

MASTER

Analyzing workaholism and its antecedents and consequences using the job demands-resources model

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Eindhoven, December 6, 2016

**Analyzing Workaholism and
its Antecedents and Con-
sequences using the Job
Demands-Resources Model**

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Abstract

Workaholism is a much heard term, often used to describe people who work hard or long hours. Scientifically that description is not sufficient, but as of yet there is no agreed upon definition for workaholism. This study uses the definition by Schaufeli et al. (2008a) which consists of two dimensions: working excessively and working compulsively. Working excessively represents the behavioral component of workaholism, indicating that workaholics dedicate an exceptional amount of their time and energy to work. Working compulsively, on the other hand, represents the cognitive dimension of workaholism and implies that workaholics are obsessed with their work and persistently think about work, even when they are not working.

To analyze what the antecedents and consequences of workaholism are, some components of two main theories are combined. First of all the basis for the research model in this study is the model by Mazzetti et al. (2014) who set a perceived overwork climate as main antecedent for workaholism and looked at the influences of several personality traits on that relation. The current study adds the two most important consequences of workaholism to that model, decreased job performance and well-being. Secondly job demands and job resources from the job demands-resources model (Demerouti et al., 2001) are added to the model as moderating variables on the main relations. Job demands, similar to many of the antecedents of workaholism are expected to strengthen the positive relation between an overwork climate and workaholism. Job resources on the other hand are added as a moderator on the relation between workaholism and a negative outcome. The expectation is that they provide a positive effect such that the negative outcomes are less strong. These relations results in the model depicted in figure 1 and the main research question below it.

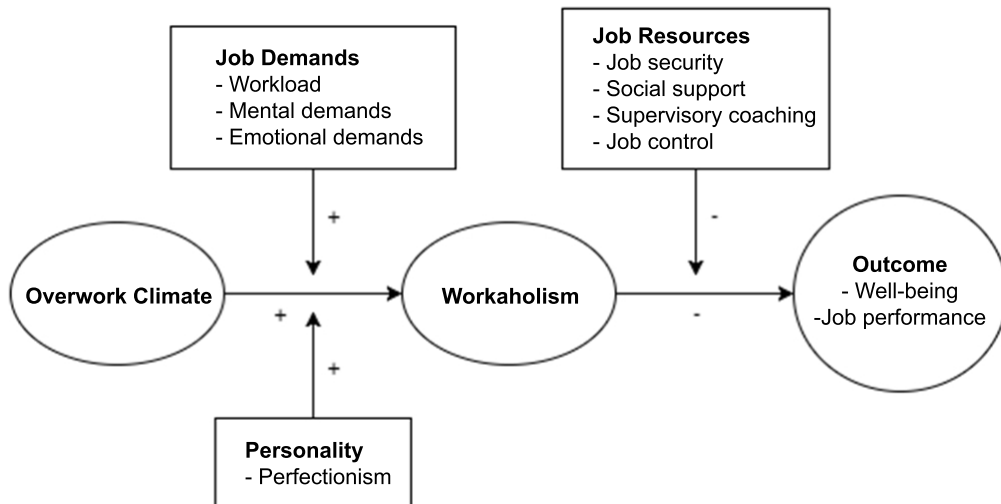


Figure 1: The final model to be tested.

”Is the relation between an overwork climate and a reduced well-being and job performance mediated by workaholism, and furthermore are there moderation effects by job demands, personality and job resources on these relations?”

To test this model and find an answer to the main research question a qualitative study was performed by distributing a questionnaire. A total of 129 respondents was found which resulted in 120 valid cases to analyze.

The three main relations from the model were analyzed by looking at the correlations between the constructs. The main relation between an overwork climate and workaholism was found to be supported. However none of the expected moderation effects of the three job resources and perfectionism on this relation were found. Mental demands is the only moderator for which an interaction was found but it had the opposite effect of what was expected. It showed to weaken the relation between an overwork climate and workaholism instead of strengthen it, as was hypothesized.

The second main relation between workaholism and well-being was also supported by the data. Workaholism was shown to be positively related to emotional exhaustion and a need for recovery, two of the four components of well-being. While not all four relations were confirmed, it can still be concluded that workaholism has an adverse effect on well-being as expected. The moderation effects of the job resources that were predicted in the model were however not found. For social and supervisory support no interaction was found with workaholism on this relation. Job security and job control did have an interaction with workaholism, but none that supported the hypotheses drawn from the model.

The third main relation between workaholism and job performance was found to be the opposite of what was predicted in the model. Workaholism actually seemed to be positively related to job performance instead of negatively. The moderating effects on this relation were only proven for social support, which however did not have the expected effect.

While most of the hypotheses were rejected, two of the main relations were confirmed. Furthermore the analysis showed that, even though the job demands did not moderate the relation between an overwork climate and workaholism, they were all significantly related directly to workaholism, confirming them as antecedents. The job resources, while not moderating the relation between workaholism and well-being, were shown to have a significant and positive direct relation with well-being. Moreover, while not moderating the relation between workaholism and job performance, three of the four job resources also had a significant and positive direct relation with job performance. Therefore, the job resources in general still have a positive effect on overall well-being and job performance.

With these results in mind the model is updated and is shown in figure 2.

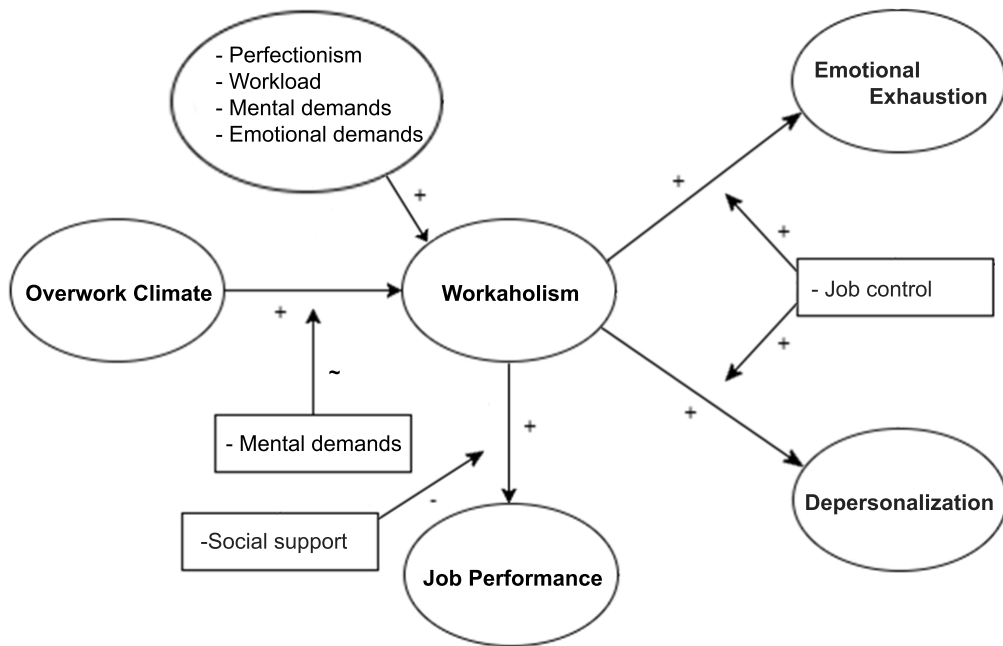


Figure 2: The final model to be tested.

The results from this study provide some further insights in workaholism and its antecedents and consequences. Hopefully it can be used as a solid basis from which to conduct future research and explore workaholism even further.

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1 Introduction

The working world today is very different from what it was just 10 years ago. Technological developments, an economical crisis and new organizational insights have all contributed to this. Working at home, not even coming into the office some weeks is quite normal nowadays (Molino et al., 2015). Which for many people is both time saving and convenient but it meanwhile blurs the line between work and private life (Jones et al., 2006). The recent economical crisis on the other hand has increased the need for employees to prove their worth and perform at a high level continuously, which may imply working overtime (Selmer and Waldstrøm, 2007).

What do factors like these do to an employee? Problems separating work and personal time, and overworking are both associated with 'Workaholism'. Workaholism is a widely coined term for the addiction to work, and by laymen often even used to describe someone who works harder or more than what is the norm. However just working hard does not necessarily make you a workaholic, there is nothing wrong with enjoying to work hard. In fact many factors related to workaholism are also related to work engagement, a healthy and desired form of working hard (Schaufeli et al., 2008b). But this does beg the question, what does make you a workaholic?

That question immediately leads to the inconvenient answer that there still is no widely agreed-upon definition of workaholism (Molino et al., 2015). Of course attempts have been made and most studies agree there are multiple facets to being workaholic. One of which being an irresistible internal drive to work, a facet which seems to be a part of nearly every definition of workaholism. Part of the problem is that though workaholism has gotten considerable attention in the popular press, until more recently that was less so the case for academic studies, be it theoretical or empirical (Burke, 1999; Ng et al., 2007). Since then academic interest has grown and many studies on workaholism have been performed in recent years (e.g. Schaufeli et al., 2008b; Mazzetti et al., 2014; Molino et al., 2015).

While interest has grown, there is still much to learn. For example there is still ambiguity about the effects of workaholism on job performance (Burke and Matthiesen, 2004; Ng et al., 2007). Whether this is because varying measures for workaholism are used in different studies or because time plays an important role with regards to job performance is still not fully clear. For example Ng et al. (2007) suggest that the initial effects of

workaholism on job performance can be positive, while in the long term the effects are negative. Therefore a single measurement in time of job performance can yield some very different and inconclusive results. Furthermore only recently have studies tried to combine the Job demands-resources model, which was developed to predict burnout, with workaholism (Molino et al., 2015). This combination may yield some new insights in the causes and effects of workaholism and ways to prevent negative outcomes. With extremes like people in Japan who die from working too much, for which they even have a word, *Karoshi* (Kanai et al., 1996; Yates, 1988). While that is an extremity, it is important to be able to prevent such outcomes. Not only for the health of employees, but also for the work they perform and thus for companies and society as a whole as well.

The current study strives to gain more insight into the antecedents and consequences of workaholism. During the preparation for this master thesis a model was constructed based on the available literature, in the literature review. The model is essentially a combination of the Job Demands-Resources model by (Bakker and Demerouti, 2007) and the link between an overwork climate and workaholism found by (Mazzetti et al., 2014) and lead to the following main research question:

”Is the relation between an overwork climate and a reduced well-being and job performance mediated by workaholism, and furthermore are there moderation effects by job demands, personality and job resources on these relations?”

The theory from the literature review that led to that model and research question is reiterated in chapter 2 which provides an overview of the concepts and constructs used. Furthermore a detailed explanation of the model and the hypotheses are presented and substantiated based on those descriptions.

The following chapter 3 provides an overview of the methodology used to answer the research questions. The data acquisition process is detailed and the measures used for each concept included in the model are listed. Some of the data preparation methods are also included at the end of this chapter. Chapter 4 then presents the results from the statistical analysis. More specifically, direct effects are investigated with a correlation analysis and some of the moderating effects from the model are analyzed with a regression analysis.

Finally chapter 5 discusses the results found in the previous chapter to place them in relation to the existing literature and how they relate to the proposed model. Furthermore theoretical and practical implications along with the limitations of the study are discussed. A short conclusion will then close this thesis by providing a final overview of the gathered results.

2 Theory and Model

This chapter will go over all the relevant concepts used in this thesis and provide an overview of the available knowledge on the subjects. All of which is based on existing literature in the field or conclusions deducible from that literature. The first section will describe the Job Demands-Resources model which will be used as the structure for the rest of the model. The next section discusses workaholism itself and the definition that will be used in the current study. Following from this section are the next two discussing the antecedents and the consequences for workaholism. At the end of the chapter a model is presented that aims to describe the relations between workaholism and its antecedents and consequences which incorporates the results of the literature review.

2.1 The Job Demands-Resources model

The Job Demands-Resources model or JD-R model was originally developed to predict burnout using two broad categories of job characteristics, namely job demands and job resources as the name of the model suggests (Demerouti et al., 2001). The model was extended by Bakker and Demerouti (2007), outlining how job demands and resources influence job stress and motivation respectively. The initial model attempted to predict the traditional three dimensions of burnout, emotional exhaustion, depersonalization and reduced personal accomplishment (Maslach, 1982) from the two categories of job characteristics named above. Demerouti et al. (2001) propose that the third dimension should not be taken into consideration as it is the weakest of the three in terms of significant relations with other variables. Furthermore the former two are generally considered to be the core dimensions, as well as much more strongly correlated with each other than with reduced personal accomplishment. So in conclusion they state that burnout can be considered to exist of two components, exhaustion and depersonalization.

In the extended JD-R model by Bakker and Demerouti (2007) two main processes take place. The first process is the depletion of mental and physical resources because of high job demands. This draining of resources can lead to exhaustion and subsequently health problems. Overall the resulting effect of demands can be described as *strain*.

Job demands are defined as "those physical, social or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs(eg. exhaustion, strain)." (p.312). This is explained by the fact that these demands, which can be different for each job, cause a certain amount of fatigue. This fatigue, with a lack of recovery, then leads to exhaustion or strain.

The second process is motivational in nature, where high job resources lead to higher work engagement, and in turn to better performance and more organizational commitment.

Job resources are defined as "those physical, psychological, social or organizational aspects of the job that may do any of the following: be functional in achieving work goals; reduce job demands and the associated physiological and psychological costs; stimulate personal growth and development." (p.312). Organizational resources includes for example: job control, participation in decision making and task variety. Social support can be support from colleagues or superiors. A lack of job resources in combination with high job demands can lead to withdrawal behavior. This withdrawal behavior in the long run then leads to disengagement from work.

Figure 2.1 below shows a part of the model constructed by Bakker and Demerouti (2007), it gives a good overview of how the main relations between the concepts mentioned above work. The specific components of job demands and job resources however should not be considered fixed values for the model. Depending on the type of occupation researched they can be adjusted to accommodate for the specific demands and resources involved for that occupation.

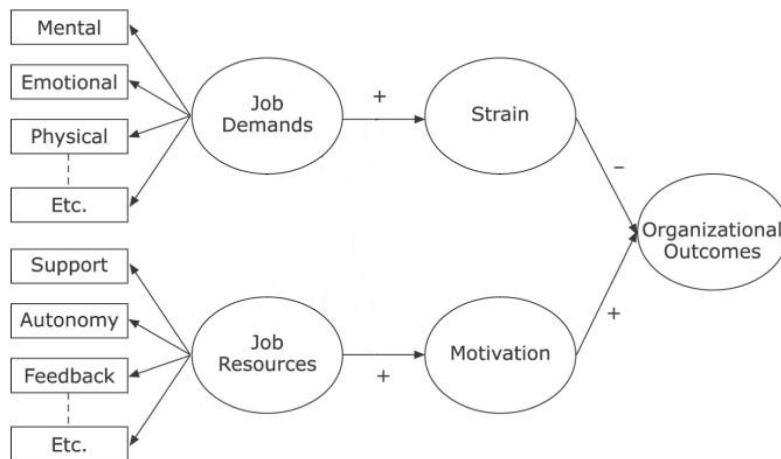


Figure 2.1: The Job Demands-Resources model as used by Bakker and Demerouti (2007), adjusted to leave out the cross effects, which were not relevant for this study.

2.1.1 Job demands-resources in the current study

While originally intended to relate job characteristics to burnout and work engagement by uncovering the underlying psychological processes, the JD-R model can also be used to describe the process leading to workaholism. Previous effort in this direction has been made quite recently by (Molino et al., 2015). They proposed a positive relation between job demands and workaholism with an increased effect when job resources are lacking. Rather than regarding workaholism as another demand, workaholism in their model expands the pathway from job demands to burnout or other outcomes of job strain.

This study will take a slightly different approach with job demands being a moderator of the relation between an overwork climate and workaholism. Furthermore job resources will be used as a moderator of the relation between workaholism and well-being. The following chapters will discuss workaholism and its antecedents and consequences in more detail. As these concepts are further explained, the relations proposed above will also be further elaborated on and finally the research model will be presented.

2.2 Workaholism

Workaholism is a widely known construct nowadays and recently a lot of research has been performed on the topic. However as mentioned earlier in the introduction there is no agreed upon definition of the term. People who work more or harder than average are often already called a workaholic but are they really? Notwithstanding the lack of an official definition, most academic studies agree there is more to it than just working more or harder than average. The following chapter will give a short overview of the most prevalent conceptualizations and from that extract a single definition that will be used throughout the rest of the study. The next section will then elaborate on the antecedents and consequences of workaholism.

