Alma Mater Studiorum – Università di Bologna

Dottorato di Ricerca in Scienze Psicologiche

XXVI Ciclo

Settore Concorsuale di afferenza 11/E3

Settore Scientifico Disciplinare M-PSI/06

OBSESSED WITH WORK:

A multi-causal and multi-rater approach to workaholism

Tesi di Dottorato di

Greta Mazzetti

Tutor

Chiar.ma Prof.ssa Dina Guglielmi

Coordinatore di Dottorato

Chiar.mo Prof. Maurizio Codispoti

Anno 2014

Contents

CHAPTER 1

General Introduction

1.1 Introduction

Current data on European workers suggest a widespread occurrence of overtime work across several occupational sectors. In 2010, 11% of the European workforce worked 48 hours or more per week (Eurofound, 2013). According to this data, this tendency was particularly pervasive among men (20%) and was more consistent for specific occupations such as machine operators and assemblers (25%), and legislators, senior officials, and managers (26%).

Moreover, about 50% of workers with long working hours frequently worked in their free time (Eurofound, 2013). Indeed, technological advancements extend the amount of time dedicated to work by allowing employees to be highly productive outside the office and outside conventional working hours. Several technological items, such as mobile phones, laptops, and BlackBerry devices, make it simple to work anywhere at any time, thereby affecting the location of the boundaries between "home" and "work" (Towers, Duxbury, Higgins, & Thomas, 2006). As pointed out by several authors, recent developments in technology combined with the growing employ of flexible work have gradually blurred the boundaries between work and personal life (Duxbury & Smart, 2011).

All in all, current changes primarily due to the global economic scenario and the constant improvement of technology have increased the levels of competition, prompting organizations to reward employees who are willing to work hard and put all their effort into their careers (Blair-Loy & Jacobs, 2003).

Under these circumstances, a conceptual challenge arises regarding a deeper understanding of those employees who work excessive hours because they experience a compulsive inner drive to work, namely workaholic employees.

CHAPTER 1

1.2 Toward a definition of workaholism

The original conceptualization of workaholism comes from Oates (1971), who defined it as an uncontrollable need to work incessantly with consequences that may constitute a danger to workers' health, personal happiness, interpersonal relations, and social functioning. He emphasizes its closeness to the well-known addictive disorder of alcoholism: the alcoholic neglects other aspects of life in favor of indulging in alcohol (Armor, Polich, & Stambul, 1978). The workaholic displays the same behavior for an excessive indulgence in work (Farrar, 1992; Rhoades, 1977).

Along with this development in the conceptualization of workaholism, several authors have tried to identify specific types of workaholics. Arguably one of the most prominent and famous classifications is the Spence and Robbins (1992) workaholic triad, which identifies *work involvement* (WI), which they associate with long working hours; *drive* (D), an addictive drive to work under internal pressure; and *work enjoyment* (WE) as the key components of the construct. According to Spence and Robbins' conceptualization, these dimensions are employed to define three types of workaholics: real workaholics, work enthusiasts, and enthusiast workaholics. These scholars contrast a *real workaholic*, characterized by high levels of work involvement and drive combined with low levels of work enjoyment with a *work enthusiast*, who presents high levels of involvement and enjoyment combined with low scores for drive. Finally, those individuals who have high scores in all three components represent *enthusiastic workaholics*. According to this taxonomy, "real work addicts" are described as employees who work long hours, i.e., work involvement, and who experience a strong inner compulsion to work, i.e., drive (Spence & Robbins, 1992).

Subsequently, Scott, Moore, and Miceli (1997) conducted an extensive review of workaholism literature and concluded that workaholism is grounded in three specific elements: discretionary time spent in work activities; persistently and frequently thinking about work when not at work; and working beyond organizational or economic requirements. Once again, the behavioral feature referring to the extreme work hours spent dedicated to work-related matters blends with the compulsive attitude that originates and fosters this behavior.

A similar perspective is shared by Ng, Sorensen, and Feldman (2007), who conducted a systematic workaholism literature review and proposed an integrative

definition of workaholism involving three core overarching dimensions: affect, cognition, and behavior. The affective dimension of the construct refers to joy in working and a sense of guilt and anxiety when not working, the cognitive dimension reflects an obsession with working, and the behavioral dimension implies working long hours and the excessive intrusion of work into personal life. Consequently, the authors defined workaholics as those who enjoy the act of working, who are obsessed with work, and who devote long hours and personal time to this activity. On the whole, these definitions of workaholism emphasize two distinguishing features of workaholics: they invest an excessive amount of time and energy into work because of an irresistible drive.

