatial autonomy, which again speaks for the statement that temporal flexibility is experienced in a stronger way than spatial flexibility. However it could be shown that spatial autonomy had a beneficial effect in order to cope with demanding conditions because of increased temporal restriction. These results stand in line with COR theory (Hobfoll, 1989) which claims that resources are needed in order to deal with threatening conditions and therefore prevent negative outcomes such as in this case WNW-conflict.

Studies have shown that the highest level of positive job related outcomes were experienced when employees possessed high amounts of job resources and were confronted with challenging job demands (e.g. Billings et al., 2000; Bakker et al., 2006; Chung-Yan, 2010). Because of these results it was assumed that this was also the case for job demands which occur in FWA (Hypothesis 4). However no significant moderation effect of job demands on the relation between job resources on job satisfaction could be found. One reason why temporal restriction did not further increase the positive relation between temporal autonomy with job satisfaction might be because these variables were too similar. Moderating effects of job demands on the relation between job resources and positive organizational outcomes were mostly investigated between dissimilar demands and resources in earlier studies, for example variability in professional skills and high qualitative workload (Hakanen et al., 2005) or pupil misbehavior and appreciation (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007). However the fact that job complexity did not boost the relation between job resources and job satisfaction cannot be explained by the similarity of the demands and resources. Maybe the moderator effect of job complexity was diminished by the marginal effect investigated in an earlier study (Chung-Yan, 2010) which showed that the positive effect of job complexity on the relation between autonomy and job satisfaction reversed, when the job complexity reaches a too high amount.

Since the extension of the JD-R model (Bakker et al., 2007) by personal resources (Xanthopoulou et al., 2007) the beneficial effects of personal resources on the relation between job demands and resources and work related outcomes were proven by many studies (e.g. Luthans, Norman, Avolio & Avey, 2008; Mastenbroek et al., 2012). According to findings regarding the extension of the JD-R model by personal resources, (e.g. Xanthopoulou et al., 2007) it could be shown that personal resources moderate the relationship between job demands and WNW-conflict (H5), as well to mediate the relationship between job resources and job satisfaction (H6). For the relation between the job demand temporal restriction and WNW-conflict, a negative moderation effect of internal occupational LoC could be detected. Internal occupational LoC describes the general belief that occupational outcomes are under one's own control (Rotter, 1966). Under the condition of high internal occupational LoC, the WNW-conflict was not significantly related to temporal restriction. But participants with low internal occupational LoC showed the highest WNW-conflict while facing high temporal restriction in this model. Therefore the availability of high internal occupational LoC might protect employees from experiencing WNW-conflict while experiencing high temporal restriction through their work. Also a moderation effect for the relation of job complexity and WNW-conflict by external occupational LoC could be found. External occupational locus of control refers to the opinion that occupational outcomes depend mostly on outside factors like luck faith or powerful others (Rotter, 1966). As can be seen in the results section, no significant main effect of job complexity was found on WNW-conflict. The interaction showed that there was only an influence by job complexity on WNW-conflict after adding the moderator external occupational LoC to the model (see also Figure 5. Interaction of the moderation analysis). While participants with low external occupational LoC showed no difference in experienced WNW-conflict regardless of the experienced job complexity, participants with high external occupational LoC showed the highest amount of WNW-conflict in this interaction. This result was in line with findings according to PE-fit theory (Edwards et al., 1998) that states that the fit between personal and environmental factors cause work related outcomes. This interaction showed that the misfit between personal factors and environmental factors (high external occupational LoC and high job complexity) lead to negative work related outcomes (in this case WNW-conflict). For the other moderation effects regarding Hypothesis 5, no significant effects could be found.

Regarding the mediation effects of personal resources on the relation between job resources and job satisfaction (H6) no significant results were found. These results are in conflict with findings that showed that personal resources (e.g. self-efficacy) moderated the

relationship between personal resources and positive work related outcomes, in these cases, work engagement (Xanthopoulou et al., 2007; Mastenbroek et al., 2012). One difference between the studies that lead to the assumptions of the moderation and the current thesis is that they did not measure the same job resources (except for job control). Further in the mentioned studies, general self-efficacy was measured whereas in the current thesis occupational self-efficacy was used. Though studies suggest that specific measures (in this case the occupational context) for self-efficacy (as well as locus of control) are more likely to show especially strong associations for the domain which they were tailored (e.g. Meier et al., 2008), that was not the case in this thesis. Another possibility as to why no moderation by personal resources was found between temporal autonomy and job satisfaction, could be that temporal autonomy just is in fact, independent from personal resources and therefore does independently lead to positive work related outcomes such as job satisfaction. That for example was not the case for the job resources investigated by Xanthopoulou et al., (2007), because their connection with work engagement decreased after including personal resources in the analysis.