2.2.1 Definition of workaholism

The first use of the word 'workaholism' is credited to Oates (1971) and described one's "addiction to work, the compulsion or the uncontrollable need to work incessantly". As a derivation of the term alcoholism, the addiction to alcohol, workaholism is often described as an addiction to work. Different definitions of the construct have been proposed since then, describing the factors determining whether or not one is workaholic. To this day there is no single agreed upon definition of the term 'workaholism', however there are some notable attempts which will be presented below.

One of the first academic attempts and probably most cited definition is by Spence and Robbins (1992) who defined workaholism to consist of three dimensions. The three

dimensions they suggest are *work involvement*, *inner drive to work*, and *enjoyment of work*. With these dimensions they distinguished three types of workaholics. *Work addict* who score high on work involvement and the inner drive to work and score low on work enjoyment. *Work enthusiasts* on the other hand do not have the inner drive to work but do score high on work involvement and the enjoyment of work. Finally *enthusiastic workers* score high on all three dimensions.

Porter (1996) defines workaholism as "excessive involvement with work evidenced by neglect in other areas of life and based on internal motives of behavior maintenance rather than on requirements of the job or organization" (p.71). Her definition, in accordance with the one by Spence and Robbins (1992) mentions the internal drive to work, an aspect which is found in almost all definitions. Furthermore she uses the terms *workaholism*, *addiction to work* and *excessive work* interchangeably, the latter also being a returning element.

Scott et al. (1997) suggest a very similar definition with three elements: spending a great deal of time in work activities when given the discretion to do so, which results in giving up important social, family, or recreational activities because of work; persistently and frequently thinking about work when they are not at work; and working beyond what is reasonably expected to meet the requirements of the job or to meet basic economic needs.

Ng et al. (2007), as all previous researchers, acknowledge the lack of consensus on a definition for workaholism. Therefore they performed a systematic literature review trying to conclusively propose a definition for the construct taking in account all of the previously mentioned definitions. Their resulting proposition for the definition of workaholics is 'those who enjoy the act of working, who are obsessed with working, and who devote long hours and personal time to work'.

Schaufeli et al. (2008b) strive to distinguish *workaholism*, *work engagement* and *burnout*. To do that they propose a definition for workaholism with two main elements, *working excessively* and *working compulsively*. The former incorporates most elements presented in previous studies with regards to the amount of work performed and also the neglect of other life activities. The latter incorporates the internal drive to work and the enjoyment of working. Work engagement is more similar to what Spence and Robbins (1992) described as work enthusiasts and enthusiastic workers, who enjoy the work they do rather than just enjoy the act of working. Burnout is different from the other two in the sense that it describes a state of well-being rather than typifying a form of working. Therefore, burnout can actually be an outcome of workaholism.

In the present study the definition of Schaufeli et al. (2008b) will be used in which workaholism consists of two dimensions: working excessively and working compulsively. Mazzetti et al. (2014) describe it as follows: "*Working excessively* represents the behavioral component of the construct indicating that workaholics dedicate an exceptional amount of their time and energy to work and work beyond what would be necessary to fulfill organizational or economic requirements. *Working compulsively*, on the other

hand, represents the cognitive dimension of workaholism and implies that workaholics are obsessed with their work and persistently think about work, even when they are not working. Therefore, workaholics tend to work harder than is required primarily because they are driven by their inner compulsion.”(p.230).

Furthermore, as stated by Burke and Matthiesen (2004) ”Workaholism cannot have both positive and negative consequences”(p.302). This is exactly the reason Spence and Robbins (1992) created the different workaholism types. Workaholism in this study will therefore be seen as a condition that ultimately has a negative impact on a person’s life and well-being. Even though work performance may improve initially, in the end the outcome will be negative.

2.2.2 Work engagement

Although the main theme of this study is workaholism, work engagement is a closely related concept and often mistakenly seen as a different form of the same ‘condition’ (Schaufeli et al., 2008b). Therefore it is important to be able to distinguish between the two. Since it is mentioned in this study numerous times, this section will shortly describe what work engagement is and how it differs from workaholism.

As slightly touched upon in the previous chapter the influential model created by Spence and Robbins (1992) includes three types of workaholics. Two of which do not fulfill the above definition of workaholism but rather resemble work engagement, the *work enthusiasts* in particular.

The concept of work engagement was introduced by Maslach et al. (2001) as an attempt to cover the entire employee well-being spectrum, ranging from *unwell*-being (burnout) to *well*-being (work engagement). ”In contrast with people who suffer from burnout, engaged employees have a sense of energetic and effective connection with their work activities and they see themselves as able to deal well with the demands of their job. More specifically, work engagement refers to a positive fulfilling, work-related state of mind that is characterized by: (1) vigor (i.e. high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence also in the face of difficulties); (2) dedication (i.e. a sense of significance, enthusiasm, inspiration, pride, and challenge); and absorption (i.e. being fully concentrated and engrossed in one’s work, whereby time passes quickly and one has difficulties with detaching oneself from work).” (Schaufeli et al., 2002, p.78) The main differences with workaholism, are clear: engaged workers, draw energy from their work whereas workaholics energy is drained by their work. Furthermore engaged workers enjoy their work rather than the act of working itself (Ng et al., 2007).

2.3 Antecedents and consequences of workaholism

To be able to prevent or 'cure' workaholism it is essential to know how someone becomes a workaholic or what enforces it when it is already present. Similarly it is important to know what the consequences of workaholic behavior are.

Antecedents for workaholism can be separated into two broad categories, personal and contextual or environmental factors. Ng et al. (2007) actually distinguish between three theoretical perspectives as they call it; a dispositional perspective (dispositional traits can play a major role in generating addictions, e.g. self-esteem and an obsessive-compulsive personality), a socio-cultural perspective (a socio-cultural perspective suggests that addiction is generally a product of the social and cultural experiences that individuals have in their childhood, adolescence, and adulthood.) and behavioral reinforcement (hard work or performance is often rewarded both in a personal and organizational environment). However those again could be combined into the two categories mentioned earlier while still encompassing all aspects. Personal traits either congenital or acquired through social experiences would fall under personal factors while socio-cultural pressure and behavioral reinforcement would fall under contextual factors.

Correspondingly consequences can also be separated into two categories, private and professional. Ng et al. (2007) use two categories as well though split it in short term and long term consequences to distinguish between the respectively positive and negative effects workaholism may have professionally. In concurrence with the definition posed earlier the focus in this study will be on the latter, thus on the long term consequences.

Additionally, to find the causes for workaholism it is important to look at which measure for workaholism is used. As described in section 2.2.1 there are multiple definitions and they each have different aspects they use to determine whether an individual is a workaholic (Burke, 2001). Since those aspects differ, the antecedents for them also differ. This means that each antecedent discussed must be viewed in light of the definition for workaholism that is used in the study. For example Spence and Robbins (1992) use *enjoyment of work* as an indicator for workaholism, but Ng et al. (2007) note about this that, that may be the wrong terminology and should be *enjoyment of working*. Since workaholics don't necessarily like the work itself but rather the act of working or even better dislike the state of not working. Measuring the *enjoyment of work* would be more appropriate for measuring work engagement instead of workaholism. The definition chosen for the present study is the definition by Schaufeli et al. (2008b) in which workaholism consists of the two dimensions: working excessively and working compulsively. The antecedents and consequences in the following chapters will therefore be related to those two components.

2.3.1 Antecedents

Within the two categories set out above, personal and environmental, there are many different antecedents for workaholism. The following paragraphs will try to give an overview of the most important ones. Paragraph 2.3.1.1 concerns the personal factors that contribute to workaholism and paragraph 2.3.1.2 will be about the environmental factors.

2.3.1.1 Personal factors

The first category, personal factors can be seen as any personal trait that reinforces compulsive behavior, one of the two dimensions of workaholism. Ng et al. (2007) performed a review of the literature on workaholism and from that review they extracted three important antecedents regarding one's personal traits: self-esteem, achievement-related traits and negative childhood/family experiences. "Self-esteem is the extent to which one likes oneself and feels one is a person of worth" (Brockner, 1988). Ng et al. (2007) argue that self-esteem is one of the main dispositional influences on workaholism "because addictive behavior is believed to provide a means to numb or avoid negative feelings tied to other activities or involvements (Porter, 1996, p.73), those with low self-esteem are more likely to engage in addictive behaviors than others (Robinson and Kelley, 1998) and thus be predisposed to become workaholics as well"(Ng et al., 2007, p.123). Along the same lines Burke (2000) states that workaholism emerges as work behavior in response to feelings of low self-worth and insecurity.

Another important factor Ng et al. (2007) propose are achievement-related traits, for example an obsessive-compulsive personality. People with an obsessive-compulsive personality exhibit high levels of perseverance and industriousness (Pollak, 1979). Furthermore it ties in well with the inner drive that characterizes workaholism.

The last important antecedent Ng et al. (2007) propose that can be seen as a personal is traits that have developed through personal experiences. For example "Matthews and Halbrook (1990) suggest that individuals growing up in clinically dysfunctional families are likely to seek out highly stressful or highly involving jobs because they have developed a tolerance for (and/or affinity for) chaos through their experiences with their families. Moreover work can be seen as a socially acceptable way of avoiding the family"(Ng et al., 2007, p.124).

Another predictor put forward by Andreassen et al. (2010) is *Basic Needs Satisfaction*, or BNS. Similar to the first two antecedents mentioned above, the concept of BNS focuses on the underlying basic motivations that are associated with workaholism. More specifically it originates from self-determination theory (Deci and Ryan, 2000) which states that "an understanding of human motivation requires a consideration of innate psychological needs for *autonomy*, *competence* and *relatedness*". *Autonomy* is the need to be able to determine one's own behavior and in the context of work to have control

over when and what tasks are performed. Autonomy is part of the more general concept of job control, which is "the working individual's control over his tasks and his conduct during the working day" (Karasek, 1979). Job control is also one of the standard job resources from the JD-R model and will be elaborated on later. *Competence* is the need to be effective at work and to feel capable of performing the tasks at hand. To feel more competent one may start to work excessively, thereby fueling workaholism (Deci and Ryan, 2000). Similar to the first antecedent named by Ng et al. (2007) it is about increasing self-esteem and the feeling of self-worth. *Relatedness* is the need to have meaningful relations with significant others, including relatedness at work. Both the need for relatedness and competence could be fulfilled by conforming to an overwork climate to gain recognition from co-workers and/or supervisors (Mazzetti et al., 2014) which will be further explained in paragraph 2.3.1.2.

Even the earliest mention of workaholism by Oates (1971) stated that "the perfectionist nature of workaholics leads them to be merciless in their demands and scrupulous in executing their job tasks". Perfectionism leads a workaholic to work harder than what is required which is made even worse by an unwillingness to delegate tasks (Burke et al., 2008). Not only is perfectionism a part of workaholic behavior it can also be used to predict workaholism. Similar to how performance pressure from one's environment can lead to workaholism (see paragraph 2.3.1.2), internal pressure for better performance can do so as well (Clark et al., 2010). Also the combination with an environment rewarding perfectionist behavior, brings greater opportunities to display workaholic behavior (Taris et al., 2010; Bovurnasvakool et al., 2012). Mazzetti et al. (2014) confirmed that notion and showed that employees working in organizations characterized by an overwork climate, showed a higher occurrence of workaholism when they were perfectionists.

Since perfectionism is so closely related to workaholism and also related to an overwork climate (Mazzetti et al., 2014), the present study will focus on perfectionism as the main personal factor. Job control, close to the need for autonomy in the BNS, will also be used as a job resource, but that will be elaborated on later.

2.3.1.2 Environmental factors

The second category, contextual or environmental factors are more closely related to the excessive work dimension of workaholism. To start again from what Ng et al. (2007) extracted in their review, the most important factors they found were values, peer competition and behavioral reinforcement. "A value is an internalized belief about how one should behave" (Ravlin, 1995). Since values are partially genetically determined and partially acquired through personal and socialization experiences (Meglino and Ravlin, 1998; Rokeach, 1973), they could also fall into the category of personal factors. However the most important value in relation to workaholism, achievement (Schwartz, 1992) is social or environmental in nature and therefore it is categorized here. The desire for achievement according to Schwartz (1992) is the desire to be successful, capable, ambitious and influential. This value for achievement "appear to predispose individuals to

become overly focused on their own job and career attainments and therefore create a strong belief that working is one of the (or their most) important life tasks” (Ng et al., 2007, p.124).

Peer competition is another important environmental factor and constitutes observing the workaholic behavior of supervisors, mentors, and other role models such that it induces an imitative response from other employees. ”Moreover, peers’ workaholic behaviors can evoke workaholic behaviors in others because of the competitive atmosphere widespread workaholism creates” (Seybold, 1994).

The third environmental factor Ng et al. (2007) propose is behavioral reinforcement. This factor is quite close to the previous ones in that it concerns behavior, however it focuses on the organizational and social reinforcement of existing behavior instead of conforming to social standards. Reinforcement of workaholic behavior does not only come in the form of monetary rewards. Hodson (2004) observed that high-paid jobs often are preferred to low-paid jobs not only because of the pay differential, but also because of the amount of social status associated with them. Other forms of behavioral reinforcement include providing employees with comfortable and attractive offices and excellent company-level perks like on-site gyms, (free) restaurants, etc. All of these things are designed to induce individuals to stay longer in the workplace than is required or necessary (Feldman, 2002; Lewicki, 1981).

Rewarding workaholic behavior is a returning notion, Burke (2001) adds: ”Managers and professionals who put in long hours are perceived as dedicated and committed staff. Individuals working long hours are better able to compete with peers for recognition, rewards and career development opportunities.”(p.638) and ’...some [organizations] take pride in developing cultures where long hours and sacrifice are seen as requirements for success and advancement.’(p.639). This very much expresses the same as the three factors detailed above.

All these combined perceptions of an organizational culture that sets, reinforces or even idolizes high work hours can be captured with one term, *overwork climate* (Mazzetti et al., 2014). While a culture and a climate are not the same concept (Schneider, 2000), they are closely related and a climate reflects the underlying cultural values of a workplace (Ostroff et al., 2003). Ultimately an overwork climate describes the combined perception of employees on the requirements and values in their work environment. Specifically the perception that working beyond set work hours, taking work home and working during weekends or holidays are considered to be indispensable conditions for success and career advancement (Mazzetti et al., 2014).

While most of the above factors positively reinforce workaholism, negative reinforcement exists as well. Negative reinforcement can come in the form of job insecurity, work overload, limited career opportunities and lack of control, which can all compel an employee to work longer (Fassel and Schaefer, 1988). Job insecurity is high in the current working world which according to Matuska (2010) could lead to the occurrence of workaholic behavior. Much like established above for an overwork climate, the perceived need to

work hard in order to satisfy superiors can lead to workaholic behavior. Especially when an individual has personal characteristics that make him or her prone to workaholism such behavior can make them workaholics (Mazzetti et al., 2014). A lack of control has been mentioned before as part of basic needs satisfaction in paragraph 2.3.1.1 and as mentioned then will be detailed further as part of the final model.

Since an overwork climate captures most of the antecedents described above, overwork climate will be used in the present study as the main environmental antecedent. Job insecurity, or the opposite Job security will be used as part of the job demands-resources model as a job resource.

2.3.2 Consequences

As stated before there are different ways to look at the consequences of workaholism. Previous studies have already pointed out that there are findings suggesting both positive and negative outcomes (Burke and Matthiesen, 2004; Ng et al., 2007). They however have different views on the matter. Burke and Matthiesen (2004) boldly state: "Workaholism cannot have both positive and negative consequences" (p.302). They follow the thoughts of previous researchers who have suggested there are multiple types of workaholics (Scott et al., 1997; Spence and Robbins, 1992) each type having either positive or negative outcomes. They differentiate between three workaholism types, work enthusiasts, work addicts and enthusiastic addicts. Where work addicts can be seen as the classic workaholic and the other two types more along the lines of the engaged worker as mentioned before.

Ng et al. (2007) provide another view by differentiating between short term consequences and long term consequences. They have several propositions of which the final two are stated as follows: "Employee workaholism is positively associated with job satisfaction, career satisfaction, and job performance in the short run." (p.128) and "Employee workaholism is associated with poor employee health (both mental and physical), perfectionism, poor social relationships, problems at work, and poor job performance in the long run." (p.128). Interesting to note here is that they consider perfectionism as a consequence of workaholism rather than an antecedent as is done in the present study. Their propositions follow the general thought that being a workaholic initially has positive effects on performance at work and that due to exhaustion and neglect of personal time and relations eventually well-being and performance decreases.

Similar to section 2.3.1, the main consequences will be presented in two broad categories, private and professional consequences, starting out with the findings from Ng et al. (2007).