Accordingly, Schaufeli, Taris, and Bakker (2008) proposed two core dimensions underlying this condition: the inclination to work excessively (*working excessively*) and in a compulsive manner (*working compulsively*). 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, implying that workaholics are obsessed with their work and persistently think about work, even when they are not working. Therefore, the current thesis is based on a definition of workaholism as a negative psychological state characterized by working excessively due essentially to an internal drive that cannot be resisted (Salanova, Del Líbano, Llorens, Schaufeli, & Fidalgo, 2008).

During the last decade the academic literature provided substantial empirical support for a clear discrimination between workaholism and an opposite kind of heavy work investment, that is work engagement. In contrast to workaholism, work engagement refers to a positive form of dedication to one's job; it is a positive and fulfilling state of mind characterized by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). To be specific, vigor entails high levels of persistence, energy, and mental resilience while working; dedication refers to a sense of strong psychological identification and enthusiasm with one's job; and absorption involves full concentration on and engrossment in one's work to the extent that individuals have difficulties in detaching from their jobs. Although a partial overlap

between these conditions can be easily recognized since both of them are characterized by the tendency to exhibit high levels of commitment and involvement to the job, these notions entail two different forms of working hard: workaholism is conceived as a "bad" type, whereas work engagement represents a "good" type (Shimazu & Schaufeli, 2009).

The main difference between workaholism and engagement entails the underlying motivational dynamics involved. Engaged employees are primarily intrinsically motivated, so they enjoy their work and are satisfied by it; in contrast, workaholic employees are primary driven by internalized standards of self-worth and social approval (Van Beek, Taris, & Schaufeli, 2011; Van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). Moreover, the opposite nature of these conditions is confirmed by the reverse association with outcomes pertaining to the work domain, life outside work (i.e., extra job activities and social relationships), and several indicators of individual health and well-being. To be specific, workaholism has a detrimental impact on all these life spheres, whereas work engagement is related to a wide range of positive outcomes within all these domains (Schaufeli, Taris, & Bakker, 2006).

Finally, although confirmative factor-analytic studies showed that the absorption dimension of work engagement loads on workaholism, psychometric studies corroborate the hypothesis of a clear distinction between these constructs and indicate that they can be measured independently of each other (Schaufeli, Shimazu, & Taris, 2009; Schaufeli, Taris, & Van Rhenen, 2008).

1.3 Theoretical background and thesis purposes

1.3.1 Individual and organizational antecedents of workaholism

Recent perspectives on workaholism suggest that this addiction to work may originate from the joint impact of person characteristics and environmental factors. McMillan and colleagues (2003) carried out a valuable attempt to answers the call for a theoretically based approach to the study of workaholism. The authors reviewed and applied five theoretical perspectives to the concept of workaholism: addiction theory, learning theory, trait-based paradigms, cognitive theory, and family systems models.

Each perspective provides its own set of predictions concerning the development, stability, and changeability of workaholism; however, none of them has been tested to assess their usefulness. Nevertheless, the authors conclude that two theoretical perspectives are particularly worthwhile: trait-based theory, which has received broad empirical support, and learning theory, which offers the most convincing scientific utility. Trait-based theory recognizes workaholism as a stable behavioral pattern that is dispositional in nature; it first appears in late adolescence and is exacerbated by environmental stimuli. On the other hand, learning theory is characterized by generality, parsimony, and pragmatism and presents a practicable basis for explaining workaholism. As a result, a combination of trait and learning theories provides the most promising potential for future research and practical application (McMillan et al., 2003). Hence, workaholism seems to be most adequately explained as a personal trait that is activated and then maintained by environmental factors.

In a similar vein, Ng and colleagues (2007) developed a theoretical model that involves three types of antecedents that determine workaholism: a range of dispositional traits, socio-cultural experiences, and behavioral reinforcements in the environment. Consequently, they suggest that people become workaholics because they possess certain personality traits, their social or cultural experiences facilitate workaholism, and their workaholic behaviors are reinforced repeatedly. From a trait-based perspective, self-esteem, achievement-related traits, and achievement-related values are identified as person characteristics that play a major role in generating workaholism. In addition, this model proposes that socio-cultural factors related to the family context can precipitate workaholism. For instance, a dysfunctional childhood and family experiences are conceived as factor able to foster workaholism. Finally, Ng et al. (2007) believe workaholism is encouraged by specific characteristics pertaining to the work environment. In other words, they suggest that workaholism is particularly prevalent in those organizational settings characterized by a masculine culture that encourages employees to be extremely competitive, power-hungry, task-oriented, and fearful of failure.