Summarizing these results, it could be concluded that demands and resources occurring in FWA were related to negative as well as positive work related outcomes, which again supports the proposition of a two-dimensional conceptualization of flexible working. When employees faced increasing demands to be temporal available they showed higher amounts of WNW-conflict. This relation was moderated by resources of the work environment (temporal- and spatial autonomy) as well as by personal resources (internal occupational LoC). Meaning that if it is expected of the employee to work overtime and be available also outside the regular working times (and therefore being temporal restricted), it is necessary that the employee has a lot of autonomy regarding his timing of work and also regarding the choice of the place to work, in order to avoid a conflict between his working and private life. Further, the job resources temporal autonomy and method control were positively related to job satisfaction. Hence, these flexibility related job resources were not only important in order to experience more job satisfaction, but have also helped the employee to experience less negative job related outcomes which occur while facing the job demand temporal restriction. Regarding these results, the assumed importance of control regarding further rising flexibility could be seen as confirmed. As the external control or restriction lead to negative work related outcomes (WNW-conflict) and the autonomy regarding temporal aspects of flexibility, leads to increased job satisfaction. Further, temporal

autonomy as well as spatial autonomy helped to reduce the experienced WNW-conflict caused by temporal restriction.

Concluding the results, the second research question, how demands and resources that occur in flexible working arrangements are related to job related outcomes, could be answered, at least for the demands and resources investigated in this thesis. Also the two dimensional structure of temporal flexibility was further underlined by the different links to job related outcomes, as well as the moderating effect of temporal autonomy on the relation between temporal restriction and WNW-conflict.

5.2 Strengths and limitations

All results presented and discussed in this thesis have to be viewed relative to the strengths and limitations of the study. The primary strength of this thesis was the theoretical foundation regarding the conceptualization of demands and resources occurring in FWA. Especially regarding the four, newly created, temporal and spatial flexibility scales. While creating these scales, it was tried to integrate established organizational theories as well as recent findings in the field, to paint a broad but detailed picture of the employees experience in FWA. The results confirmed the dual structure of temporal flexibility, therefore the conceptualization might be seen as successfully derived from the theoretical foundation.

Another strength of the study was the broad sample, with workers of different age groups as well as different fields of work. Nevertheless, one may not ignore that also a lot of students, who were working beside their studies, participated in the survey. One might assume that students are more accustomed to high amounts of flexibility and that their experiences are therefore not representative for other workers. However, this fact should not be seen as a drawback, because people with multiple employments are a big part of the flexible workforce. Further the students of today are going to be the workers of tomorrow; therefore it might be beneficial that also meanings and experiences from future employees and employers were included in the data.

Besides the strengths of this thesis, it also possesses certain weaknesses that have to be acknowledged. One limitation of this thesis is the cross-sectional design which forbids casual interpretations of the effects observed (for example that temporal autonomy *caused* job satisfaction). A longitudinal study in this field of research, in combination with the two dimensional approach could serve to get deeper insights regarding the relations of demands and resources in FWA. For example would it be possible to investigate if employees

accumulate also their flexibility related resources over time, like suggested by COR theory (Hobfoll, 1989). Further, with daily measures, the actual experienced flexibility in the workplace could be described more precisely and the relations of demands and resources in FWA could be investigated with more detail.

Secondly, the explained variances of the analyses were not too high, probably because of the rather mediocre sample size ($N = 172$). Especially the results regarding the main effects of job demands on WNW-conflict showed low explained variances. Although the main effects regarding this relation were significant, the ANOVA for the model was not significant. However the further investigation of this relation through adding job resources as moderators showed repeatedly significant main effects as well as higher R^2 values than the main effect model.

Thirdly, whereas almost all results regarding scale analyses showed good results, the results of the reliability analysis of occupational LoC was just barely sufficient. Although the results regarding the factor analysis (see 4.2 Analyses of the remaining scales and intercorrelations) proved that internal- and external occupational LoC loaded on different factors, the reliabilities of the scales were rather low. Therefore the results of the reported moderations have to be seen with a certain doubt.