2.3.2.1 Private consequences

The first consequence that can be considered as private is poor mental health. Because workaholics are obsessed with their jobs, it leads them to constantly think about their work even when they are off the job. This creates a lack of time and opportunity to recover from their excessive work effort, causing emotional and cognitive exhaustion over time (Ng et al., 2007). This notion is confirmed by Maslach (1986), who found that workaholics by working excessively hard, drain their energy backup which leaves them mentally exhausted. This process of mental exhaustion can lead to burnout as described before in section 2.1 (Demerouti et al., 2001; Bakker and Demerouti, 2007).

Similarly workaholism can also be detrimental to one's physical health. A lack of time for leisure and exercise in this case can negatively impact health directly (by increasing blood pressure and cholesterol) or indirectly (by contributing to lower resistance to infections, increased smoking, decreased sleep, and weight gain, etc.) (Ng et al., 2007). For example a study by Kanai et al. (1996) showed that workaholics report more health complaints than non-workaholics.

As noted before Ng et al. (2007), following the work of Spence and Robbins (1992), also consider perfectionism as an outcome of workaholism. More specifically they consider the effects perfectionism has, such as non-delegation of work, high performance standards and a negative perceptions of one's own abilities and performance, as a negative outcome. While perfectionism can certainly be induced or increased, brought on by oneself or socially, it is also a personal trait (Hewitt and Flett, 1991). Therefore, in the present study it will be viewed as an antecedent for workaholism rather than a consequence as described in paragraph 2.3.1.1.

Another consequence of workaholism is poorer social relationships outside of work. Because the excessive devotion of time and energy to work, individuals have very limited resources left for personal relations (Ng et al., 2007). For example a certain type of workaholics was found to have significantly more work-family conflict than most of the non workaholics (Bonebright et al., 2000). Not only family relations suffer from workaholism, Burke (2000) also reported lower levels of friend and community satisfaction for the main workaholic type distinguished by Spence and Robbins (1992).

These factors can all be considered part of overall well-being, with a strong emphasis on the first two. Both psychological and physical well being are in fact even part of some definitions of workaholism (Burke, 2000). This indicates that workaholism is closely related to a poorer health. Taken to the extreme it could even lead to death, which in Japan is called *Karoshi*, which translates to death from overwork and has been blamed for 10% of all deaths of working men in Japan (Yates, 1988; Kanai, 2006). This study however will not look at effects that extreme but will focus mainly on overall well-being, which in it's most negative form can be burnout. Several studies have found an adverse effect of workaholism on overall health. For example Shimazu and Schaufeli (2009) found a strong relation between workaholism and general ill-health which they measured

by looking at both psychological and physical factors. Therefore in the present study well-being will be seen as one of the main consequences of workaholism

2.3.2.2 Professional consequences

The only consequence named by Ng et al. (2007) that can be categorized as professional is poor job performance, which is quite broad and as mentioned before there is much debate over the specific consequences workaholism has professionally. Not only because initially performance may increase (Burke and Matthiesen, 2004; Ng et al., 2007) but also because the effort put into their work increases a workaholic's perception that they perform well. However they work hard rather than smart and their perfectionist behavior causes a lack of delegation and friction with co-workers (Schaufeli et al., 2008a) which ultimately leads to worse performance. Scott et al. (1997) also acknowledges the problem that time is an important factor in assessing the ill effects workaholism has on performance by stating the following: "Observed consequences may depend on the stage at which one observes the workaholic behavior ... For example, workaholism may emerge over a period ranging from 5-20 years; workaholics initially could be productive and dedicated, but eventually stress and burnout could cause harmful side effects." (Scott et al., 1997, p.300) Furthermore the eventual poor job performance is often seen as a result of poor well-being or other private consequences of workaholism such as poor health and social relations. Both of which can cause distraction from work leading to poor performance.

Schaufeli et al. (2009) noted that while at the time there was little to no empirical research on the relation between workaholism and job performance, they expected that the long list of negative attitudes and behaviors resulting from workaholism interferes with job performance, thus leading to poor performance. In their study they found this to be true for medical residents who were workaholic. That group indicated that they felt they accomplished less and performed poorer medically speaking. Still, relatively few empirical research has been performed linking workaholism with negative job performance (Shimazu and Schaufeli, 2009), likely because of the reasons presented above and at the start of this chapter. Shimazu and Schaufeli (2009) however did find a negative relation between workaholism and job performance. Although it was not a very strong relation, especially in comparison to the much stronger relation with ill health they found, it shows that job performance may suffer from workaholism as well.

In a follow-up study Shimazu et al. (2012) aimed to gain more insight on the relation, especially the influence of time. They performed two measurements of workaholism and job performance with an interval of seven months, but did not find a significant relation between workaholism and a change in job performance. They say the following regarding this finding: "although the current study was based on a longitudinal design, the interval between Time 1 and Time 2 was relatively short (i.e., seven months), which may not be long enough to detect the changes in the outcome variables." (p.320). Aside from this study by Shimazu et al. (2012) no other longitudinal research on the effects of workaholism on job performance was found. This makes it difficult to make predictions

regarding the amount of time that needs to pass before job performance would start to suffer for a workaholic.

Another effect found by Molino et al. (2015) is that there is a positive relation between workaholism and the intention to change jobs. Again this intention is brought about by an exhaustion of energy, which causes a decrease in the quality of health and life. That decreased quality of health and life, similar to how it decreases performance, increases the intent to change jobs, most likely as a way to avoid stressful working situations.

Because job performance is so debated as and arguably the main professional consequence it is an interesting addition to the final research model in the present study.

2.4 Research model

Only recently the job demands-resources model has been directly linked to workaholism (Molino et al., 2015). Some previous mentions of the JD-R model in relation to workaholism (Schaufeli et al., 2009) have been made but not to the same extent. This chapter will shortly go over those previous studies and will then work towards the final research model.

2.4.1 Workaholism and the job demands-resources model

Schaufeli et al. (2009) also associated the JD-R model with workaholism by looking at several antecedents for workaholism. The JD-R model was originally developed to predict burnout among varying occupational groups. Where the specific demands and resources can be varied based on the differences between those groups (Demerouti et al., 2001). A similar thing can be done to use job demands and job resources in relation to workaholism. Since burnout and workaholism are so closely related, many of the same demands and resources can be used (Schaufeli et al., 2008b), something that will be seen while constructing the model as well.

Whereas Schaufeli et al. (2009) mostly only used the nominators job demands and job resources from the JD-R model, Molino et al. (2015) took a step further by incorporating workaholism into the JD-R model. They propose that workaholism is part of the buffer hypothesis, acting as a partial mediator between job demands on the one hand and exhaustion and work-family conflict on the other. The buffer hypothesis states that high job resources may offset the negative impact of job demands on employee well-being, including burnout (Xanthopoulou et al., 2007). Ultimately they found that job demands are positively related to workaholism and that some job resources buffer this relation. Meaning that the work environment can have an influence on workaholism and that those influences can be reduced in the presence of sufficient job resources to counter the negative effects.

The results found by Molino et al. (2015) lead to the conclusion that including workaholism in the JD-R model can render some interesting new insights into the antecedents and consequences of workaholism and possibly suggest ways to prevent negative outcomes. All of which is the main goal of this study. In the next chapter the research model for the present study will be constructed.

2.4.2 The model

The research model for this study will essentially be a combination of the model by Mazzetti et al. (2014), with their emphasis on an overwork climate, and the JD-R model by Bakker and Demerouti (2007). The main process of the model is the relation between an *overwork climate* as described in paragraph 2.3.1.2, and *workaholism* as described in section 2.2.1. This relation is moderated by *job demands* and *personality*, which reflect the two categories of antecedents described in section 2.3.1.

The job demands that will be taken into consideration are *workload*, *mental demands* and *emotional demands*. Workload is chosen as it is very closely related to workaholism (Schaufeli et al., 2009) and workaholics may even go as far as to actively create more work for themselves (Machlowitz, 1980). Mental and emotional demands are added to reflect the substance of that workload, which can either or both be mentally and emotionally demanding leading to strain or exhaustion and in this case possibly workaholism.

For personality only one factor is considered, *perfectionism*. In paragraph 2.3.1.1 this was found to be the most important personal factor that can lead to workaholism. Furthermore it is interesting to see how perfectionism interacts with an overwork climate as a perfectionist nature could strongly increase the inner drive to conform to a competitive or demanding work environment.

On the other side of workaholism are main consequences that have been identified in section 2.3.2, *well-being* and *job performance*. As stated in paragraph 2.3.2.1 well-being is the overall state of health of an employee and includes psychological and physical health with burnout as its most severe negative form. Job performance is included as well since, as stated in paragraph 2.3.2.2, there is relatively little empirical research on the link with workaholism and the effects workaholism has on it are debatable. While the influence of time seems to be an important factor in this relation, unfortunately the scope of this study does not allow for a longitudinal design. Regardless of that, job performance is still an interesting addition to the consequences of workaholism in the present study.

The relation between those two main outcomes of is moderated by *job resources*, which are expected to buffer the negative outcome such that it is less harmful. The specific resources included are *Job Security*, *social support*, *supervisory coaching* and *job control*. Job security is described in paragraph 2.3.1.2 and is included as it can help take away insecurity about one's need to work hard. Job control was mentioned before as well, as part of paragraph 2.3.1.1 and is included since higher job control may give a perception

of control over one’s work activities taking away the need to feel part of the overwork climate. Both social support and supervisory coaching are included to look at the positive effect support from colleagues or superiors has. Such support can help reduce the burden put on an individual by for example a high workload or the self-imposed strain by perfectionist behavior. Furthermore social support from both groups helps with achieving work goals and increases motivation (Bakker and Demerouti, 2007) which can be very helpful for workaholics.

The resulting model is presented in figure 2.2 and shows all the previously determined concepts and interactions.

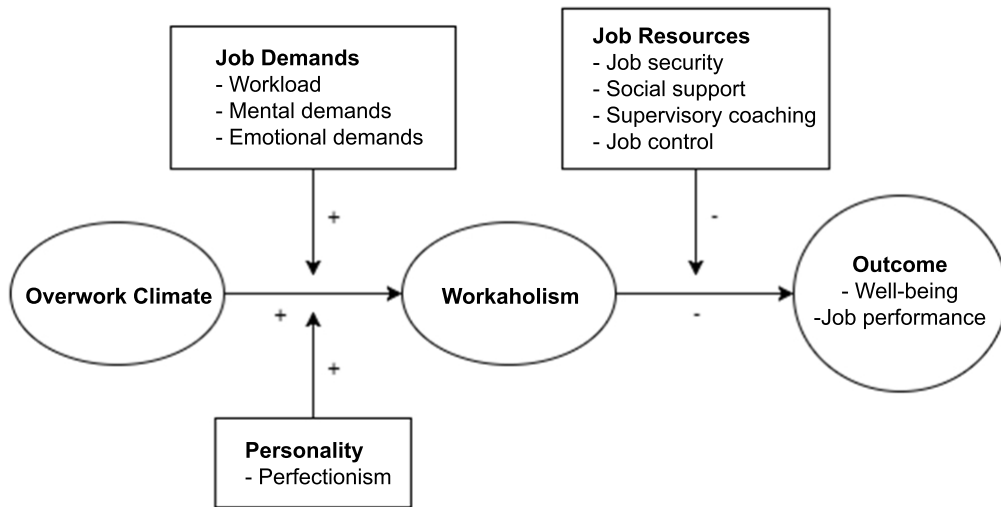


Figure 2.2: The final model to be tested.

2.4.3 Research question and hypotheses

The model presented in section 2.4.2, figure 2.2 then leads to the following main research question to be answered in this thesis:

”Is the relation between an overwork climate and a reduced well-being and job performance mediated by workaholism, and furthermore are there moderation effects by job demands, personality and job resources on these relations?”

To test the model and answer the research question the individual interactions and relations need to be tested and therefore a number of hypotheses are constructed. There are two main relations in the model, the positive effect between an overwork climate and workaholism and the expected adverse effect workaholism has on well-being and job performance. The former has already been proven by Mazzetti et al. (2014) but will

be repeated here to be able to test the expected moderating effect job demands and personality have on the relation. This leads to the following first hypothesis:

Hypothesis 1: The perception of an overwork climate is positively related to the level of workaholism of an employee.

The moderating effect job demands and personality have on above relation can then also be described in the following hypotheses:

Hypothesis 2a: A high workload strengthens the positive relation between an overwork climate and workaholism. The relation between a perceived overwork climate and workaholism is expected to be stronger for employees with a high workload than for employees with a low workload.

Hypothesis 2b: High mental demands strengthen the positive relation between an overwork climate and workaholism. The relation between a perceived overwork climate and workaholism is expected to be stronger for employees with high mental demands than for employees with low mental demands.

Hypothesis 2c: High emotional demands strengthen the positive relation between an overwork climate and workaholism. The relation between a perceived overwork climate and workaholism is expected to be stronger for employees with high emotional demands than for employees with low emotional demands.

Hypothesis 3: Perfectionism strengthens the positive relation between an overwork climate and workaholism. The relation between an overwork climate and workaholism is expected to be stronger for employees reporting higher levels of perfectionism than for employees reporting lower levels of perfectionism.

The other main relation in the model actually consists of two separate relations. Job resources moderate this relation and thus moderates both relations separately as well. First there is the negative impact workaholism can have on one's well-being. The next hypothesis describes the relation between workaholism and well being:

Hypothesis 4: Workaholism has a negative relation with well-being such that the overall well-being of an employee is expected to decrease when levels of workaholism rise.

Secondly there is the effect of workaholism on job performance, which for this study is seen as ultimately negative. In a similar way to the previous one, the following hypothesis describes the relation between workaholism and job performance:

Hypothesis 5: Workaholism has a negative relation with job performance. High levels of workaholism are expected to (ultimately) have a negative effect on job performance.

Job resources in the JD-R model act as a buffer between job demands and job strain, in the current study it similarly acts as a buffer between workaholism and the negative outcomes. Through moderation of that relation it is expected to reduce the harmful effects of workaholism on well-being and job performance. The following hypotheses describe these interactions:

Hypothesis 6a: The negative relation between workaholism and well-being is less strong for employees with high job security than for employees with low job security.

Hypothesis 6b: The negative relation between workaholism and well-being is less strong for employees with more social support from colleagues than for employees with less social support from colleagues.

Hypothesis 6c: The negative relation between workaholism and well-being is less strong for employees with more coaching and support by superiors than for employees with less coaching and support by superiors.

Hypothesis 6d: The negative relation between workaholism and well-being is less strong for employees with high job control than for employees with low job control.

Hypothesis 7a: The negative relation between workaholism and job performance is less strong for employees with high job security than for employees with low job security.

Hypothesis 7b: The negative relation between workaholism and job performance is less strong for employees with more social support from colleagues than for employees with less social support from colleagues.

Hypothesis 7c: The negative relation between workaholism and job performance is less strong for employees with more coaching and support by superiors than for employees with less coaching and support by superiors.

Hypothesis 7d: The negative relation between workaholism and job performance is less strong for employees with high job control than for employees with low job control.

In conclusion, the proposed model for the current study aims to gain new insights into workaholism and its antecedents and consequences by using the job demands-resources model as a basis. By testing above hypotheses the individual relations in the model can be either confirmed or refuted. The combined results can then be used to validate the model and answer the research question. The next chapter will describe the methodology used to be able to perform this analysis.

3 Methodology

This chapter is concerned with how the research was performed. The first section describes the data acquisition process, the construction of the questionnaire and the finding of participants. The second section lists and describes the measures used in the questionnaire. The third and last section describes the data preparation for the analysis process.

3.1 Data acquisition

To answer the research question two types of data are used, qualitative and quantitative. The qualitative part has been fulfilled with the literature review and the construction of the model based on that literature in chapter 2. While studying previous literature led to the model constructed it needs to be validated by performing new research. This is where the quantitative part of the thesis comes in. Because the model is quite elaborate, with a large number of constructs, a quantitative method is the preferred approach to test the hypotheses. To acquire the necessary quantitative data a questionnaire was designed.

The questionnaire consists of a number of measures. First nine socio-demographic measures to gather information on the participant, some general information such as gender, age and education and also more relevant information such as the number of hours they work. Secondly 12 scales that measure each of the 12 constructs from the model. These measures are taken from existing literature and previous studies to ensure psychometric validity and reliability. A comprehensive list of the measures used can be found in section 3.2. Those measures combined led to quite a long questionnaire of 122 total questions. The questionnaire was constructed and hosted as a web page on my personal website. This format was chosen, as existing ways to create an online questionnaire were deemed unsuitable for the setup of this study. This method allowed for the most flexibility and the results could easily be exported to be used in SPSS for the data analysis. The language used for the questionnaire was Dutch since the gathering of participants took place in the Netherlands, therefore most participants would speak Dutch. Currently the questionnaire is no longer available online but a complete list of questions is included with this thesis in appendix A in English.