Using this definition of the construct, Liang and Chu (2009) developed a model aimed at explaining the interactions between different factors that determine a predisposition to workaholism. They propose three major antecedents of workaholism:

personality traits, personal inducements, and organizational inducements. From an individual perspective, personality traits (i.e., obsessive compulsion, achievement orientation, perfectionism, and conscientiousness) and personal inducements (i.e., intrinsic work values and vicarious learning in the family) constitute the catalyzing elements that mold workaholics. In contrast, organizational inducements are constituted by a variety of drivers that push an individual toward becoming a workaholic or help accelerate workaholism, such as an environment that encourages putting work before family. Taken together, these models suggest that person characteristics predispose employees to becoming workaholics. At the same time, they assign a crucial role to those organizational environments that prompt or oblige employees to work hard; these organizations facilitate the manifestation of workaholism.

Although several studies have explored the role of personality traits and characteristics as antecedents of workaholism (e.g., Andreassen, Hetland, & Pallesen, 2010), only one study thus far has focused on the impact of work environment on workaholism. Johnstone and Johnston (2005) explored the relationship between four aspects of climate, namely coworker cohesion, supervisor support, work pressure and involvement, and found that only the dimension of work pressure was related to higher levels of drive, which constitutes the key feature of workaholism describing the inner compulsion that propels employees to work excessively hard (Spence & Robbins, 1992).

This finding supports the reasoning that the perception of an organizational environment where employees are pushed to work extra hours encourages them to devote an extraordinary amount of time and energy to their work and contributes significantly to enhancing workaholism (Porter, 2004). On the other hand, empirical investigations of the joint impact of individual and environmental antecedents of workaholism are lacking.

In light of these considerations, the first purpose of the present thesis is to fill this gap by conducting an explorative study to test whether the interaction between the perception of a climate that encourages overwork and person characteristics may enhance workaholism.

1.3.2 The impact of overwork climate on opposite forms of working hard

Given the relevant role that organizations encouraging overwork may play in fostering workaholism, developing a measure aimed to assess individuals' perceptions of their work environment with regard to the requirement to work beyond the official set hours becomes crucial. In particular, these perceptions concur in their definition of psychological climate: an employee's perceptions of the work environment in which the work behavior occurs (Rousseau, 1988). Individual nature constitutes the distinctive feature of a psychological climate, especially with reference to organizational climate, defined as a set of shared beliefs among employees that reflects the aggregation of individual-level psychological climate perceptions (Dickson, Resick, & Hanges, 2006).

A psychological climate is stable over time and enables employees to interpret events that occur within their workplace, to predict their potential outcomes, and to evaluate the suitability of their actions (Campbell, Dunnette, Lawler, & Weick, 1970; Jones & James, 1979). In the last three decades, the study of psychological climate has been characterized by a growing interest in a selected referent or focus for the climate; therefore, most of the studies in this area assessed employees' perceptions of work environment characteristics associated with this focus. Schneider and Reichers (1983, p. 21) stated that "climates are for something," calling for a specific reference term for investigations on the climate in work settings.

Based on this rationale, developing a valid and reliable measure of an overwork climate may enable a deeper understanding of employees' perceptions of organizational requirements and expectations related to overwork. In the present thesis, an overwork climate is defined as the perception of a work environment that requires and expects employees to work beyond official work hours, to take their work home, and to work during weekends and holidays. This definition ascribes a key role of the emergence of and consensus about climate perceptions to organizations' leaders (Ostroff, Kinicki, & Tamkins, 2003). Indeed, managers and supervisors contribute to the development of common climate perceptions by exposing employees to the same policies, practices, and procedures, thus providing them with directions to where they should focus their skills and efforts in order to attain organizational goals (Schneider, Gunnarson, & Niles-Jolly, 1994).