5.3 Practical implications

Seeing the trend going more and more in the direction of increased flexibility at work, the relevance of studies like the present will further grow in their importance for the design of modern work environments. Especially with the further approach of “Generation Y” (people born between 1980 and 1994 are referred to as Generation Y – Weiler, 2004) into the working field, companies have to adjust their work design in order to stay attractive for the new generation of workers. Members of Generation Y have a high need for flexibility and for a successful integration of their private- and working lives (Spiro, 2006). Therefore this thesis might provide some clues regarding what could be done to foster the experienced job satisfaction by a proper design of FWA.

At first, the positive significant relation between temporal autonomy and job satisfaction showed that if employees encounter increased flexibility, they experienced job satisfaction if they had a high amount of control over their distribution of their working time. Also method control showed a positive significant relationship with job satisfaction, speaking for the fact that also decision latitude, in order how to attend the working tasks, was beneficial

in order to keep employees satisfied with their jobs. If managers expect their employees to be more flexible regarding their working time, it is important that they allow them the required autonomy, in order to keep them satisfied. For example if an unexpected task appears and an employee has to solve it, it is helpful if he is generally autonomous in the distribution of his working time and therefore finds a time to tend this unexpected task more easily. Further the freedom to choose independently how to solve a task is beneficial in order to experience satisfaction. Therefore leaders should take it into account that they allow their workers a high amount of freedom if they expect them to be more flexible.

Besides the positive effects of flexibility, also the negative effects might be taken into account. Temporal restriction has shown a positive relation with work-nonwork conflict. This shows that if the employee does feel controlled externally (in this case by his work or employer) he tends to develop work-nonwork conflict. Therefore the demanding effect of flexibility refers to the experienced restriction caused by his employer, who exerts control over his temporal flexibility. This relation can be reduced or even erased by high temporal- and spatial autonomy. Meaning that if it is not avoidable that the employee has to work outside his usual working hours or be available at short notice, it is important that he is generally autonomous regarding his temporal distribution of working time (e.g. to decide autonomously when to start his workweek or choose the daily work hours freely), in order to avoid work-nonwork conflict. Or if the possibility of unforeseen overtime work is high, the WNW-conflict of the employee could be minimized by offering him the option to autonomously decide where he performs his work. Therefore managers should take into account that flexibility- and task related autonomy is not only important in order to develop job satisfaction, but also to avoid work-nonwork conflict. Or in other words: supply your workers with autonomy, if you demand flexibility - in case you do not want to risk work-nonwork conflict and less satisfied workers.

The temporal flexibility scales created in the course of this thesis might also be used as a screening tool in order to detect imbalance between experienced temporal autonomy and restriction of the employees, which might lead to undesirable work related outcomes. If high amounts of experienced restriction of the employees are detected in combination with low amounts of temporal autonomy, an adaptation of the current design of flexible working should be contemplated, in order to prevent dissatisfaction and work-nonwork conflict.

5.4 Implications for further research

Although there is a lot of research about FWA, there is still a lack in a proper conceptualization and assessment of flexibility. This thesis tried to make it clearer how flexibility is experienced in the workplace and in the course of doing so, created four theoretically grounded scales, leaning on a conceptualization with a high focus on control. Through the utilization of these scales, the contradictory results of earlier studies could be explained through pointing out that the two dimensions of temporal flexibility have different ways of influencing work-nonwork conflict. Whereas temporal restriction increases work-nonwork conflict, experiencing temporal autonomy helps the employee to reduce work-nonwork conflict. These two scales should be used in further research regarding FWA in order to provide more detailed and consistent assessments of workplace flexibility. Through the use of an identical way to assess flexibility it would be easier to compare future results in this field of research.

The scale regarding spatial autonomy also showed good results (regarding reliability and factor structure), although the results regarding spatial restriction were not satisfying. Whether this is the case because spatial restriction is not experienced as a demand at all, or if the scale was just not created properly, cannot be answered on the base of the data of this thesis. Questions arise like why do people not experience spatial restriction like temporal restriction? Is spatial flexibility rarer and because of that only experienced as a chance and therefore resource? Maybe, regarding spatial flexibility, it is more common to feel restricted because it was always common to be forced to work at a certain place of work. If spatial flexibility is in fact not experienced in the same two dimensional way like temporal flexibility should definitely be investigated in further research. For doing so, the spatial restriction scale obviously needs some improvement or adaptation.