Gathering participants to fill in the questionnaires was done through several different ways. Initially the goal was to find a company to perform the research at, to ensure a large sample group. The aim was to approach companies in specific sectors, such as accountancy and law firms, that have a high work pressure and where workaholism is expected to be prevalent. Unfortunately none of the approached companies were interested and due to time constraints a different strategy was chosen. The first step was to gather people was through a post on Facebook, which asked people to fill in the questionnaire. The reach of this post was greatly enlarged by other people sharing this post. Furthermore, family and friends were asked to distribute the questionnaire among colleagues. These methods combined led to a total of 129 filled in questionnaires of which 124 were valid. The other five were either empty, half empty or used impossible values for entries such as age or amount of hours worked per week. A further analysis of the results will take place in chapter 4.

3.2 Measures

To assess the study variables several measures were used. All of the measures are taken from previous research and have been proven to be reliable. The first section will go over the socio-demographic measures used, after that the scales to measure the constructs will be discussed. First the antecedents, overwork climate and perfectionism will be described followed by job demands, workaholism, job resources and finally the consequences, well-being and job performance. All except two of the scales used were available in Dutch, the exceptions being the scales for overwork climate and perfectionism. They were translated and then checked by multiple people, including the first supervisor, to ensure they portrayed the original questions in the right way. A full list of all questions is available in appendix A.

3.2.1 Socio-demographic measures

A total of nine socio-demographic measures are used in the questionnaire, of which four were to gather general information about the participant and five questions related to their work. Those first four questions asked for the participants gender, age, marital status and level of education. All of which can be interesting to see if there are for example any differences between age groups or differences based on gender. The other five questions asked the participants how long they have worked for their current employer, whether they work full-time or part-time, how many hours of work per week are in their contract and how many they actually work per week and finally if they have a leadership role. The answers can again give some more insight into differences per group even more so than the other four since it is highly likely that the amount of overwork is correlated to for example *overwork climate*.

3.2.2 Antecedents

Overwork Climate was assessed using a scale developed by Mazzetti et al. (2014), which includes eight items. It evaluates to what extent employees perceive their work environment to be characterized by a climate that expects them to perform overwork (i.e. working late, taking work home or working in weekends). An example item is "Management encourages overtime work". This scale is scored on a 5-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree').

Perfectionism was assessed using a scale again developed by Mazzetti et al. (2014), which includes eight items. Example items include "I am extremely meticulous" and "I'm not easily satisfied with the results of my work". The scale uses a 5-point answering format ranging from 1 ('strongly disagree') to 5 ('strongly agree').

3.2.3 Job Demands

There were three job demands included in the questionnaire for a total of 25 questions. The scales used are from the VBBA developed by Van Veldhoven and Meijman (1994) and are rated on a 5-point scale ranging from 1 ('(almost) never') to 5 ('(almost) always'). *Workload* was measured with 11 items regarding the amount of work and the work pace. Some example items are "Do you have much work to do?" and "Do you work under time pressure?". *Mental demands* was measured with 7 items with items such as "Does your work require much concentration?". *Emotional demands* was also measured with 7 items, an example item is "Is your work emotionally demanding?".

3.2.4 Workaholism

Workaholism was measured using the 10-item Dutch Workaholism Scale (DUWAS; Schaufeli et al., 2009) that includes two subscales: Working Compulsively (e.g. "I feel that there's something inside me that drives me to work hard") and Working Excessively (e.g. "I continue to work while my colleagues have already gone home"). Both subscales consist of five items and are scored using a 5-point scale ranging from 1 ('(almost) never') to 5 ('(almost) always').

3.2.5 Job Resources

Four job resources were included in the questionnaire for a total of 33 questions. The scales used are from the VBBA developed by Van Veldhoven and Meijman (1994) and are rated on a 5-point scale ranging from 1 ('(almost) never') to 5 ('(almost) always'). *Job security* was measured with four items regarding insecurity about the future of the job. An example item is "Do you have a need for more security about keeping your job for the coming year?". Scoring high on this scale indicates low job security. *Social support*

was measured with nine items and measures the relation with colleagues and support gained from them. An example item is "Can you ask your colleagues for help when you need it?". *Coaching* was measured with nine items and measures the relation with the immediate supervisor and support gained from them. An example item is "Can you ask your immediate supervisor for help when you need it?". *Job control* was measured with 11 items and measures things like workplace autonomy and influence on work pace. Example items are "Do you have influence on the planning of your work activities?" and "Can you take a short break from your work when you deem it necessary?".

3.2.6 Consequences

Well-being was assessed using three indicators similar to how it was done by Schaufeli et al. (2009). The first is Burnout, measured with three scales of the Dutch version (Schaufeli and Van Dierendonck, 2000) of the Maslach Burnout Inventory: Emotional exhaustion (five items, i.e. "At the end of the workday I feel empty"), depersonalization (four items i.e. "I doubt the usefulness of my work") and personal accomplishment (six items). The latter was however not included since it is very similar to the scale used for *job performance*. All items on these scales were scored using a 5-point measuring format ranging from 1 ('(almost) never') to 5 ('(almost) always'). High scores on emotional exhaustion and depersonalization indicate burnout. The second indicator is recovery from work and was measured with a scale on the need for recovery from the VBBA developed by Van Veldhoven and Meijman (1994). It includes 11 items that are scored on a 5-point scale with answers ranging from 1 ('(almost) never') to 5 ('(almost) always'). A high score indicates a high need for recovery after work and lower well-being. An example item is 'After a day of work I often don't get to other activities because I'm tired'. The third indicator is happiness which was tested with a single item ("Taken everything together, how happy are you with your life?"). This item is scored on a 10-item scale ranging from 0 (totally unhappy) to 10 (extremely happy).

Job Performance was measured using a scale developed by Williams and Anderson (1991). It includes two subscales to measure both *in-role* and *extra-role* performance. Examples for those are respectively "I perform the tasks that are expected of me" and "I show interest in other colleagues". Both subscales consist of four items and are scored on a 5-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree').

3.3 Data preparation

Before the data from the questionnaire detailed in the previous sections can be analyzed some preparation needs to take place. Some of the items are measured in reverse and some cases have missing values, which needs to be checked. Also the data is checked for outliers, which depending on the situation are handled appropriately.

3.3.1 Item reversal

Some of the items from the measures described in section 3.2 are scored in reverse due to the way the questions are posed. An example of this is in the measure for workload where one item is "Do you find that you are behind in your work activities" and another item is "Can you do your work with ease?". This quite clearly shows that the results from the second item need to be reversed in order to be able to calculate a meaningful average for the scale. A total of nine items needed to be reversed, all of which are indicated in appendix A.

3.3.2 Missing value analysis

Before any analysis can take place, the data needs to be checked for missing values and other abnormalities. As stated in section 3.1, five cases were discarded on sight since they were either empty, half empty or used an impossible value for age and the amount of hours worked per week. After that 124 cases remained which were then tested in SPSS with a missing value analysis. This showed another four cases where all items from a single construct were left empty, these were then also deleted. This left 120 valid cases with a total of 11 missing fields, none of the cases have more than one and there is only one variable where two values are missing. With a total number of 16,800 values in the dataset, that is a very low number. Furthermore Little's MCAR test produced a non-significant result which is an indication that all values are missing completely at random. The fact that such a low percentage of the data is missing (0.065%) and it is MCAR makes the data suitable for a single imputation method using the expectation maximization algorithm which should produce unbiased estimated values (Enders, 2001). The missing data were therefore imputed using the EM method provided in the missing values analysis in SPSS for each of the (sub)scales that had missing values separately.

3.3.3 Outliers

There are several methods to detect outliers, univariate, bivariate and multivariate (Hair et al., 2010). The first two of those methods are not necessarily suitable for the gathered dataset. Univariate outlier analysis is not expected to find any significant results for two main reasons. First, any outliers found in the socio-demographic measures are all still within a realistically possible range. Those values that were not physically possible were already removed. Second, the measures for the constructs in the model are all but one measured on a 5-point Likert scale. While it is possible to find univariate outliers on such a scale, respondents are limited in their answer by the nature of the scale and as such any answers fall within the expected range. Bivariate outlier analysis has issues as well mostly because of the large number of variables that would result in an even larger number of scatterplots, many of which would not be very relevant. Therefore multivariate outlier analysis is the preferred method. To find outliers the Mahalanobis

distance (M-D) is used. The M-D is 'a method that measures each observation's distance in multidimensional space from the mean center of all observations' (Hair et al., 2010). A case is a multivariate outlier if the probability associated with its M-D is 0.001 or less. To do this the M-D values produced by SPSS are compared to a χ^2 distribution with the same number of degrees of freedom as the number of variables used in the calculation of the M-D. This resulted in two cases with a p-value <0.001 . However since neither of these cases showed any particular oddities in the values for the variables, it was opted to not remove them.

4 Analysis and Results

This chapter will go over the production and analysis of the results. After the preparation described in section 3.3, the descriptive statistics of the data are first looked at in general to give a first global overview of the results and put them into perspective. Secondly a correlation matrix is created to see how the variables relate to each other. Finally the relations described in the model are analyzed with regressions and the direct and moderation effects from the hypotheses are tested. The last section will then shortly list the outcome for each of the hypotheses.

4.1 Descriptive statistics

The descriptive statistics give a good initial overview of the gathered data. It is not necessarily useful to validate the model but it reveals some added information that may help in explaining results found later in the analysis.

The socio-demographic measures give some insight into the sample group. Of the 120 valid cases 61.7% are male and 38.3% are female. The youngest participant was 21 years old and the oldest 68, the average age was 34.7 (SD=10.26). 59.2% of participants is either married or living together with a partner, and about a third of those people have kids. 34.2% indicated not to have a partner and none of those people have children, which leaves 6,7% of participants who said they have a different kind of living situation. Education wise, the sample group is quite highly educated with 70% of people having either a HBO or WO degree, each 35% separately. Furthermore 4.2% of people have a VWO degree, 21.7% have a HAVO or MBO degree and 3.4% have a MAVO or LBO degree. 68.3% of the participants work full-time and 30.8% work part-time. 28.3% of people indicated to have a leadership role in their job. The average time people have to work according to their contract was 35.35 hours (SD=7.00) while the average time they actually worked is 43.99 hours (SD=11.67). The average time participants work at their current employer is 7.77 years with a minimum of 1 and a maximum of 35.

The mean values, standard deviation (SD), Cronbach's alpha and number of items for each of the construct measures, including subscales, is listed in table 4.1 below. It shows that all measures have a Cronbach's alpha value over .70 which is the generally

agreed upon cutoff value for internal consistency of a multi-item scale (Hair et al., 2010). Because Cronbach's alpha can actually be increased because of a large number of items in a scale those are also listed next to it. Furthermore the reliability analysis showed that two scales had an item in them that did not correlate very well with the others. The first one is *emotional demands* (M=2.06, SD=.62, α =.757) for which the fourth item ('Do you feel personally attacked or threatened in your work') did not correlate with any of the other items. The second scale, *Social Support* (M=4.17, SD=.44, α =.709), had a similar issue where the sixth item ('Do you experience any aggressiveness from colleagues?') did not correlate with the other items. Most likely this is because of the nature of both questions and the fact that the situation they describe is rarely encountered. Thus for both of the scales those items were removed and table 4.1 shows the corrected results.

Table 4.1: Descriptive statistics of construct measures

Variable	Mean	SD	α	#
Workaholism	3.33	.66	.79	10
Workload	3.19	.58	.85	11
Mental demands	4.17	.52	.80	7
Emotional demands	2.71	.70	.81	6
Job security	3.94	1.17	.93	4
Social support	4.11	.48	.76	8
Coaching	4.18	.59	.84	9
Job control	3.69	.68	.89	11
Overwork climate	2.76	.76	.79	8
Perfectionism	3.74	.56	.76	8
Emotional exhaustion	2.64	.82	.87	5
Depersonalization	2.12	.95	.88	4
Need for recovery	2.69	.82	.91	11
Overall happiness	7.60	1.23		1
Job performance	4.24	.42	.83	8
in-role	4.39	.47	.87	4
extra-role	4.10	.51	.75	4

Note. Mean = Mean value, SD = Standard Deviation, α = Cronbach's alpha, # = Number of items in the scale

When looking at the means and standard deviations of the variables there are several things that stand out. *Mental demands* have a relatively high mean value of 4.17 with a low standard deviation which is possibly related to the on average high education level of the participants. Both *Social support* and *Coaching* also have a high mean and low standard deviation values, comparable in size to that of *Mental Demands*. It could indicate an overall good relationship with co-workers, which is not unexpected.

Job security shows a relatively high mean and a high SD of 1.17. The standard deviation is, adjusting for scale width, the highest of all measures. This indicates that, assuming

a normal distribution, about 68% of the participants has a neutral to good feeling of job security which is not surprising in the current economic climate.

The last variables that stands out in particular are *job performance* and its subscales which all have quite a high mean value. While no direct research on self-reported job performance has been performed, Parker and Kulik (1995) have noted the following: "a person's self-perceptions of performance may not correspond to others' perceptions due to self-presentation biases and/or differences in information available". Their results also showed that self-rated performance was generally higher than supervisor-rated performance, while this is no proof it could be part of the reason why the mean value for job performance in the current study is quite high.

All other values are closer to the middle of the scale with a standard deviation between .5 and 1 which is not unusual for variables measured on a 5-point likert scale. The only exception are the values for *overall happiness* which were measured on a 10-point scale and therefore has a higher standard deviation.

One more important observation is the mean value for the central variable in this study, *workaholism*, which is not very high (M=3.33). This could be an indication that the number of workaholics who participated in the study is relatively low. Only 16 of the 120 corespondents have a value for workaholism that is ≥ 4 . It is however yet unclear if this has any further implications for the results.

4.2 Correlations

To gain an initial insight into how the measured constructs are related a Pearson's correlation matrix is created. First the correlations with the socio-demographic measures will be discussed, followed by the correlations in relation to workaholism since that is the main construct in the model. This last section will present the results in a few separate matrices to increase readability, the full correlation matrix can be found in appendix B.

4.2.1 Socio-demographic Measures

As explained in section 3.2.1 the socio-demographic measures actually consist of 2 separate groups, personal information and work related information. What comes to immediate attention is that none of the measures for personal information correlate with any other measure except for other personal measures and with a person's work history (how long someone has worked at their current company). Most of these correlations are quite logical, for example *age* is significantly correlated with *history at company* with a high correlation of $r=.706$. Some other logically predictable correlations are found within the work related measures. For instance the correlation between *contract time* and *actual time* is quite high and significant with a value of $r=.688$. More interesting perhaps are some of the correlations with the construct measures. For example both of the previous

measures are significantly correlated with *job control* ($r=.303$ and $r=.396$ respectively) which would suggest an increase of job control when people work more hours. Furthermore notable, of those two measures, *actual time* is significantly correlated with *workaholism* ($r=.185$), *overwork climate* ($r=.220$), *job security* ($r=.264$), *perfectionism* ($r=.329$) and *job performance* ($r=.279$). While a variable comparing *actual time* and *contract time* would be more relevant in that respect, a quick calculation showed that *actual time* and such a variable correlated significantly with the same other variables. Therefore it was left out of the analysis. Lastly, *a leadership role* correlates significantly with *actual time* ($r=.311$), *job security* ($r=.184$), *job control* ($r=.274$) and *perfectionism* ($r=.269$), all of which can be logically explained.

4.2.2 Construct measures

The model for the current study presented in figure 2.2 can be seen as two separate sides, the antecedents and consequences of workaholism. To improve presentability this section uses that separation to discuss the correlations on each side. The correlations for the first half of the model are presented in table 4.2. As can be seen in that table most of the constructs are correlated with each other, with only two exceptions. *Workaholism* is significantly and positively correlated to all other constructs on this side of the model, which confirms a relation between them. The most interesting relation is the one with *overwork climate* ($r=.464$) as that relation was predicted in hypothesis 1: "The perception of an overwork climate is positively related to the level of workaholism of an employee". Based on the findings in this correlation analysis, the qualitative analysis in chapter 2 and previous research by Mazzetti et al. (2014) this hypothesis is hereby confirmed.