CHAPTER 1

Although different measures of specific psychological climates have been developed, none of them assess individual perceptions of a work environment that supports overwork, that is, an overwork climate (for a review, see Parker et al., 2003). Moreover, investigating the impact of an overwork climate on different forms of working hard may represent the most interesting avenue to explore how these climate perceptions influence employees' behavior. Indeed, dedicating an extreme amount of time to work does not pertain exclusively to workaholism, but also to a positive work-related condition known as "work engagement." As previously described, although both engaged and workaholic employees work long hours and display a great level of dedication to their jobs, the academic literature recognizes workaholism and engagement as two opposite forms of working hard (e.g., Schaufeli et al., 2006).

Given the different nature of the motivational dynamics underlying workaholism and engagement, an overwork climate may be expected to have a different impact on these work-related conditions. Hence, workaholism may be fostered when employees perceive that working beyond set work hours represents an indispensable condition for success and career advancement. In contrast, this kind of climate may negatively impact on work engagement, which is primarily intrinsically motivated and leads employees to experience their work as inherently enjoyable and satisfying (Van Beek et al., 2011). The investigation of the impact of these individual perceptions on workaholism and work engagement may represent a valuable diagnostic tool for organizational assessment and improvement and it may suggest effective intervention strategies aimed at preventing the negative consequences of an overwork climate.

Based on this rationale, the second purpose of the present thesis is to develop and evaluate the psychometric properties of a questionnaire that assesses employees' perceptions of a climate for overwork, defined here as an overwork climate. In addition, this new instrument will be employed to assess the different impact of overwork climate perceptions on two opposite types of working hard, namely workaholism and work engagement.

1.3.3 A multi-rater perspective on work engagement and workaholism

Over the last two decades, several scholars have drawn attention to misleading results obtained from self-report research (e.g., Donaldson & Grant-Vallone, 2002). Different factors may compromise the reliability of these finding, for instance, social desirability, fear of negative consequences, sensitivity toward the constructs under investigation, and dispositional characteristics.

Collecting data from different informants may overcome this issue and it may assume a greater relevance in workaholism research. Indeed, it may be argued that workaholics are not completely aware of the obsession that leads them to be completely immersed in their work, causing them to underestimate their obsession (Porter, 1996). This denial tendency may translate into a low level of agreement between workaholics' perceptions of their attitudes toward work and evaluations by significant others. To date, only a few studies have collected data from more than one source in order to address the claim that workaholics deny and therefore under-report their compulsive conduct (Aziz & Zickar, 2006; Burke & Ng, 2007; McMillan, O'Drisoll, & Brady, 2004).

Taken together, these studies indicate the presence of a substantial agreement among self- and other reports (i.e., evaluations provided by colleagues, partners, and acquaintances) in assessing levels of workaholism displayed by the focal person. According to these findings, employees did not tend to deny their behavior, but rather seemed to have a fairly accurate view of themselves.

On the other hand, it should be noted that all these studies were based on the workaholic triad developed by Spence and Robbins (1992), which identifies work involvement, drive, and work enjoyment as its key components. Hence, these investigations were based on a conceptualization that distinguishes between negative and positive forms of workaholism; therefore, they did not conceive of workaholism as a negative form of working hard (Shimazu & Schaufeli, 2009).

In addition, whereas research on workaholism has tried to gather data from multiple sources in order to evaluate the differences between self-reports and others' reports, research on a multirater perspective on work engagement is still lacking. Nevertheless, this type of investigation could be extremely interesting with reference to engagement, since this positive state may transfer from one individual to another both in

the work environment and in the family context through a process defined as "crossover" (Westman, 2001).

Previous research has provided evidence for a reciprocal crossover of the engagement among partners (Bakker & Demerouti, 2009; Bakker, Demerouti, & Schaufeli, 2005). With reference to the work domain, work engagement has been proven contagious within work teams, so that team-level work engagement is related to individual members' engagement (Bakker, Van Emmerik, & Euwema, 2006; Bakker & Xanthopoulou, 2009). Although the level of engagement exhibited by employees has a relevant and beneficial impact on coworkers' attitudes toward work, agreement among different raters on this positive type of working hard has not yet been explored.

Therefore, the current thesis will be the first study to evaluate agreement between self- and other reports using the conceptualization of workaholism provided by Schaufeli et al. (2008). Specifically, employee's (as focal person) and coworker's evaluations of the degree of workaholism reported by the focal person will be compared.