Another interesting point would be, to expand this topic to another sample. In the current, broad sample certain effects could be found. Maybe these results can be replicated by using other samples, maybe also in isolated professional fields (in this study, the professional field was not restricted, as long as the worker was at least to some part working flexibly). Another step could be to apply this research topic to extreme groups (with very high amounts of experienced flexibility) in order to investigate if the same effects can be observed and therefore make it clearer how flexibility at work influences the employee.

Thirdly, in further studies it should be investigated, whether flexibility in this two dimensional form has also influences on other work related outcomes besides work-nonwork

conflict and job satisfaction. For example how does it influence emotional exhaustion, work engagement or turnover intentions? Do the main and moderation effects of temporal and spatial flexibility still appear with different outcome variables? Investigating further relations to different outcomes could make it clearer how increased flexibility influences employees.

In addition, a longitudinal study could help to bring more clearness to this field of research. Does temporal flexibility also exist in a two dimensional structure on a daily basis? How does it develop over time? With a longitudinal study it could also be investigated, if the internalization of externally regulated flexibility behavior is possible over time, like suggested by SDT (Ryan & Deci, 2000). It could be possible that employees who experienced temporal restriction in the first place experience more and more temporal autonomy through the process of internalization and therefore experience more motivation and job satisfaction.

Another implication would be, to use other kinds of job resources, in order to investigate their possible moderator effects on the relations between flexibility related job demands and negative outcome variables. For example classic and more researched job resources, like feedback or social support could also help the employees to cope with existing job demands caused by increased flexibility. Interviews with workers in flexible working arrangements could help to identify fitting job resources.

To conclude, the first aim of the present thesis was to investigate the structure of temporal and spatial flexibility. The assumed two dimensional structure for temporal flexibility could be verified. This did not apply for spatial flexibility. The second aim was to identify how demands and resources in flexible working arrangements are interrelated, and influence job related outcomes. This was made a little bit clearer, even though there are still a lot of demands and resources existing in this field of research which were not investigated in this thesis. It was tried to focus on the control (or autonomy) related demands and resources which always played a major role in the field of organizational research. Their importance in flexible working arrangements could also be proven. Temporal autonomy as well as method control are highly beneficial in order to experience job satisfaction. Whereas temporal autonomy and spatial autonomy both help to cope with increased temporal restriction in order not to develop work-nonwork conflict.

The findings of the current thesis should serve as an inspiration for further studies in this field of research, as well as influence the ways flexible working arrangements are designed in the future, in order to help to provide only the most beneficial work related outcomes made possible by the increased flexibility at work.

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Appendix

Appendix A - Questionnaire



Flexibilität am Arbeitsplatz

Sehr geehrte Damen und Herren!

Es freut mich sehr, dass Sie an der Befragung für meine Diplomarbeit teilnehmen.

Auf den folgenden Seiten finden Sie Fragen und Aussagen zu Ihrer Arbeit mit speziellem Fokus auf die **zeitliche** und **örtliche Flexibilität**. Sie werden nach Einschätzungen Ihrer **Arbeitsbedingungen** sowie Ihrer **Zufriedenheit** befragt. Sie sollen diese Aussagen anhand vorgegebener Antwortalternativen beurteilen. Klicken Sie dazu bitte für jede Frage die Antwort an, die am ehesten auf Sie oder Ihre Arbeit zutrifft. Selbstverständlich werden Ihre Angaben **streng vertraulich behandelt**.

Bitte beachten Sie, dass ich Ihren Fragebogen nur dann verwerten kann, wenn Sie **alle Fragen beantworten**. Des Weiteren möchte ich Sie bitten, die Fragen möglichst **spontan** zu beantworten.

Der Fragebogen dauert ca. 10 Minuten.

Wenn Sie an den Ergebnissen dieser Studie interessiert sind, finden Sie auf der letzten Seite eine Option Ihre Kontaktdaten anzuführen. Ich werde Ihnen in diesem Fall eine Zusammenfassung zukommen lassen.