Table 4.2: Correlations for the first half of the model

Variable	1	2	3	4	5	6
1 Workaholism	-					
2 Workload	.587**	-				
3 Mental Demands	.201*	.269**	-			
4 Emotional Demands	.285**	.446**	.232*	-		
5 Overwork Climate	.464**	.269**	.001	.322**	-	
6 Perfectionism	.579**	.194*	.260**	-.027	.262**	-

Note. * $p \leq 0.05$ ** $p \leq 0.01$

Table 4.3 shows the correlations for the second half of the model with the consequences of workaholism and the four job resources that are expected to reduce the negative effects. Similar to the other half of the model most of the measures correlate with each other, and in the expected direction. *Workaholism's* correlation with the four components of well-being varies. The correlation with *emotional exhaustion* ($r=.538$) and *need for recovery* ($r=.585$) is significant and positive, and shows quite a high correlation. The

correlation with the other two components for well-being, *depersonalization* and *happiness*, however is not significant. Hypothesis 4 is formulated as follows: "Workaholism has a negative relation with well-being such that the overall well-being of an employee is expected to decrease when levels of workaholism rise." Since two components of well-being are not related to workaholism this hypothesis is not fully supported. However it does seem that higher levels of workaholism can cause increased emotional exhaustion and a need for recovery after work. Furthermore even though two components of well-being seem to be unaffected by workaholism, the other two components that are correlated with workaholism still negatively impact well-being, thus ultimately decreasing overall well-being.

The other main relation in the model, between *workaholism* and *job performance*, shows a significant positive relation ($r=.314$). This is the opposite of what was theorized in hypothesis 5 which stated: "Workaholism has a negative relation with job performance. High levels of workaholism are expected to (ultimately) have a negative effect on job performance". There are however some caveats to this hypothesis. As stated before in chapter 2 and in previous literature (Ng et al., 2007), workaholism may have a relation job performance that changes over time. First, performance is increased due to an increased devotion of resources towards work, but eventually suffers from a reduced physical and mental state. In this regard it is interesting to note the significant correlations of *job performance* with both *Depersonalization* and *Happiness* ($r=-.358$, $r=.416$ respectively). While these two components of well-being did not correlate with workaholism, they do have strong correlations with the other two components of well-being. All together that then could be seen as an indication that job performance eventually suffers from workaholism with well-being as a mediator.

Coaching and *social support* are correlated with each other quite strongly with $r=.595$. This could indicate that the work environment is often supportive from both colleagues and supervisors, which is further supported by the fact that both measures are negatively correlated with an *overwork climate* ($r=-.350$ and $r=-.225$ respectively). All four measures for job resources, *job security*, *social support*, *coaching* and *job control* are correlated significantly with all four components of well-being. All but *job security* also correlate significantly with job performance. While the goal of the current study is to find if these job resources have a moderating effect on the relations between workaholism and well-being and job performance, it is interesting to note that most of the job resources also seem to have a direct (and mostly quite strong) relations with all three of those main constructs.

Table 4.3: Correlations for the second half of the model

Variable	1	2	3	4	5	6	7	8	9	10
1 Workaholism	-									
2 Job Security	-.173	-								
3 Social Support	-.338**	.153	-							
4 Coaching	-.220*	.425**	.595**	-						
5 Job Control	-.130	.395**	.236**	.331**	-					
6 Emotional Exhaustion	.538**	-.372**	-.283**	-.332**	-.475**	-				
7 Depersonalization	.127	-.330**	-.458**	-.425**	-.338**	.545**	-			
8 Need for recovery	.585**	-.313**	-.373**	-.416**	-.347**	.811**	.442**	-		
9 Happiness	-.062	.218*	.410**	.460**	.415**	-.437**	-.575**	-.449**	-	
10 Job Performance	.314**	-.052	.335**	.207*	.345**	-.143	-.358**	-.108	.416**	-

Note. * $p \leq 0.05$ ** $p \leq 0.01$

4.3 Regression analyses

The remaining hypotheses to be tested all describe a moderating relation. Therefore a linear regression with moderating effects will be performed. To prevent issues with multicollinearity the variables used in the moderating term are mean centered before they are multiplied. The correlation analysis in section 4.2 showed that none of the socio-demographic measures correlated significantly with any of the construct measures, thus they were not included in the regression analysis as controls. Since the model has two main relations of which the last can be seen as two separate relations this section will be split into three parts. The first part will test hypotheses 2a-c and 3, the second part will test hypotheses 6a-d, and the third part will test hypotheses 7a-d.

4.3.1 Hypotheses 2a-c and 3

The main relation on which the moderating effects from hypotheses 2a-c and 3 apply is described in hypothesis 1. This direct effect of an overwork climate on workaholism was shown to be significant and positive ($r=.464$) in the previous section and was therefore confirmed. For the moderating effects a separate linear regression is performed for each of the four moderating variables, *workload*, *mental demands*, *emotional demands* and *perfectionism*. The results of these regression analyses are shown in table 4.4.

Table 4.4: Results of moderated regression analyses on workaholism

	Workaholism			
	β	Sig.	F	R^2
Hypothesis 2a			33.116	.461
Overwork Climate	.318	.000		
Workload	.481	.000		
Overwork Climate \times Workload	-.129	.066		
Hypothesis 2b			16.724	.302
Overwork Climate	.532	.000		
Mental Demands	.170	.033		
Overwork Climate \times Mental Demands	-.227	.007		
Hypothesis 2c			11.944	.236
Overwork Climate	.415	.000		
Emotional Demands	.153	.081		
Overwork Climate \times Emotional Demands	.012	.884		
Hypothesis 3			30.727	.443
Overwork Climate	.340	.000		
Perfectionism	.496	.000		
Overwork Climate \times Perfectionism	-.054	.442		

Note. β = Standardized Beta coefficient, Sig. = Significance

Hypothesis 2a suggest that *a high workload strenghtens the positive relation between an overwork climate and workaholism*. While both predictors separately are significant ($\beta=.318$ and $\beta=.481$ respectively), the interaction effect is not. This means no significant evidence is found to support the interaction, and therefore hypothesis 2a is not supported.

Hypothesis 2b is stated as follows: *High mental demands strengthen the positive relation between an overwork climate and workaholism*. The results in table 4.4 show that both the main effects and interaction effect for this regression are significant. The numbers resulting from the regression analysis however are not enough to interpret the interaction. Therefore a figure is plotted using the method described by Aiken and West (1991). Figure 4.1 gives this visual representation of the interaction effects for *overwork climate* and *mental demands* on workaholism and a simple slope analysis indicated that the slopes for low and high mental demands are both significant ($p=.000$ and $p=.019$ respectively). It shows that high mental demands weaken the relation between an overwork climate and workaholism. So much so even that lower levels of workaholism are expected with high mental demands than with low mental demands, in case of a high overwork climate. This means that hypothesis 2b is not supported.

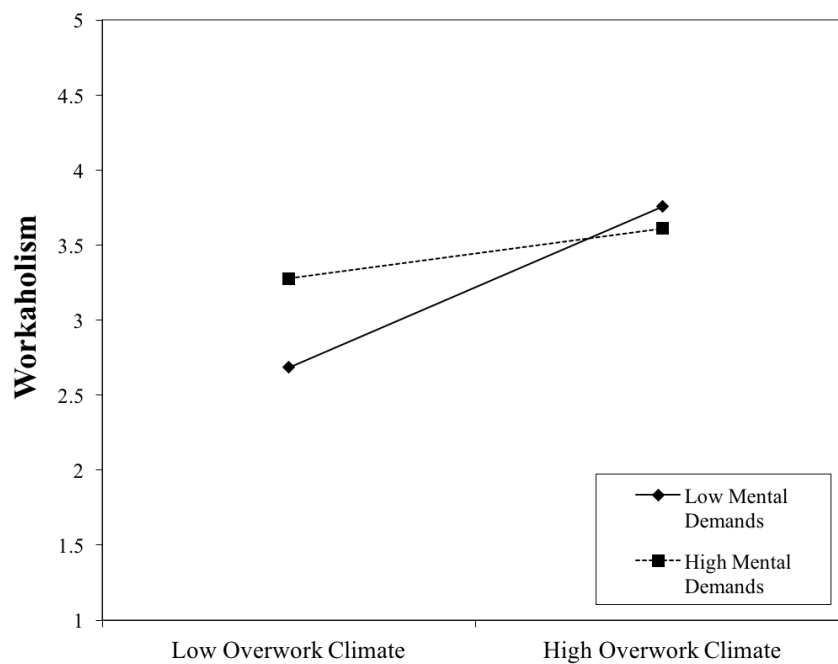


Figure 4.1: Interaction effect between overwork climate and mental demands on workaholism

Hypothesis 2c reads: *High emotional demands strengthen the positive relation between an overwork climate and workaholism*. The regression analysis for this hypothesis however

shows that one of the main effects (emotional demands) and the moderation term are not significant. Therefore it can be concluded that hypothesis 2c is not supported. There is no interaction found between emotional demands and an overwork climate.

Hypothesis 3 states: *Perfectionism strengthens the positive relation between an overwork climate and workaholism.* While in this case both main effects are significant in the regression analysis, the moderation term is not. Thus the same conclusion as for the previous hypothesis can be drawn. Unlike what was found by Mazzetti et al. (2014), this data provides no proof that perfectionist employees working in an overwork climate show higher levels of workaholism. Hypothesis 3 is not supported.

While none of the hypothesized interaction effects is supported by the data, there is another interesting observation to be made. Except for emotional demands, all of the moderators show a significant main effect on workaholism. So while they may not influence the relation between an overwork climate and workaholism, they do have a direct relation to workaholism. This observation will be further discussed in chapter 5.

4.4 Hypotheses 6a-d

Well-being consists of four separate measures, emotional exhaustion, depersonalization, need for recovery and overall happiness. While these measures are all part of overall well-being they are quite different in nature, and more importantly their relation with workaholism is different as well. This was shown in the correlation analysis, where only two of the four measures correlated with workaholism which also meant hypothesis 4 was not fully supported. Therefore hypotheses 6a-d will be tested by performing regression analyses for each of the components separately. The aggregate of those results will be shortly discussed at the end of this section and more elaborately in chapter 5.

4.4.1 Emotional exhaustion

As can be seen in the model (figure 2.2) there are four variables that are expected to have a moderating effect on the relation between workaholism and well-being. According to the hypotheses all of the interactions are expected to weaken the negative relation between workaholism and either of the components of well-being, such that the outcome is less negative. The results of the regression analysis with moderation effects of these four job resources, *job security*, *social support*, *coaching* and *job control*, on the relation between *workaholism* and *emotional exhaustion* can be found in table 4.5.

Table 4.5: Results of moderated regression analyses on emotional exhaustion

	Emotional Exhaustion			
	β	Sig.	F	R^2
Hypothesis 6a			24.053	.384
Workaholism	.445	.000		
Job Security	-.321	.000		
Workaholism \times Job Security	.126	.114		
Hypothesis 6b			16.687	.301
Workaholism	.500	.000		
Social Support	-.114	.173		
Workaholism \times Social Support	-.003	.972		
Hypothesis 6c			21.437	.357
Workaholism	.480	.000		
Coaching	-.250	.002		
Workaholism \times Coaching	.141	.066		
Hypothesis 6d			36.581	.486
Workaholism	.501	.000		
Job Control	-.456	.000		
Workaholism \times Job Control	.178	.011		

Note. β = Standardized Beta coefficient, Sig. = Significance

The first interaction, between *workaholism* and *job security* is shown to not be significant. While both main effects separately are significantly related to emotional exhaustion, the interaction term is not. The second interaction, between *workaholism* and *social support* is also shown not to be significant. Both the main effect of *social support* and the interaction term in the regression analysis have significance values well above the p-value of 0.05. The third interaction similar to the first has two significant main effects but a non-significant interaction term. Therefore the interaction between *workaholism* and *coaching* on *emotional exhaustion* is not found.

The results for the fourth interaction, between *workaholism* and *job control*, show that both the main effects and interaction term are significant. Figure 4.2 is plotted to be able to interpret the results of the regression analysis. A simple slope analysis indicated that both slopes are significant (low JC: $p=.013$, high JC: $p=.000$). It shows that the interaction effect between workaholism and job control is not as expected. With high levels of job control, the relation between workaholism and emotional exhaustion becomes stronger. The overall levels of emotional exhaustion are still lower for high job control however they increase faster when the level of workaholism rises.

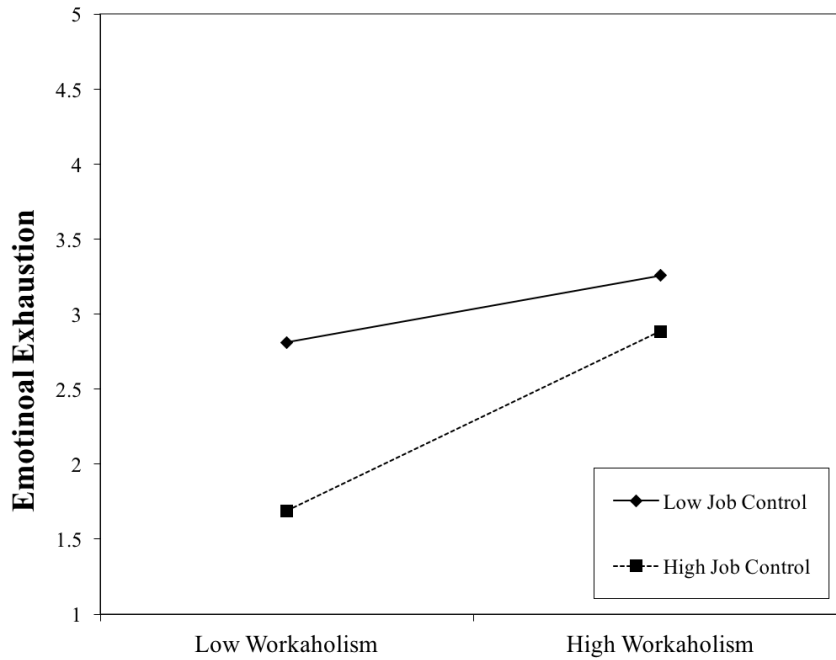


Figure 4.2: Interaction effect between workaholism and job control on emotional exhaustion

4.4.2 Depersonalization

The second component of well-being is *depersonalization*, table 4.6 shows the results of the regression analyses performed with this component as the dependent variable. A first glance shows that in none of the analyses, the main relation with *workaholism* is shown to be significant. This is in accordance with the results found in the correlation analysis in section 4.2, where workaholism was not found to be correlated to depersonalization. While that is the case, the interaction of the four job resources with workaholism can still be relevant.

The interaction term of *workaholism* and *job security* is shown to be significant in the first regression analysis. Figure 4.3 shows this interaction's effects with two significant slopes. Some unexpected results are found, the main relation seems to actually reverse when levels of job security go up. Overall, the levels of depersonalization are lower for higher job security, however with low levels of job security, depersonalization decreases when workaholism increases whereas with high levels of job security, depersonalization increases when workaholism increases.

Table 4.6: Results of moderated regression analyses on depersonalization

	Depersonalization			
	β	Sig.	F	R^2
Hypothesis 6a			12.504	.244
Workaholism	-.062	.476		
Job Security	-.421	.000		
Workaholism \times Job Security	.393	.000		
Hypothesis 6b			10.614	.215
Workaholism	-.050	.579		
Social Support	-.479	.000		
Workaholism \times Social Support	.072	.401		
Hypothesis 6c			12.056	.238
Workaholism	.020	.808		
Coaching	-.462	.000		
Workaholism \times Coaching	.240	.004		
Hypothesis 6d			5.888	.132
Workaholism	.094	.283		
Job Control	-.354	.000		
Workaholism \times Job Control	.110	.224		

Note. β = Standardized Beta coefficient, Sig. = Significance

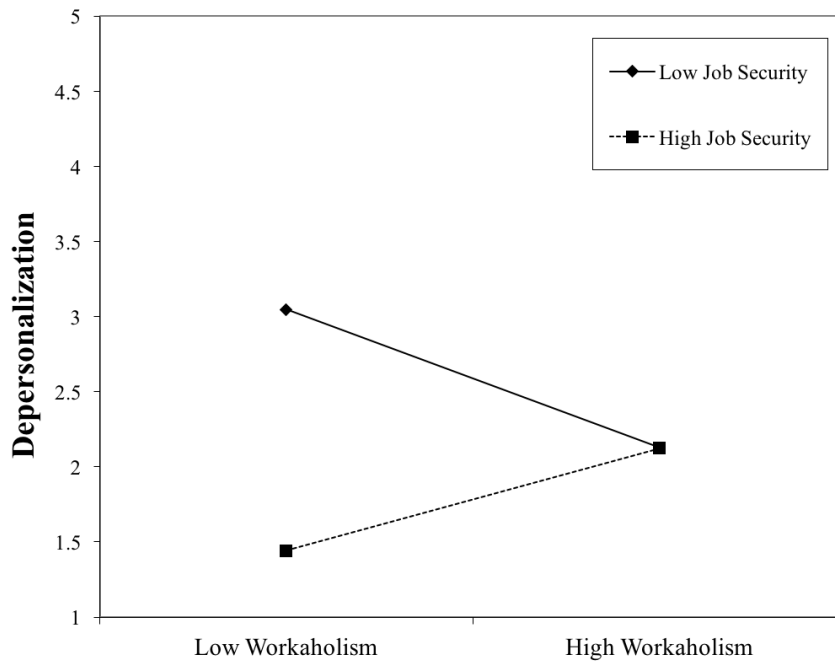


Figure 4.3: Interaction effect between workaholism and job security on depersonalization

Both the second and fourth interaction between *workaholism* and *social support*, and *job control* respectively have an interaction term which is not significant. This shows that neither of these interactions exist within this data.