In addition, this study will represent the first attempt to evaluate the agreement among different raters (i.e., focal employees and coworkers) on work engagement, defined as a state of work-related well-being that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Moreover, these multirater data will be used to estimate and provide further evidence for the discriminant validity between workaholism and work engagement.

In order to achieve these goals, the current thesis will employ strategies of analysis different from the simple comparison between means applied in previous studies on multirater assessments of workaholism (Aziz & Zickar, 2006; Burke & Ng, 2007; McMillan et al., 2004). Specifically, two different strategies of analysis will be applied. First, the Multitrait-Multimethod (MTMM) matrix, i.e., correlations among measures of multiple traits assessed by multiple methods, will provide preliminary information about the convergent and discriminant validity (Campbell & Fiske, 1959). Then, a multiple-indicator correlated trait-correlated method minus one model CT-C($M-1$) (Eid, Lischetzke, Nussbeck, & Trierweiler, 2003; Nussbeck, Eid, Geiser, Courvoisier, & Lischetzke, 2009) will be used to evaluate the convergent and discriminant validities of the constructs at the latent levels. This model is characterized

by several advantages; in particular, it allows exploration of the convergent and discriminant validities of the constructs at the latent levels because measurement error is separated from true trait and method effects. Second, it assumes that method effects can be trait-specific and that they do not generalize perfectly across traits. Finally, this model allows the decomposition of the variance of observed variables into variance components due to trait-specific, method-specific, and error influences.

The third purpose of the present thesis is to compare focal employees' and their coworkers' perceptions concerning employees' levels of workaholism, defined as the combination of working excessively and working compulsively, and work engagement, characterized by high levels of vigor, dedication, and absorption. In addition, the discriminant validity of work engagement and workaholism using different information sources (i.e. focal employees and coworkers) will be explored.

1.4. Outline of the thesis

To summarize, the present thesis is aimed to achieve a multicausal and multirater perspective on workaholism.
The purposes described above have been pursued by means of three empirical studies. The aims of the following chapters are briefly outlined below.

Chapter 2 investigates how the interaction between an overwork climate and person characteristics (achievement motivation, perfectionism, conscientiousness, self-efficacy) impacts workaholism, defined as the combination of working excessively and working compulsively. This study represents one of the first attempts to test the joint impact of environmental and individual antecedents of workaholism. In particular, we expect a significant increase in workaholism when employees possess characteristics that predispose them toward becoming workaholics and when they perceive an overwork climate in their workplace.

Chapter 3 describes the results of two complementary studies. The first study (*Study 1*) focuses on the development of a valid and reliable measure of overwork

climate, the *Overwork Climate Scale* (OWCS), in order to provide a deeper understanding of employees' perceptions of organizational expectations related to this relevant outcome, i.e., performing overwork. *Study 2* explores the different impact of overwork climate perceptions and two different types of working hard: an intrinsically positive form, i.e., work engagement, and an intrinsically negative form, i.e., workaholism.

Chapter 4 illustrates the results of a study comparing focal employees' and their coworkers' perceptions of the focal employees' levels of workaholism, as measured by the Dutch Work Addiction Scale (DUWAS) (Schaufeli et al., 2009) and work engagement, as measured by the Utrecht Work Engagement Scale (UWES) (Schaufeli, Bakker, & Salanova, 2006). These measures are employed to provide additional evidence for the distinctive nature of these opposite forms of working hard by exploring the discriminant validity of work engagement and workaholism using different information sources.

Finally, in *Chapter 5* a general discussion is drawn from the study results and recommendations for future research and practical implications are discussed.

CHAPTER 2

Are workaholics born or made?

Relations of workaholism with person characteristics and overwork climate

Summary

The present study is aimed to explore whether the interaction between the perception of an overwork climate in the workplace and person characteristics (i.e., achievement motivation, perfectionism, conscientiousness, self-efficacy) may foster workaholism. Data were collected on a sample of 333 Dutch employees. The results of moderated regression analyses fully supported our hypotheses and showed that the interaction between an overwork climate and person characteristics is associate with higher levels of workaholism. More specifically, a significant increase in workaholism was observed when employees both possessed person characteristics that predispose them towards workaholism and perceived an overwork climate in their workplaces. Moreover, these results showed that conscientiousness and self-efficacy were related to workaholism, but only in interaction with an overwork climate. These results contribute to the ongoing conceptualization of workaholism by demonstrating empirically that a work environment characterized by an overwork climate may promote the occurrence of workaholism, especially for those high in achievement motivation, perfectionism, conscientiousness, and self-efficacy.