Vielen Dank für Ihre Teilnahme,

Robin Dorn

Denken Sie nun an die Technologien die Sie für Ihre Arbeit benutzen. Schätzen Sie bitte ein, inwieweit **Sie selbst entscheiden können**, wann Sie durch diese Technologien **in Ihrer Freizeit** erreichbar sind.

	nie	ab und zu	regel- mäßig	häufig	immer
Mobiltelefon	☐	☐	☐	☐	☐
E-Mail (Laptop/Computer)	☐	☐	☐	☐	☐
E-Mail (Smartphone/Push Funktion)	☐	☐	☐	☐	☐
Soziale Netzwerke (Facebook, Twitter, Xing, etc.)	☐	☐	☐	☐	☐
Chat/Nachrichtendienste (Skype, Lync, etc.)	☐	☐	☐	☐	☐

Im folgenden Abschnitt finden Sie Aussagen bezüglich Ihrer Autonomie am Arbeitsplatz. Bitte geben Sie an, inwiefern Sie **selbstständig** über ihre zeitliche Arbeitseinteilung entscheiden können.

Ich habe die Möglichkeit...	nie	ab und zu	regel- mäßig	häufig	immer
...meinen täglichen/wöchentlichen Arbeitsbeginn selber zu bestimmen.	☐	☐	☐	☐	☐
... mir meine Arbeitswoche zeitlich selbst einzuteilen.	☐	☐	☐	☐	☐
... meine täglichen Arbeitszeiten frei zu wählen.	☐	☐	☐	☐	☐
... mir ein paar Stunden frei zu nehmen.	☐	☐	☐	☐	☐
... eigenständig zu bestimmen, wann ich Urlaub nehme.	☐	☐	☐	☐	☐
... eigenständig zu bestimmen, wann ich mir ein paar Tage frei nehme.	☐	☐	☐	☐	☐
... mir selbst einzuteilen, wann (z.B. an welchen Tagen, zu welcher Uhrzeit) ich meine Aufgaben erledige.	☐	☐	☐	☐	☐
... mir meine Arbeitszeit eigenständig einzuteilen.	☐	☐	☐	☐	☐

Im folgenden Abschnitt finden Sie Aussagen bezüglich Ihrer Autonomie am Arbeitsplatz. Bitte geben Sie an, inwiefern Sie **selbständig** über Ihren Arbeitsort bestimmen können.

Ich habe die Möglichkeit...	nie	ab und zu	regelmäßig	häufig	immer
... die Menge und die zeitliche Einteilung meiner Arbeit zu bestimmen, die ich <i>zu Hause</i> erledigen muss, um meinen Arbeitsanforderungen gerecht zu werden.	☐	☐	☐	☐	☐
... meine Arbeit von zu Hause, anstatt meines herkömmlichen Arbeitsplatzes zu erledigen.	☐	☐	☐	☐	☐
... für unterschiedliche Aufgaben gezielt einen passenden Arbeitsort auszuwählen.	☐	☐	☐	☐	☐
... darüber zu bestimmen, ob ich zu Hause/unterwegs arbeite oder ins Büro fahre, je nach dem wo es mir am besten passt.	☐	☐	☐	☐	☐
... mir selbst einzuteilen, wo ich meine Aufgaben erledige.	☐	☐	☐	☐	☐
... auch bei Besprechungen nicht körperlich anwesend zu sein (sondern z.B. über Telefonkonferenz/Videotelefonie).	☐	☐	☐	☐	☐
... meinen Arbeitsplatz innerhalb des Betriebes eigenständig zu bestimmen.	☐	☐	☐	☐	☐

Im folgenden Abschnitt finden Sie Aussagen bezüglich Ihrer Einschränkung am Arbeitsplatz. Bitte geben Sie an, inwiefern Ihre zeitliche Einteilung von **Ihrer Arbeit/Ihrem Arbeitgeber** bestimmt werden.