The third interaction, between *workaholism* and *coaching*, however is shown to be significant. The interpretation of this interaction can be found in figure 4.4 showing the same situation as for *job security*. However in this case the slope for low coaching was found to be non-significant in the simple slope analysis ($p=.069$), meaning that there is no significant relation between workaholism and depersonalization in a situation with low levels of coaching. When levels of coaching by superiors are high however there is a significant relation ($p=.025$) such that depersonalization increases when workaholism does.

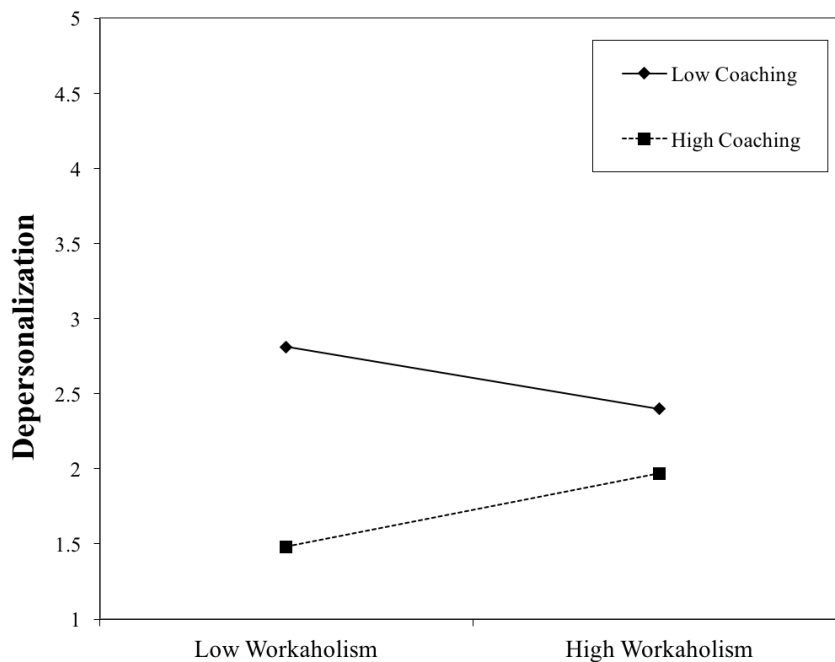


Figure 4.4: Interaction effect between workaholism and coaching on depersonalization

4.4.3 Need for recovery

The third component of well-being is the need for recovery after a day at work. Table 4.7 shows the results of the regression analyses for the moderation effects of the four job resources on the relation between *workaholism* and *need for recovery*. For all interactions the main terms are significant, which is a reflection of what was already found in the correlation analysis. The first three interactions all have a non-significant interaction term, indicating that the interaction effects were not found in the current dataset.

Table 4.7: Results of moderated regression analyses on need for recovery

	Need for recovery			
	β	Sig.	F	R^2
Hypothesis 6a			25.995	.402
Workaholism	.504	.000		
Job Security	-.252	.001		
Workaholism \times Job Security	.126	.108		
Hypothesis 6b			23.847	.381
Workaholism	.536	.000		
Social Support	-.188	.018		
Workaholism \times Social Support	.070	.357		
Hypothesis 6c			30.858	.444
Workaholism	.511	.000		
Coaching	-.325	.000		
Workaholism \times Coaching	.125	.078		
Hypothesis 6d			31.397	.448
Workaholism	.566	.000		
Job Control	-.321	.000		
Workaholism \times Job Control	.185	.011		

Note. β = Standardized Beta coefficient, Sig. = Significance

The fourth regression analysis for *need for recovery* shows that the interaction term between *workaholism* and *job control* is significant. The interpretation of this result is plotted in figure 4.5 with both slopes significant (low JC: $p=.001$, high JC: $p=.000$). Again an unexpected result is found where, while overall levels of the need for recovery are lower with high job control, the relation is not weakened as expected but actually strengthened. The increased need for recovery with high workaholism increases faster for high levels of job control than for low levels of job control.

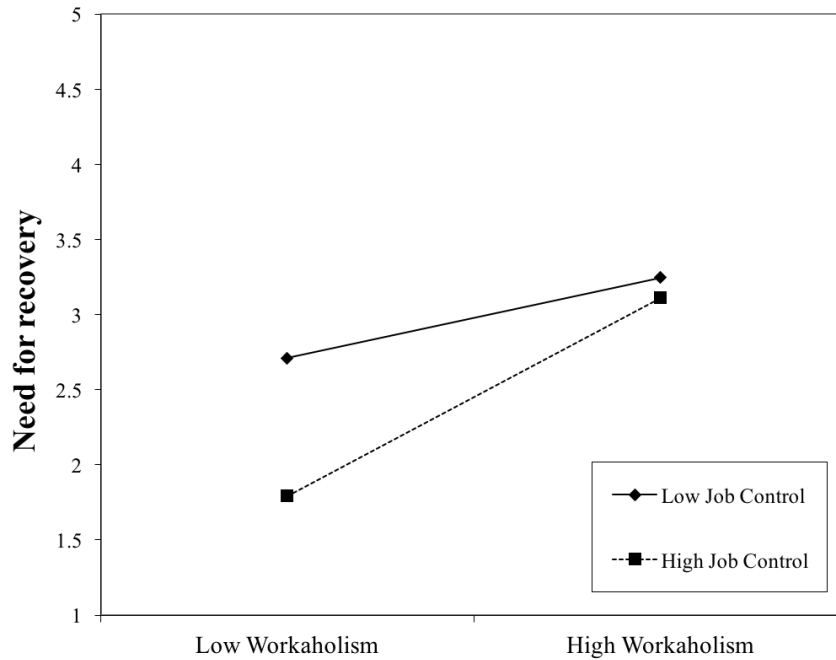


Figure 4.5: Interaction effect between workaholism and job control on need for recovery

4.4.4 Happiness

The fourth and final component of well-being is overall happiness. The regression analyses performed for happiness can be found in table 4.8. Like depersonalization, happiness was not found to be significantly correlated with workaholism in section 4.2. This is shown in table 4.8 again, where in none of the regressions the main effect of workaholism is found to be significant. While all four of the job resources are found to be significant as main effects, three of the interaction terms are not. The interaction term between *workaholism* and *social support*, *coaching*, and *job control* respectively is not found to be significant, thus there is no support for the moderating effect that was expected.

The results of the regression analysis with the first of the job resources, job security, however does show a significant interaction term between *workaholism* and *job security*. Therefore the effect is plotted in figure 4.6. A simple slope analysis showed that the slope for high job security is non-significant. This leaves the unexpected result that when job security is low, an increase in the level of workaholism is related to an increase in happiness. When job security is high, no significant relation between workaholism and happiness is found.

Table 4.8: Results of moderated regression analyses on happiness

	Happiness			
	β	Sig.	F	R^2
Hypothesis 6a			4.591	.106
Workaholism	.064	.498		
Job Security	.283	.003		
Workaholism \times Job Security	-.262	.007		
Hypothesis 6b			8.188	.175
Workaholism	.087	.348		
Social Support	.440	.000		
Workaholism \times Social Support	-.003	.968		
Hypothesis 6c			10.583	.215
Workaholism	.044	.605		
Coaching	.477	.000		
Workaholism \times Coaching	-.043	.610		
Hypothesis 6d			8.051	.172
Workaholism	-.010	.912		
Job Control	.417	.000		
Workaholism \times Job Control	-.014	.870		

Note. β = Standardized Beta coefficient, Sig. = Significance

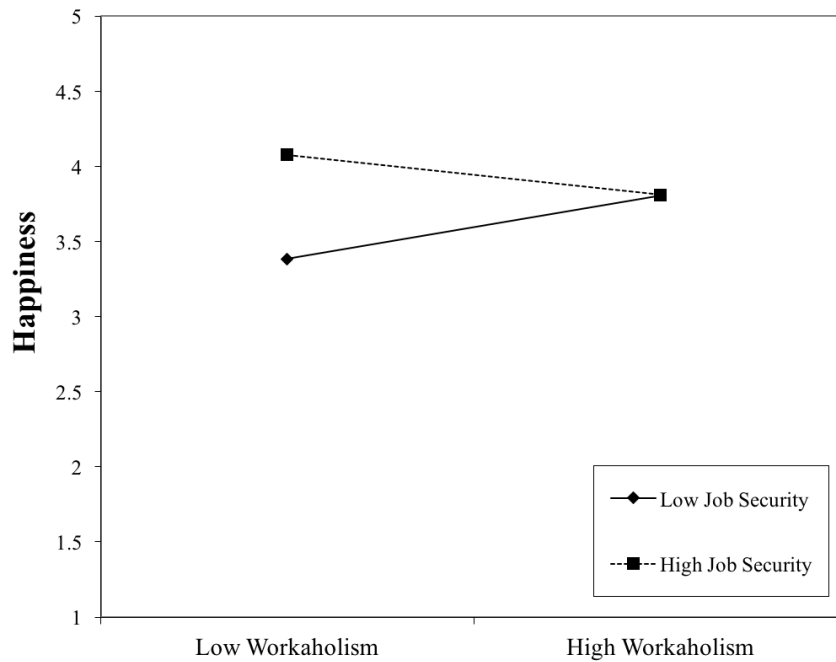


Figure 4.6: Interaction effect between workaholism and job security on happiness

4.4.5 Hypotheses

Since well-being is not a single construct but consist of multiple components, the analysis was done for each of them separately. Now that the results of these analyses are known the hypotheses can be tested.

Hypothesis 6a stated that: *"The negative relation between workaholism and well-being is less strong for employees with high job security than for employees with low job security."*. Two instances were found where the interaction of workaholism and job security was significant. In neither case were the hypothesized effect found, meaning hypothesis 6a is rejected.

Hypthesis 6b stated the following: *"The negative relation between workaholism and well-being is less strong for employees with more social support from colleagues than for employees with less social support from colleagues."*. No significant interaction was found between social support and workaholism for any of the four components. Thus hypothesis 6b is not supported.

Hypothesis 6c reads: *"The negative relation between workaholism and well-being is less strong for employees with more coaching and support by superiors than for employees with less coaching and support by superiors."*. The interaction of workaholism and coaching for the relation between workaholism and depersonalization was the only significant interaction found. The results of that interaction however were such that no support for hypothesis 6c was found.

Hypothesis 6d states: *"The negative relation between workaholism and well-being is less strong for employees with high job control than for employees with low job control."*. A significant interaction between workaholism and job control was found for the relation between workaholism and both emotional exhaustion and need for recovery. Neither of those interactions however, supported hypothesis 6d.

Similar to the previous section, the main effects of the supposed moderators on the components of well-being was in most cases significant and often quite strong. So while none of the hypothesized interaction effects were found, another interesting (direct) effect seems to show from these results.

4.5 Hypotheses 7a-d

The main relation between workaholism and job performance described in hypothesis 5 was not supported by the data, as found in section 4.2. Since hypotheses 7a-d are formulated such that they follow from hypothesis 5 this by extension means that none of them can actually be supported as such. While the direction of the main relation is not as expected, it is also not unexpected. The regression analyses are therefore still performed to test if the interaction effects are found, and if so in what way the variables

interact. The results of the regression analysis with moderating effects from the four job resources on the relation between workaholism and job performance are presented in table 4.9.

Table 4.9: Results of regression analysis with moderation effects

	Job Performance			
	β	Sig.	F	R^2
Hypothesis 7a			4.596	.106
Workaholism	.347	.000		
Job Security	.294	.769		
Workaholism \times Job Security	-.094	.328		
Hypothesis 7b			21.432	.357
Workaholism	.536	.000		
Social Support	.528	.000		
Workaholism \times Social Support	-.203	.010		
Hypothesis 7c			10.292	.210
Workaholism	.389	.000		
Coaching	.323	.000		
Workaholism \times Coaching	-.180	.034		
Hypothesis 7d			13.964	.265
Workaholism	.354	.000		
Job Control	.424	.000		
Workaholism \times Job Control	-.126	.131		

Note. β = Standardized Beta coefficient, Sig. = Significance

The first hypothesis, 7a is formulated as follows: *The negative relation between workaholism and job performance is less strong for employees with high job security than for employees with low job security.* Table 4.9 shows that one of the main effects, job security, and the interaction term are both not significant. This indicates that job security does not moderate the effect of workaholism on job performance. Therefore hypothesis 7a is also not partially supported.

The second hypothesis, 7b states: *The negative relation between workaholism and job performance is less strong for employees with more social support from colleagues than for employees with less social support from colleagues.* The regression results show that both main effects and the interaction term are significant, thus the interaction effect is plotted in figure 4.7. A simple slope analysis indicated that both slopes are significant (low: $p=.000$, high: $p=.022$). It shows that the positive relation between workaholism and job performance is actually slightly less strong for higher levels of social support. Important to note here however is the fact that job performance levels overall are quite high. Since for both the main effect and the moderation effect described in hypothesis 7b the reverse is found, the hypothesis is rejected.

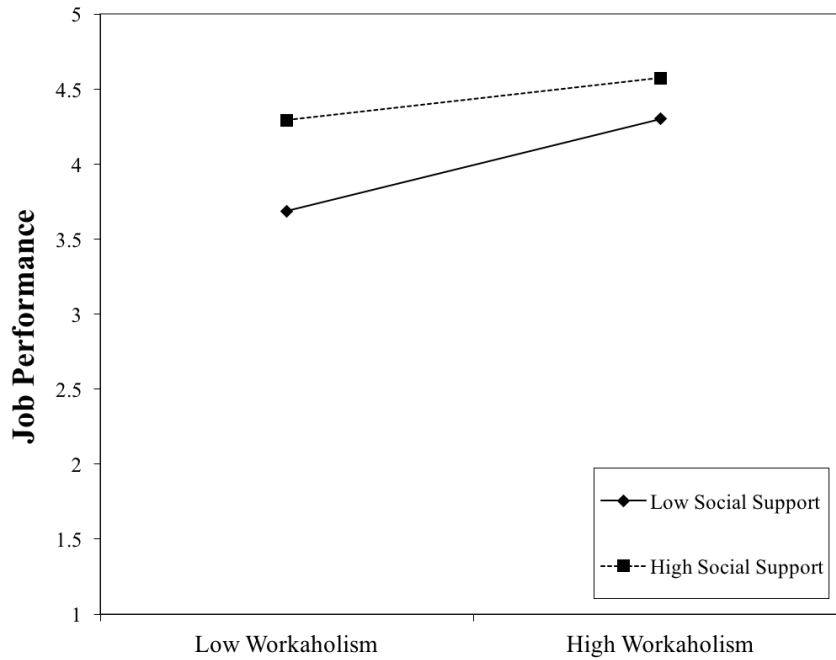


Figure 4.7: Interaction effect between workaholism and social support on job performance

The third hypothesis, 7c reads: *The negative relation between workaholism and job performance is less strong for employees with more coaching and support by superiors than for employees with less coaching and support by superiors.* Again, both main effects and the interaction effect are significant in the regression results indicating that the interaction exists. Figure 4.8 shows a similar results as what was seen for the previous hypothesis. However in this case the slope for high coaching is non-significant ($p=.074$). This means that the only conclusion to be drawn from this figure is the result that in situations with low levels of coaching ($p=.000$), there is a positive relation between workaholism and job performance. This relation was also found without taking into account coaching, so this is not very unexpected. Hypothesis 7c is however not supported with this outcome.

The final hypothesis 7d says: *The negative relation between workaholism and job performance is less strong for employees with high job control than for employees with low job control.* While both main effects separately have a significant effect on job performance, the interaction does not. Since both the main effect and moderating effect described in hypothesis 7d are not found, this hypothesis is not supported.