CHAPTER 2

Introduction

At the present time organizations require their employees to be proactive and show initiative, to collaborate efficiently with their colleagues, to be committed to their own professional development, and to pursue high quality performance standards (Bakker & Schaufeli, 2008). From a broader perspective, current economic recession, organizational downsizings and restructurings, and increasing levels of job insecurity may prompt employees to invest an extraordinary amount of time and effort into their work (Greenhouse, 2001; Selmer & Waldstrøm, 2007). Furthermore, the greater personal use of technological developments, such as smartphones and laptops, enables employees to complete their work at any place at any time, thereby blurring the boundaries between work and home (Jones, Burke, & Westman, 2006).

The high prevalence of overwork has led to concerns about its impact on employee well-being. The harmful consequences of working long hours include sleep deprivation, decline in neuro-cognitive and physiological functioning, impaired performance, and an increased risk of illnesses and injuries (e.g., Caruso, 2006). The most dramatic consequences of excessive overwork have been observed in Japan, where the notion of *karoshi* describes sudden death caused by brain and heart conditions stemming from overwork, whereas the term *karo-jisatsu* is used to indicate suicide committed by employees suffering from depression related to overwork (Araki & Iwasaki, 2005; Kanai, 2006). In response to these developments, research has begun to focus on those aspects of the organizational context that encourage overwork and competitiveness and disregard a healthy work-life balance, thus constituting a fertile ground for triggering workaholism (Burke & Koksal, 2002). Indeed, workaholism is defined as a syndrome characterized by an obsession with one's work that translates into the tendency to work excessively hard. Therefore dedicating an extraordinary amount of time to work represents a defining characteristic of this condition (Schaufeli, Taris, & Bakker, 2008). Workaholism is positively associated with several indicators of overwork, such as working longer than one's contractual work hours, taking work home, and working during the weekends or holidays (Schaufeli, Taris, & Bakker, 2006). Hence, it may be argued that an organizational context that values and promotes working long hours and the willingness to sacrifice time committed to other life domains might foster workaholism.

Workaholism refers to a strong inner compulsion to work excessively hard (Schaufeli et al., 2008). More specifically, it includes a behavioral dimension (*working excessively*) and a cognitive dimension (*working compulsively*). Hence, workaholics feel compelled to allocate an excessive amount of time and energy to work because they cannot resist their inner compulsion (Bakker & Schaufeli, 2008). These employees comply with their obsession in order to prevent the negative feelings of guilt and worthlessness experienced when they do *not* work. Therefore, person characteristics (i.e., personality traits and values) might also play a major role in engendering this obsession with work, in addition to the organizational factors that emphasize a strong commitment to work (i.e., organizational culture and climate) (e.g., Burke, Burgess, & Oberklaid, 2003).

However, so far empirical investigations of the joint impact of these two kinds of antecedents of workaholism are lacking. The present study aims to fill this gap by testing whether the interaction between overwork climate and person characteristics that predispose individuals towards becoming workaholics (i.e., achievement motivation, perfectionism, conscientiousness, self-efficacy) may foster workaholism.

Theoretical background

The original conceptualization of workaholism came from Oates (1971), who defined it as an uncontrollable need to work incessantly, with consequences that may constitute a danger to one's health, personal happiness, interpersonal relations, and social functioning. Subsequently, several other conceptualizations of workaholism have been proposed. One of the most prominent contributions was developed by Spence and Robbins (1992), who proposed that 'real work addicts' are characterized by high levels of *work involvement*, which lead them to work long hours, a strong inner *drive* and low *work enjoyment*.

An extensive review of the workaholism literature conducted by Scott, Moore, and Miceli (1997) argued that workaholism is characterized by three key features: (1) discretionary time spent in work activities; (2) persistently and frequently thinking about work when not at work; and (3) working beyond the organizational or financial requirements. A similar perspective was shared by Ng, Sorensen, and Feldman (2007),

who proposed an integrated description of workaholics as those who enjoy the act of working, who are obsessed by work, and who devote long hours and personal time to this activity. It can be concluded that these definitions of workaholism share the basic assumption that workaholic employees invest an excessive amount of time and energy into work because of an irresistible inner drive.