Meine Arbeit erfordert von mir...	nie	ab und zu	regelmäßig	häufig	immer
... kurzfristig für Überstunden zur Verfügung zu stehen.	☐	☐	☐	☐	☐
... auch außerhalb der üblichen Arbeitszeiten erreichbar zu sein.	☐	☐	☐	☐	☐
... spontan Termine wahrnehmen zu können.	☐	☐	☐	☐	☐
... bei Bedarf erreichbar zu sein.	☐	☐	☐	☐	☐
... in Bezug auf meine Arbeitszeit flexibel zu sein.	☐	☐	☐	☐	☐
... auch außerhalb der üblichen Arbeitszeiten zu arbeiten.	☐	☐	☐	☐	☐
... auch außerhalb meiner Dienstzeit geschäftliche E-Mails/Telefonate beantworten.	☐	☐	☐	☐	☐

Im folgenden Abschnitt finden Sie Aussagen bezüglich Ihrer Einschränkung am Arbeitsplatz. Bitte geben Sie an, inwiefern Ihr Arbeitsort von **Ihrer Arbeit/Ihrem Arbeitgeber** bestimmt werden.

Meine Arbeit erfordert von mir...	nie	ab und zu	regelmäßig	häufig	immer
... manche Aufgaben an einem <i>bestimmten</i> Ort durchzuführen.	☐	☐	☐	☐	☐
... dass ich Arbeiten auch von zu Hause erledige.	☐	☐	☐	☐	☐
... für gewisse Aufgaben ins Büro zu fahren.	☐	☐	☐	☐	☐
... dass ich auch Arbeiten von unterwegs erledige.	☐	☐	☐	☐	☐
... unterwegs bei Auftraggebern/Kunden zu arbeiten.	☐	☐	☐	☐	☐
... Aufgaben an unterschiedlichen Orten auszuführen.	☐	☐	☐	☐	☐
... dass ich mir innerhalb des Büros einen passenden Arbeitsplatz suche.	☐	☐	☐	☐	☐

Bitte geben Sie an, inwieweit folgende Aussagen auf Ihre Arbeitstätigkeit zutreffen.

	trifft gar nicht zu					trifft völlig zu
Die Aufgaben in meiner Arbeit sind einfach und unkompliziert.	☐	☐	☐	☐	☐	☐
Meine Arbeit kann fast jeder ohne große Einarbeitung machen.	☐	☐	☐	☐	☐	☐
Meine Arbeit ist nicht besonders anspruchsvoll.	☐	☐	☐	☐	☐	☐

	sehr wenig	ziemlich wenig	etwas	ziemlich viel	sehr viel
Wenn Sie Ihre Tätigkeit insgesamt betrachten, inwieweit können Sie die Reihenfolge der Arbeitsschritte selbst festlegen?	☐	☐	☐	☐	☐
Wie viel Einfluss haben Sie darauf, welche Arbeit Ihnen zugeteilt wird?	☐	☐	☐	☐	☐
Wenn man Ihre Arbeit insgesamt betrachtet, wie viele Möglichkeiten zu eigenen Entscheidungen bietet Ihnen Ihre Arbeit?	☐	☐	☐	☐	☐
Können Sie selbst bestimmen, auf welche Art und Weise Sie Ihre Arbeit erledigen?	☐	☐	☐	☐	☐

	trifft gar nicht zu	trifft wenig zu	trifft etwas zu	trifft ziemlich zu	trifft voll und ganz zu
Ich habe mein berufliches Leben selbst in der Hand.	☐	☐	☐	☐	☐
Wenn ich mich anstrenge, werde ich auch beruflichen Erfolg haben.	☐	☐	☐	☐	☐
Im Beruf wird mein Leben wird zum großen Teil von anderen bestimmt.	☐	☐	☐	☐	☐
Meine beruflichen Pläne werden oft vom Schicksal durchkreuzt.	☐	☐	☐	☐	☐

Wenn Sie an Ihre jetzige Stelle denken, inwiefern treffen die folgenden Aussagen auf sie zu?

[illegible]

Angaben zu Ihrer Person

Alter	_____ Jahre
Geschlecht	☐ weiblich ☐ männlich
Höchste abgeschlossene Schulbildung	☐ Pflichtschule ☐ Lehrabschluss ☐ Fachschule ☐ Matura ☐ Universität/Fachhochschule
In was für einer Branche sind Sie derzeit beschäftigt?	_____
Üben Sie eine leitende Funktion aus (Führungskraft)?	☐ ja ☐ nein
Wie lange sind Sie bereits berufstätig?	_____ Jahr(e)
Wie viele Stunden arbeiten Sie durchschnittlich pro Woche (inkl. Mehrarbeit/Überstunden)?	_____ Stunden / Woche
Falls Sie in einem flexiblen Arbeitsumfeld arbeiten, wie lange arbeiten Sie bereits dort?	_____ Jahr(e)

Vielen Dank für Ihre Teilnahme an der Befragung!