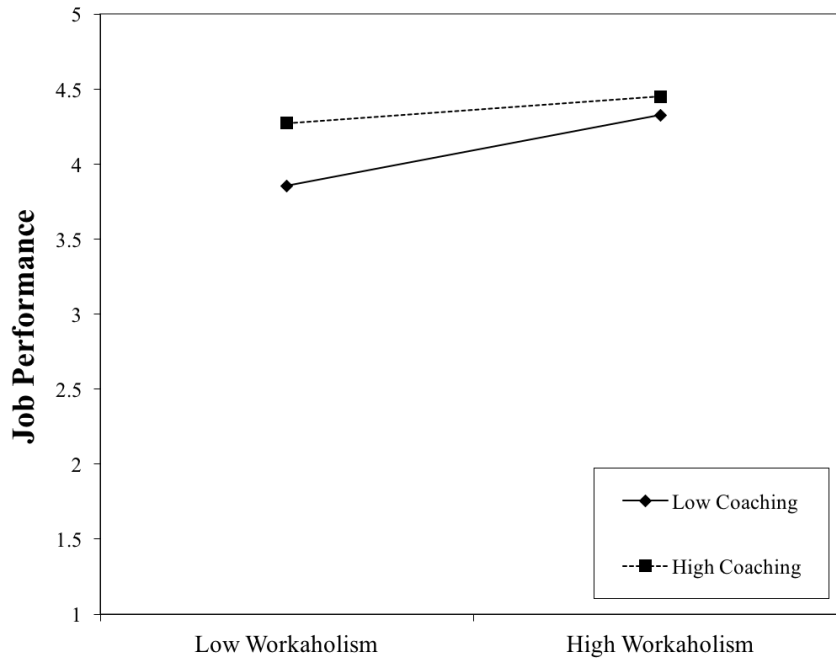


Figure 4.8: Interaction effect between workaholism and coaching on job performance

Again, three of the four regression analyses showed significant and strong main effects for the variables that were entered as moderator. Chapter 5 will go over these findings in more detail.

4.6 Overview of results

Since there are relatively many hypotheses and even more analyses performed to test them, this section will give a tabulated view of the results gained in this chapter. Table 4.10 shows the hypotheses with the respective methods used to test them and the results of those tests. It also shows how many of the interactions or relations were found, particularly interesting for hypotheses 5 and 6a-d.

Table 4.10: Overview of the hypotheses, the used method, how many of the interactions or relations were found and if the hypothesis is supported by the results

Hypothesis	Method	Interaction/relation found	Supported
H1	Correlation	-	Yes
H2a	Regression	0/1	No
H2b	Regression	1/1	No
H2c	Regression	0/1	No
H3	Regression	0/1	No
H4	Correlation	2/4	Yes
H5	Correlation	-	No
H6a	Regression	2/4	No
H6b	Regression	0/4	No
H6c	Regression	1/4	No
H6d	Regression	2/4	No
H7a	Regression	0/1	No
H7b	Regression	1/1	No
H7c	Regression	1/1	No
H7d	Regression	0/1	No

5 Discussion

A changing workplace, where overwork has become more commonplace, requires more insight into the effects that come with it. One of those effects might be workaholism, a construct that is just starting to get more attention academically. What causes someone to become workaholic and what are the effects on their well-being and job performance? Building on the study of Mazzetti et al. (2014) on overwork climate and the job demands-resources model by Bakker and Demerouti (2007) a model was constructed in chapter 2 to help gain more insight. The model is described summarily in the main research question that is ultimately to be answered in the current study, it is repeated here:

”Is the relation between an overwork climate and a reduced well-being and job performance mediated by workaholism, and furthermore are there moderation effects by job demands, personality and job resources on these relations?”

This chapter will discuss the results and information gathered in the course of this study. The results of the previous chapter will be further elaborated on and interpreted taking in account the previous literature discussed in chapter 2. Furthermore, the limitations and implications of these results will be presented along with recommendations for further research. Finally a short conclusion is formulated.

5.1 Results

A total of 120 valid questionnaires were used to test if the relations that were hypothesized in the model are found. As shown table 4.10, two of the hypotheses were supported and the rest rejected. The first hypothesis, describing the relation between an overwork climate and workaholism, is one of the confirmed ones. As previously tested and confirmed by Mazzetti et al. (2014), an employees perception of an overwork climate is positively related to higher levels of workaholism. In the current study a strong correlation ($r=.464$) was found supporting the relation between these two constructs. Therefore it is safe to say that the first hypothesis is supported. A further expectation included in the model (figure 2.2) was the moderation effect on this relation by the three job

demands, workload, mental demands and emotional demands, and a personality trait, perfectionism. All of these were previously theorized to be antecedents of workaholism as discussed in section 2.3.1. Furthermore like the relation between an overwork climate and workaholism, perfectionism had already been tested as a moderator on that same relation by Mazzetti et al. (2014). The correlation analysis proved that all four of the hypothesized moderators had a significant and positive relation with workaholism, confirming the basis for which to include them in the model. The predicted moderation effects they would have on the relation between an overwork climate and workaholism however were not found in the regression analyses.

Only one of the four interaction effects was found to be significant, the interaction between mental demands and an overwork climate, which is shown in figure 4.1. It is however a very different result than what was expected. Separately both an overwork climate and mental demands have a positive relation with workaholism, which could already be concluded from the correlation analysis, but this figure shows it more visually. The figure however also shows that the relation between an overwork climate and workaholism is much stronger in case of low mental demands than with high mental demands. This suggests that in case of a perceived overwork climate, introducing high mental demands actually decreases the level of workaholism. Since both constructs serve as antecedents for workaholism, it was not expected that a combination of the two would actually cause a decreased level of workaholism. An explanation for this could be that higher mental demands do not necessarily require one to simply work harder or more but rather to be engaged more with the job. In that light it is also interesting to note that mental demands had the weakest correlation with workaholism of the five antecedents included in the study.

All three of the other interactions with an overwork climate, workload, emotional demands and perfectionism respectively, resulted in non-significant interaction terms in the regression analysis. Especially the latter was surprising, seeing as the research of Mazzetti et al. (2014) did in fact find an interaction between the two. A possible explanation could be that the overall levels of workaholism in the study are not very high overall ($M=3.33$), and as stated in section 4.1 only 16 of the 120 correspondents had a value for workaholism of four or higher. This is not conclusively causing a lack of these interaction effects but it may play a role. Furthermore, a high workload and perfectionism in particular could be considered to already be part of what constitutes an overwork climate, limiting the interaction effect. Overall, it can be concluded that all four antecedents of workaholism included in this study are shown to indeed be positively related to workaholism. Even though no interaction between an overwork climate and any of the other antecedents was found, the main (direct) relation with workaholism was actually found.

On the other side of the model (figure 2.2) there are two other main relations between workaholism and well-being and job performance respectively. The analysis of the relation between workaholism and well-being is the more elaborate of the two. Since well-being was measured with four separate measures, an analysis was done for each of

them separately. The main relation between workaholism and well-being, described in hypothesis 4, was expected to be negative, such that higher levels of workaholism cause a reduced well-being. The correlation analysis showed that this could only be proven for two of the four components of well-being, emotional exhaustion and the need for recovery. Both of these showed quite a high correlation ($r=.538$ and $r=.585$ respectively) which indicates that workaholics are likely to be emotionally exhausted and have a high need for recovery after work. This is in line with what was found in the literature, for example Ng et al. (2007) stated that workaholics devote excessive amounts of time and energy to work leaving very limited resources for other activities and personal relations. The found correlations with emotional exhaustion and need for recovery adhere closely to this theory. For the other two components of well-being however, no correlation was found with workaholism. This could be due to the nature of those two constructs, depersonalization and overall happiness, both of which can be argued to be more of a long term and indirect unhealthy result of workaholism rather than a direct one. The idea being that depersonalization and a decrease in happiness develop in a later stage and perhaps through other suffering aspects of well-being. Their strong correlations with either of the other components of well-being support that idea. Also, while the expected relation is not found, neither is a relation opposite from what was expected. Thus overall workaholism is found to have a negative impact on well-being, supporting hypothesis 4.

The last main relation found in the model, is the one between workaholism and job performance. The correlation analysis in section 4.2 showed that this relation is the opposite of what was predicted in hypothesis 5. Workaholism seems to have a positive relation ($r=.314$) with job performance. While different from what was expected in the hypotheses, the result is not totally unexpected. As discussed in paragraph 2.3.2.2 there is evidence that job performance initially increases for workaholics (e.g. Burke and Matthiesen, 2004; Ng et al., 2007). However it eventually suffers from a reduced physical and mental state. This is where the correlation of job performance with depersonalization and happiness becomes interesting ($r=-.358$, $r=.416$ respectively). One could argue this is an indication that job performance eventually decreases due to workaholism through a decline in well-being. While the correlations provide some evidence for this theory, it is definitely not enough. A longitudinal study could provide more conclusive evidence to support this. Unfortunately there is little information available on the long term effects of workaholism. The only indication about a time frame is by Shimazu et al. (2012), who, bases on their results, say that even seven months may not be long enough. Thus for now, with the results of the current study, hypothesis 5 is rejected.

Similar to how there were four moderating effects predicted for the first main relation in the model, there are also four moderating variables included for the two main relations that were just discussed. Those four variables are the job resources, job security, social support, coaching and job control. Hypotheses 6a-d describe the moderating effect these job resources are expected to have on the relation between workaholism and well-being. These interaction effects were tested in section 4.4 with regression analyses for each of the four job resources and each of the four components of well-being. The results of

these regression analyses will be discussed below for each of the job resources separately.

The first interaction, between workaholism and job security was found to be significant for two of the four components of well-being. The first one is for the interaction effect on depersonalization, which is shown in figure 4.3. It shows an unexpected result, where with low job security, depersonalization decreases when levels of workaholism increase. Instead of a stronger relation between workaholism and depersonalization, a decreased job security actually reverses the relation. An important sidenote here however, is that workaholism was not correlated with depersonalization. So the interpretation of this result is difficult and future research can perhaps shed more light on the situation. The other significant interaction between workaholism and job security was found for happiness. Figure 4.6 shows this interaction, which is very similar to the previous one with converging slopes. In this case however the slope for high job security was found to be non-significant, meaning that when job security is high, no significant relation was found between happiness and workaholism. Since no comparison can be made between high and low job security the hypothesis cannot be tested. Nonetheless an unexpected result was found for cases with low job security, where an increase in workaholism is related to an increase in happiness. As discussed for the positive relation between workaholism and job performance, it could be the case that a decrease in happiness is a more long term effect. In case of low job security therefore, workaholism could act as a distraction, initially taking away some worry over someone's job security and thus increasing happiness. Again, further research is required to gain more clarity on this relation and the interactions involved.

The second job resource is social support from colleagues and is described in hypothesis 6b. During the regression analyses, none of the interaction terms with workaholism was found to be significant for any of the components of well-being. Therefore this hypothesis was rejected. While social support correlated quite strongly with all four of the components of well-being, such that it would have a more healthy outcome, it also correlated strongly in a negative way with workaholism. This could indicate that when workaholism is high there is often a perceived lack of social support. Therefore causing the extremes of the interaction to be very rare and not captured by the data in the current study.

Coaching from a supervisor, the third job resource, resulted in one significant interaction with workaholism, on the level of depersonalization. The results here are similar to what was discussed for job security in that one of the slopes was found to be non-significant. This again means the hypothesis, which in this case predicted a weakened relation between workaholism and depersonalization when job security is higher cannot be tested. The result that in situations where job security is high, a positive relation between workaholism and depersonalization is found is in line with the overall expectation that workaholism decreases well-being. Interesting though is that that relation between workaholism and depersonalization was actually not found when looking at the direct relation with no moderators. Furthermore, the expectation was that a high job security would weaken this relation, making this an odd result which is difficult to explain.

The fourth and final job resource is job control, which showed a significant interaction with workaholism for both emotional exhaustion and the need for recovery (figures 4.2 and 4.5). The results for both are similar to the extent that they do not confirm the expected results from the hypotheses and the angles on the slopes are comparable. They show that with increased job control, emotional exhaustion and the need for recovery are lower overall. However what was unexpected is that the relation between workaholism and either of the two components of well-being is actually stronger in that case. It seems that even though job control has a positive effect, mostly when levels of workaholism are low, the negative effect of workaholism is stronger.

These four job resources were used again in the analysis of the moderation effects on the third main relation in the model between workaholism and job performance. As stated earlier, because hypothesis 5 is rejected, hypotheses 7a-d by their definition cannot be true either. However the effect they describe is still interesting to research and the interactions of the four job resources with workaholism and their effect on job performance will still be discussed.

The results of the regression analyses in table 4.8 show that the interactions for both job security and job control are not significant. The correlation analysis already showed that neither of these job resources is correlated with workaholism, which could be the cause of the lack of an interaction. The other two job resources, social support and coaching, do have a significant interaction with workaholism and the effects of these interactions are presented in figures 4.7 and 4.8 respectively. For the latter however the slope for high levels of coaching was found to be non-significant in a simple slope analysis. This leaves the slope for low levels of coaching, which shows a similar positive relation as was found between workaholism and job performance without any moderators. The other figure, for the interaction between social support and workaholism, shows that a higher level of social support increases the overall job performance, with a slightly higher increase when levels of workaholism are low. The hypothesis for this moderator stated that it was expected that it would weaken the negative effect of workaholism on job performance. Since workaholism seems to have a positive effect on job performance, the translation for this hypothesis could be that it strengthens that relation instead. This however is also not found. A reason for this could be that overall levels of job performance are already very high, dampening the effects of social support. For example, when the slope for high social support would be made parallel to the slope for low social support, the value of job performance with high workaholism would be around 4.9 which is already very close to perfect job performance. To have a significantly strengthened relation it would likely have to go over the maximum value of 5, which is obviously not possible. Therefore it could be acting as a limiting factor on these relations.

Lastly, as has been noted throughout chapter 4, while none of the hypothesized interactions were found, the main effects of the moderators were in most cases significant and often quite strong. This is further supported with the correlations shown in tables 4.2 and 4.3. All three of the job demands and perfectionism correlate significantly with workaholism showing that while they may not strengthen the relation between an

overwork climate, they do have a direct and positive relation with workaholism. The other side of the model shows a similar situation, where all four job resources correlate significantly with all four components of well-being and in an expected direction. Furthermore three of the job demands also correlate significantly with job performance. As said, these results are not unexpected. They were not included in the model as such, but were all chosen based on existing literature that described similar relations. Therefore it is encouraging to see these relations confirmed by the data in this study.

5.2 Updated model

With the gathered knowledge in this chapter and the previous, an updated version of the model for workaholism is presented in figure 5.1 below.

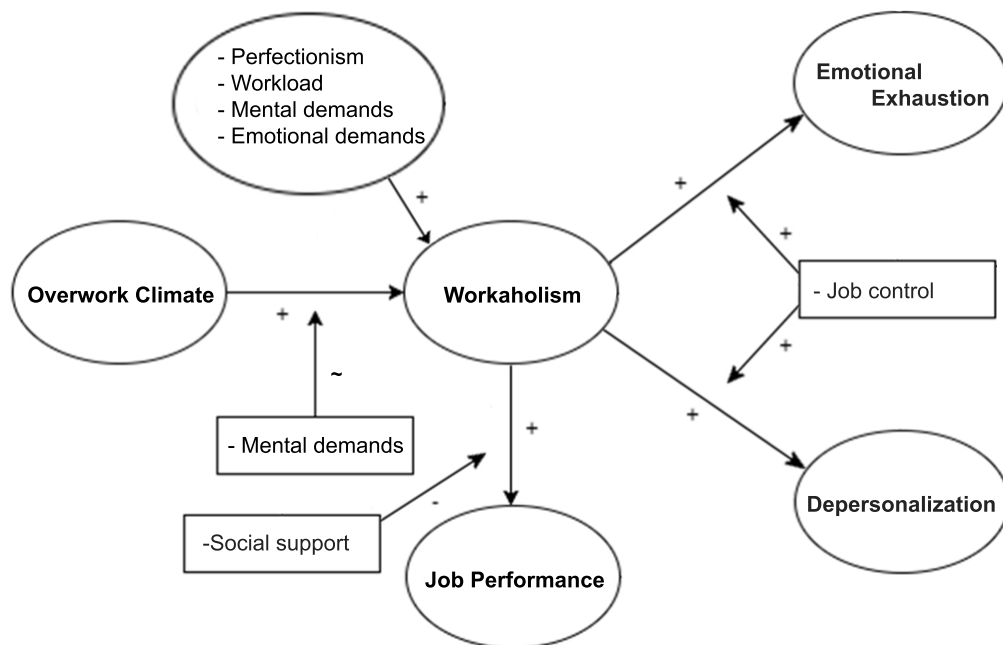


Figure 5.1: Adjusted model with results found in the analysis

The left side shows the positive relation between an overwork climate and workaholism, which is moderated by mental demands. It also shows the main effects of the four job demands on workaholism. Below workaholism is the relation with job performance, which was found to be positive and is moderated negatively by social support. On the right side are two positive relations with emotional exhaustion and need for recovery respectively. Both of which are moderated positively by job control.

Since workaholism was not directly related to depersonalization and happiness, those components were left out of the model. Also the direct effects of the job resources on the possible outcomes of workaholism were left out as they are separate effects.

5.3 Limitations

As every study, this study has some limitations. First, something that has been mentioned several times throughout this report, the gathered data is cross-sectional. This is most specifically relevant for the relation between workaholism and job performance where time seems to play an important role. Research using a longitudinal design could shed more light on this relation for which very little information is available as of yet. Furthermore in a longitudinal study, there could be more certainty about causality between constructs. The current study can draw some of these conclusions only because of existing literature. A suitable time interval is difficult to determine, Shimazu et al. (2012) suggested that even seven months may not be long enough. Based on just that information, one could start with a study over the course of two years with a measurement interval of one year. Optionally it could then be extended based on the information gathered.

Second, the data used is gathered by self-reported questionnaires, which is prone to common method variance, which can influence the results (Podsakoff et al., 2003). Possible future research could use more objective data or peer reports to try and prevent these possible issues. For example, instead of self-reported job performance, supervisor-reported job performance could be used. It is still not perfect but arguably less biased.

Third, the questionnaire was quite long, many participants indicated this and while no exact data is available, this feedback indicated that many participants did not finish the questionnaire because of this. This may have also possibly interfered with the reliability of measures at the end of the questionnaire. It is recommended that future research has a more focused design to limit the length of time a participant has to devote to the research.

Fourth, something that was provided as feedback on the questionnaire numerous times as well, this study only covers employees. Several people could not fill in the questionnaire due to the nature of the questions following from this fact. This choice was made mainly because of the inclusion of job resources for which the measures are almost all focused on participants that work as an employee. Further research could include self-employed participants, especially considering the common conception that those people tend to work long hours and often have to be always available for the job.

Fifth most participants were gathered within the researchers network and in were often well informed on the purpose and extent of the study. This means there is a possible bias from the participants to provide 'helpful' data. Moreover the sample group consisted of mostly younger people, which were highly educated and who did not always have a long

work history. As was the initial goal for the current study, future studies could try to focus on sample groups which are more likely to have workaholics.

Sixth, while sufficient the sample size was relatively low (N=120). A larger sample size could result in more robust data. Also a limited amount of the population is in fact workaholic, a larger sample size would capture more of them increasing the applicability of the results.

Finally cultural differences can play an important role in how a work environment is perceived. The present study took place in the Netherlands, which has a vastly different work culture than for example Japan, which was mentioned in regards to 'karoshi' or death by overwork.

5.4 Theoretical implications

Since few of the hypothesized relations or moderating effects were actually found in the data, the theoretical implications are limited. While that is the case, this study does provide some interesting subjects that could be further explored in future research. For now the following conclusions can be made.

First of all the positive relation between an overwork climate and workaholism as studied by Mazzetti et al. (2014) has been confirmed in this study. The moderating effect of perfectionism, they had found as well, was however not found in this study. A moderating effect of mental demands on this relation was found, which was quite interesting in that it actually seemed to weaken the relation between an overwork climate and workaholism. Further research is needed here to confirm this unexpected effect and explain why it works this way.

Secondly workaholism was found to be positively related to emotional exhaustion and a need for recovery after work. This adds to the research by Maslach (1986) who already found a relation with mental exhaustion. The notion that workaholism has negative effects on well-being both physical and psychological (Ng et al., 2007) seems to have been confirmed.

Thirdly, workaholism seemed to have an positive relation with job performance. On the other hand the data showed that job performance was negatively related to well-being, indicating that while initially job performance increases it can decrease once a deteriorated health becomes more predominant. Numerous previous studies (e.g. Schaufeli et al., 2008b; Burke and Matthiesen, 2004; Ng et al., 2007) have debated how this relation actually works and this study provides some more insights into it. However these results are only scratching the surface of what is actually happening and future research is required to definitively describe this relation.

Lastly, while not shown to moderate the main relations in the model, the job demands and resources were almost all found to be significantly related to workaholism and well-

being/job performance respectively. This further confirms the basis for which they were included in the model in the first place. All of the included variables are shown to be relevant in the understanding of workaholism and its antecedents and consequences.

5.5 Practical implications

Similar to the previous section, the practical implications are limited. Nonetheless there are some and further research, perhaps based on the results gathered now, can only expand it.

With a changing economy and working environment (Molino et al., 2015; Jones et al., 2006) a change is required in the communication about what is expected of employees. As confirmed in this study, a perceived overwork climate can contribute to workaholism. More clearly defining what is required of an employee and how much time they should spend at work could be helpful, especially when someone works from home it is easy sacrifice personal time.

While workaholism may seem to increase job performance initially, companies need to be aware of the fact that it also affects health. This is a scale that will eventually tip to the wrong side possibly resulting in high cost, not only for the employee. Exhaustion and a lack of the necessary recovery should be observed in an early stage to prevent such outcomes and look at the underlying reasons, perhaps an overwork climate.

5.6 Conclusion

The goal of this study was to find out more about the antecedents and consequences of workaholism. Two of the main relations between an overwork climate and workaholism and between workaholism and well-being were confirmed. Moreover, while not the goal of this study, a direct positive relation with workaholism was found for all four of the job demands included in this study. The third main relation, between workaholism and job performance, was shown to be positive in this cross-sectional study as well. There is however reason to believe that results may differ in a longitudinal study.

Overall the results of this study have indeed given some new insights into the antecedents and consequences and furthermore provide enough ground for further research.

6 References

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Appendices

A List of Questions

Where possible the original English version or an existing English translation of the measure is used, however a few questions were only available in Dutch so in that case it was translated as accurately as possible.

To prepare the data for analysis, some of the items need to be reversed, which items these are is indicated in the list below.

General

1. What is your gender?
2. What is your age?
3. What is your marital status?
4. What is your highest finished level of education?
5. How long have you worked for your current employer?
6. Do you work full time or part time?
7. How many hours of work per week are listed in your contract?
8. How many hours do you actually work per week (including overtime)?
9. Do you have a leadership role in your position?

Workaholism

10. I seem to be in a hurry and racing against the clock
11. I find myself continuing to work after my coworkers have called it quits
12. It's important to me to work hard even when I don't enjoy what I'm doing
13. I stay busy and keep many irons in the fire
14. I feel that there's something inside me that drives me to work hard

15. I spend more time working than on socializing with friends, on hobbies, or on leisure activities
16. I feel obliged to work hard, even when it's not enjoyable
17. I find myself doing two or three things at one time, such as eating lunch and writing a memo while talking on the telephone
18. I feel guilty when I take time off work
19. It is hard for me to relax when I'm not working

Workload

Workload items 6 and 8 need to be reversed during analysis, they are indicated with an asterisk below.

20. Do you have to work very fast?
21. Do you have too much work to do?
22. Do you have to work extra hard in order to complete something?
23. Do you work under time pressure?
24. Do you have to hurry?
25. Can you do your work with ease? *
26. Do you find that you are behind in your work activities?
27. Do you find that you do not have enough work? *
28. Do you have problems with the work pace?
29. Do you have problems with the work pressure?
30. Would you prefer a calmer work pace?

Mental demands

31. Does your work demand a lot of concentration?
32. Do you have to work with a lot of precision?
33. Do you have to be attentive to many things at the same time?
34. Does your work require continual thought?
35. Do you have to give continuous attention to your work?

36. Do you have to remember many things in your work?
37. Does your work require a great deal of carefulness?

Emotional demands

38. Does your work demand a lot from you emotionally?
39. Are you confronted with things that affect you personally in your work?
40. Do others call on you personally in your work?
41. Do you feel personally attacked or threatened in your work?
42. Do you have contact with difficult clients or patients in your work?
43. In your work, do you have to be able to convince or persuade people?
44. Does your work put you in emotionally upsetting situations?

Job Security

45. Do you need more certainty that you will still be working in one year's time?
46. Do you need more certainty that you will keep your current job in the next year?
47. Do you need more certainty that next year you will keep your current function level?
48. Do you need more certainty that your current department/company will still be in existence in one year's time?

Social support

Social support items 4, 6 and 9 need to be reversed during analysis, they are indicated with an asterisk below.

49. Can you count on your colleagues when you encounter difficulties in your work?
50. If necessary, can you ask your colleagues for help?
51. Do you get on well with your colleagues?
52. Do you have conflicts with your colleagues? *
53. In your work, do you feel appreciated by your colleagues?
54. Do you experience any aggressiveness from colleagues? *

- 55. Are your colleagues friendly towards you?
- 56. Is there a good atmosphere between you and your colleagues?
- 57. Have there been any unpleasant occurrences between you and your colleagues? *

Coaching

Coaching items 4, 6 and 9 need to be reversed during analysis, they are indicated with an asterisk below.

- 58. Can you count on your superior when you come across difficulties in your work?
- 59. If necessary, can you ask your superior for help?
- 60. Do you get on well with your superior?
- 61. Do you have conflicts with your superior? *
- 62. In your work, do you feel appreciated by your superior?
- 63. Do you experience any aggressiveness from your superior? *
- 64. Is your superior friendly towards you?
- 65. Is there a good atmosphere between you and your superior?
- 66. Have there been any unpleasant occurrences between you and your superior? *

Job Control

- 67. Do you have freedom in carrying out your work activities?
- 68. Do you have influence in the planning of your work activities?
- 69. Do you have an influence on the pace of work?
- 70. Can you decide how your work is executed on your own?
- 71. Can you interrupt your work for a short time if you find it necessary to do so?
- 72. Can you decide the order in which you carry out your work on your own?
- 73. Can you participate in the decision about when something must be completed?
- 74. Can you personally decide how much time you need for a specific activity?
- 75. Do you resolve problems arising in your work yourself?
- 76. Can you organise your work yourself?

77. Can you decide on the content of your work activities yourself?

Overwork Climate

- 78. Performing overwork is important to be promoted
- 79. It is considered normal to work on weekends
- 80. Most employees work beyond their official work hours
- 81. It is considered normal for employees to take their work home
- 82. Almost everybody expects employees to perform unpaid overtime work
- 83. It is difficult to take a day off or paid holidays
- 84. Management encourages overtime work
- 85. Working overtime is appreciated by management

Perfectionism

- 86. I am extremely meticulous
- 87. I hate sloppy colleagues
- 88. I often proofread the final versions of my colleagues' work
- 89. My suggestions must be applied exactly as I say
- 90. In your work, you should also pay attention to detail
- 91. I strive to do my work perfectly
- 92. Sometimes, I do my work too well
- 93. I'm not easily satisfied with the results of my work.

Emotional exhaustion

- 94. I feel mentally drained by my work
- 95. I feel empty at the end of a work day
- 96. I feel tired when I get up in the morning and have to face another day at work
- 97. I feel 'burned out' by my work

98. A full day of work is a heavy burden on me

Depersonalization

1. I doubt the usefulness of my work
2. I have noticed I distanced myself too much from my work
3. I have become more cynical about my work
4. I am not as enthusiastic about my work as I used to be

Need for recovery *Need for recovery item 4 needs to be reversed during analysis, it is indicated with an asterisk below.*

1. I find it difficult to relax at the end of a working day
2. By the end of the working day, I feel really worn out
3. Because of my job, at the end of the working day I feel rather exhausted
4. After the evening meal, I generally feel fit *
5. In general, I only start to feel relaxed on the second non-working day
6. I find it difficult to concentrate in my free time after work
7. I cannot really show much interest in other people when I have just come home myself
8. Generally, I need more than an hour before I feel completely recuperated after work
9. When I get home from work, I need to be left in peace for a while
10. After a day's work, I often feel so tired that I cannot get involved in other activities
11. During the last part of the working day, a feeling of tiredness prevents me from doing my work as well as I normally would

Overall happiness

12. Taken everything together, how happy are you with your life?

Job Performance

13. I perform my duties adequately

14. I take on the responsibilities belonging to my job
15. I perform the tasks that are expected of me
16. I fit the formal requirements of my job
17. I help out colleagues who suffer from a high workload
18. I take the time to listen to problems and worries of my colleagues
19. I show interest in my colleagues
20. I pass on information to my colleagues

B Correlation matrix

The following pages show the full correlation matrix for the measured variables. Because of its size and to retain readability it is split into two pages.

Table B.1: Correlation matrix for all measured variables. Table is continued on following page in table B.2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Gender	-													
2 Age	-.117	-												
3 Education	.076	-.198*	-											
4 Marital	-.133	-.245**	-.095	-										
5 History	-.075	.706**	-.263**	-.270**	-									
6 Contract Type	.178	.078	.037	-.103	.037	-								
7 Contract Time	-.124	-.033	.031	-.013	-.018	-.733**	-							
8 Actual Time	-.141	-.121	-.067	-.045	-.085	-.645**	.688**	-						
9 Leadership Role	-.153	.005	-.113	.025	-.018	-.154	.174	.311**	-					
10 Workaholism	-.049	-.053	.051	.001	-.109	-.049	.033	.185*	.222*	-				
11 Workload	.050	.116	.084	.050	.053	.200*	.013	-.021	.162	.587**	-			
12 Mental Demands	-.004	.023	-.037	-.030	.006	.054	.060	.180*	.109	.201*	.269**	-		
13 Emotional Demands	.147	.020	.033	-.112	-.004	.200*	-.060	-.030	-.047	.285**	.446**	.232*	-	
14 Job Security	-.112	-.005	.021	-.030	-.052	-.104	.016	.264**	.184*	-.173	-.367**	-.119	-.252**	-
15 Social Support	-.020	.016	-.155	.110	.052	.117	-.205*	-.105	-.006	-.338**	-.222*	.202*	-.215*	.153
16 Coaching	-.031	.041	-.069	-.072	.055	-.016	-.097	-.011	.070	-.220*	-.248**	.219*	-.109	.425**
17 Job Control	-.113	-.094	-.119	.099	-.067	-.372**	.303**	.396**	.274**	-.130	-.379**	.101	-.175	.395**
18 Overwork Climate	.025	-.160	.141	-.025	-.205*	-.088	-.038	.220*	.146	.464**	.269**	.001	.322**	.035
19 Perfectionism	-.105	.037	-.007	-.085	-.005	-.064	.092	.329**	.269**	.579**	.194*	.260**	-.027	.086
20 Well-Being	.025	-.032	.003	-.061	-.048	.134	.026	-.072	-.132	.527**	.480**	.020	.247**	-.379**
21 Emotional Exhaustion	.019	.037	-.005	-.066	.000	.163	.023	-.077	-.105	.538**	.548**	.154	.238**	-.372**
22 Depersonalization	.007	-.008	.016	-.060	.044	.094	-.003	-.145	-.121	.127	.245**	-.181*	-.003	-.330**
23 Recovery	.024	-.065	-.008	-.047	-.099	.101	.033	-.016	-.113	.585**	.440**	.052	.305**	-.313**
24 Happiness	-.092	.035	-.107	.003	.013	-.145	-.021	.132	.145	-.062	-.224*	.158	-.057	-.218*
25 Job Performance	-.042	.026	-.011	.088	-.092	-.041	.055	.279**	.151	.314**	.231*	.410**	.207*	-.052
26 inrole	.017	.029	.015	.102	-.062	-.209*	.164	.349**	.114	.370**	.241**	.340**	.110	.017
27 extrarole	-.084	.017	-.031	.050	-.093	.124	-.060	.137	.142	.176	.157	.360**	.239**	-.100

Note. $N=120$, * $p \leq 0.05$ ** $p \leq 0.01$

Table B.2: Continued from table B.1

	15	16	17	18	19	20	21	22	23	24	25	26	27
1 Gender													
2 Age													
3 Education													
4 Marital													
5 History													
6 Contract Type													
7 Contract Time													
8 Actual Time													
9 Leadership Role													
10 Workaholism													
11 Workload													
12 Mental Demands													
13 Emotional Demands													
14 Job Security													
15 Social Support	-												
16 Coaching	.595**	-											
17 Job Control	.236**	.331**	-										
18 Overwork Climate	-.350**	-.225*	-.136	-									
19 Perfectionism	-.262**	-.169	.121	.262**	-								
20 Well-Being	-.430**	-.462**	-.436**	.173	.299**	-							
21 Emotional Exhaustion	-.283**	-.332**	-.475**	.090	.272**	.907**	-						
22 Depersonalization	-.458**	-.425**	-.338**	.066	.081	.684**	.545**	-					
23 Recovery	-.373**	-.416**	-.347**	.220*	.344**	.943**	.811**	.442**	-				
24 Happiness	.410**	.460**	.415**	-.028	-.035	-.570**	-.437**	-.575**	-.449**	-			
25 Job Performance	.335**	.207*	.345**	.205*	.299**	-.209*	-.143	-.358**	-.108	.416**	-		
26 inrole	.132	.085	.340**	.287**	.417**	-.096	-.054	-.227*	-.024	.253**	.839**	-	
27 extrarole	.426**	.260**	.254**	.073	.108	-.254**	-.183*	-.378**	-.154	.449**	.869**	.459**	-

Note. $N=120$, * $p \leq 0.05$ ** $p \leq 0.01$