Falls Sie an den Ergebnissen dieser Studie interessiert sind, können Sie hier Ihre E-Mail Adresse angeben, damit ich Ihnen die Ergebnisse zukommen lassen kann.

E-Mail Adresse: _____

Appendix B – Factor analysis for the work-nonwork conflict scale

In order to approve the one factor approach for the four chosen items of the work-nonwork conflict scale an explorative factor analysis with varimax rotation and Kaiser normalization was run. The initial analysis showed, that only one factor had an eigenvalue over the Kaiser criterion of one (2.63) explaining 62% of the variance. The second factor would have had a Kaiser value of only .723. In the following Table, the factor loadings are shown (Table 16).

Table 16

Factor loadings of the work-nonwork conflict scale for the exploratory factor analysis with varimax rotation and Kaiser normalization

Item	Factor 1
Meine Arbeit hält mich mehr als mir lieb ist von Unternehmungen mit meiner Familie / meinem Partner ab.	.73
Da meine beruflichen Pflichten sehr viel Zeit kosten, kann ich nicht an Aktivitäten meiner Familie / meines Partners teilnehmen.	.76
Wenn ich von der Arbeit nach Hause komme bin ich zu erschöpft, um etwas mit meiner Familie / meinem Partner zu unternehmen.	.73
Aufgrund der Belastungen am Arbeitsplatz bin ich oft so ausgelaugt, dass ich zu Hause nicht mal mehr die Dinge machen kann, die ich gerne tue.	.73

Note. Factor loadings >.40 are in boldface.

Appendix C – Scree Plots for the exploratory factor analyses

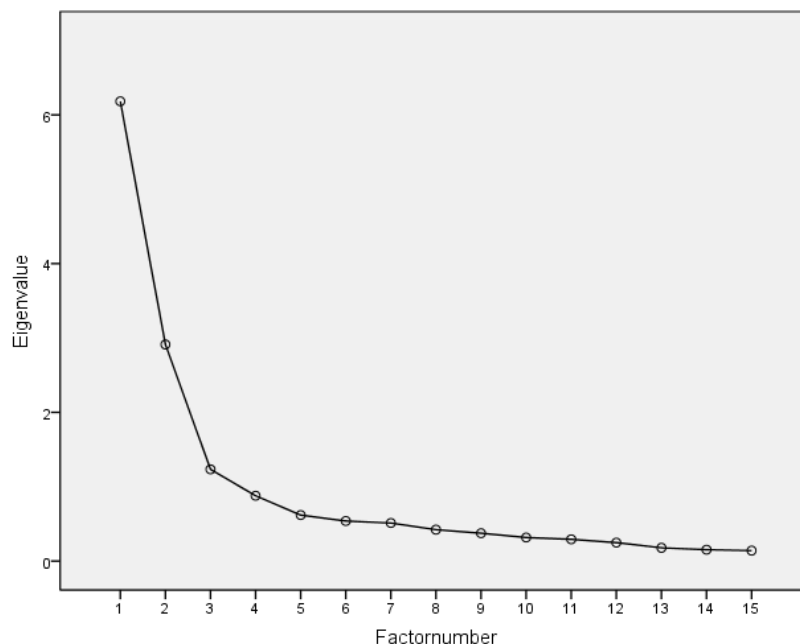


Figure 7. Scree plot for the temporal flexibility items

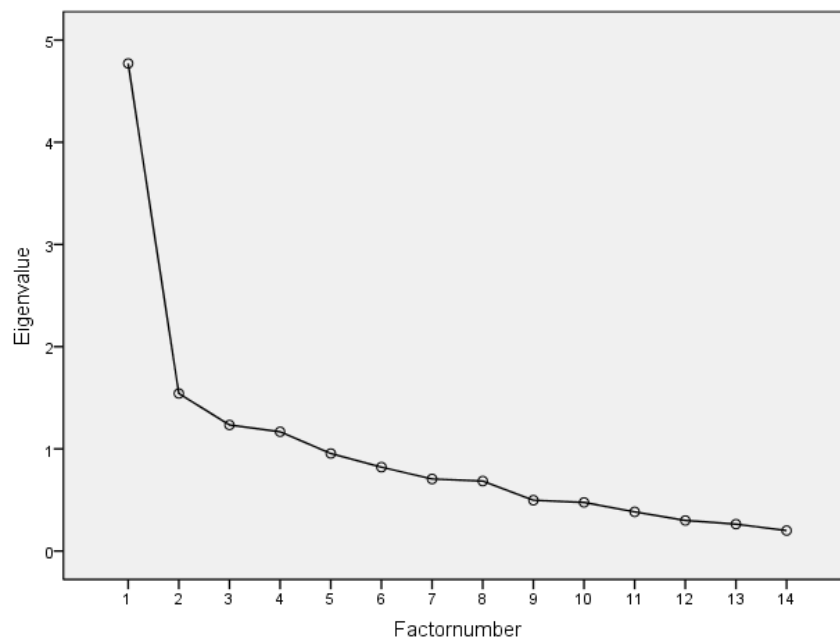


Figure 8. Scree plot for the spatial flexibility items

Appendix D – German Abstract

Veränderungen in der modernen Arbeitswelt, besonders in Bezug auf verstärkten Gebrauch von Informations- und Kommunikationstechnologien, haben es ermöglicht, immer flexibler zu arbeiten. Sowohl bezüglich des Arbeitsortes, als auch in Hinblick auf die Arbeitszeit. Die bisherige Forschung in diesem Bereich erzielte keine konsistenten Ergebnisse in Bezug auf die Auswirkungen von erhöhter Flexibilität am Arbeitsplatz. Es wurde angenommen, dass eine genauere Konzeptualisierung der Flexibilität Klarheit darüber verschaffen könnte, wo der Ursprung dieser widersprüchlichen Studienergebnisse liegt. Deshalb wurden im Zuge dieser Arbeit vier neue Skalen, auf Basis etablierter arbeitspsychologischer Theorien und aktueller Forschung, zur Erhebung von zeitlicher und örtlicher Flexibilität erstellt. Das erste Ziel dieser Arbeit war es zu untersuchen, ob zeitliche und örtliche Flexibilität in je eine Anforderung und Ressource unterschieden werden kann. Das zweite Ziel war, die Zusammenhänge zwischen Arbeitsanforderungen, sowie persönlichen- und arbeitsbezogenen Ressourcen mit Arbeits-nicht Arbeitskonflikt und Arbeitszufriedenheit zu untersuchen. Die Analyse der Skalen zeigte, dass zeitliche Flexibilität als eine Anforderung (zeitliche Begrenzung) sowie als eine Ressource (zeitliche Autonomie) im Arbeitsleben wahrgenommen wird. Dies konnte für die örtliche Flexibilität nicht bestätigt werden. Die Ergebnisse zeigten, dass zeitliche Begrenzung einen positiven Effekt auf Arbeits-nicht Arbeitskonflikt hat, dieser Zusammenhang wurde von Arbeitsressourcen moderiert. Die Arbeitsressourcen zeitliche Autonomie und Handlungsspielraum zeigten einen positiven Zusammenhang mit Arbeitszufriedenheit.

Curriculum Vitae

Personal Data

Name: Robin Dorn
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Education

Since 03/2009 Diploma study in psychology
University of Vienna
 Since 10/2010 Undergraduate studies in economics
University of Vienna
 01/2014 – 06/2014 Graduate study in work and organizational psychology
University of Strasbourg, ERASMUS exchange program

Work experience

04/2013 – 01/2014 Consultant / Business Unit Leader Human Resources
uniforce Consulting GmbH, Vienna
 01/2012 – 03/2012 Internship Human Resources Management
HILL Woltron Management Partner GmbH, Vienna

Additional Qualifications

Language skills German: mother tongue
 English: fluent in written and spoken language
 French: fluent in written and spoken language
 Computer skills MS Office
 IBM SPSS Statistics
 IBM SPSS Amos

Eidesstattliche Erklärung

Ich versichere, dass ich die Diplomarbeit ohne fremde Hilfe und ohne Benutzung anderer als der angegebenen Quellen angefertigt habe, und dass die Arbeit in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegen hat. Alle Ausführungen der Arbeit, die wörtlich oder sinngemäß übernommen wurden, sind als solche gekennzeichnet.

Wien, am

Unterschrift:_____

Robin Dorn