In line with this perspective, the present study adopts the definition of workaholism proposed by Schaufeli et al. (2008), which describes workaholism as the combination of two underlying dimensions: *working excessively* and *working compulsively*. To be specific, *working excessively* represents the behavioral component of the construct and indicates that workaholics 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. In other words, workaholics tend to work harder than is required primarily because they are driven by their inner compulsion (Bakker & Schaufeli, 2008).

Workaholism and person characteristics

Compulsive behavior has been extensively explored in the field of clinical psychology, and the resulting research findings corroborate the hypothesis of a strong relationship that links compulsive behaviors with personality traits (e.g., McCrae & Costa, 2003). This link is supported by empirical evidence that suggests workaholics are more likely to be rigid, perfectionist, and achievement-oriented than non-workaholics (Goodman, 2006). Ng and colleagues (2007) proposed that achievement-related traits represent a major contributor to workaholism. Achievement motivation can be defined as the need to accomplish difficult objectives; to establish ambitious goals that require overcoming obstacles; to think and act quickly, thoroughly, and independently; to compete with and surpass other people by driving oneself hard; and to achieve immediate recognition and reward for one's own efforts (McClelland & Winter, 1969). Scott and colleagues (1997) identified a specific profile of workaholics, labeled as achievement-oriented workaholics, who are characterized by a competitive personality that promotes an intense desire for success and a strong career identity. In order to

achieve the goals they have established for themselves, they tend to work excessively with a strong drive. Therefore, these employees are not only likely to become physically and psychologically exhausted, but such behavior may also negatively affect their relationships both within the workplace and with their families (Patel, Bowler, Bowler, & Methe, 2012).

In a similar vein, Robinson (2000) suggested a different classification for profiles of workaholism, which included relentless workaholics, a stereotypical kind of workaholic highly comparable to the achievement-oriented workaholics described above. Relentless workaholics are described as being highly competitive and usually work long hours with the main objective of exceeding what is asked of them due to an inherent drive to work. Overall, the need to overcome hurdles in order to succeed in accomplishing ambitious goals characterizes achievement motivation and translates into the tendency to spend considerable time and energy engaged in non-required work activities (Mudrack & Naughton, 2001). Indeed, achievement motivation prompts employees to spend a great deal of discretionary time on work activities, constantly thinking about work, and working beyond financial requirements (Liang & Chu, 2009).

Since the earliest conceptualizations of workaholism, perfectionism has been nominated as its main predictor. According to Oates (1971), the perfectionist nature of workaholics leads them to be merciless in their demands and scrupulous in executing their job tasks. Similarly, Scott et al. (1997) described perfectionist workaholics as characterized by an extraordinary need for orderliness, control, and a great obsession with deficits. Perfectionism is also related to workaholics' unwillingness to delegate tasks to others, essentially because the high standard for work set by perfectionists results in having great difficulty entrusting others with job responsibilities (Burke, Davis, & Flett, 2008; Killinger, 2006). Several studies have investigated the role of perfectionism in predicting workaholism, and showed that different dimensions of perfectionism influence workaholism to different degrees. Supporting this notion, Clark, Lelchook, and Taylor (2010) found that the perceived gap between an employee's performance expectations and the self-evaluation of current performance represents a driving force behind workaholic behaviors. In contrast, in their study of the relationship between perfectionism and workaholism, Taris, Van Beek, and Schaufeli (2010) distinguished between self-directed and socially prescribed forms of perfectionism,

defined as high personal standards and concern over mistakes respectively, and showed that particularly socially prescribed perfectionism is associated with workaholism. More recently, by assuming it to be a unitary individual characteristic, Bovornusvakool and colleagues (2012) described perfectionism as a key factor in the development of workaholic behavior patterns. In addition, these authors suggested that workaholism may represent a socially acceptable opportunity to enact one's perfectionist inclinations: in work environments, employees who strive for perfection and thereby focus all their energy and attention on work projects are often rewarded with compensation and praise.

Other studies suggest that workaholism is associated with conscientiousness, a personality trait entailing a sense of duty and responsibility, industriousness, and perseverance (Bozionelos, 2004). This person characteristic is related to higher levels of self-control and the active process of planning, organizing, and carrying out tasks (Barrick & Mount, 1991). Given the perseverance displayed by conscientious employees and their tendency to formulate and implement purposeful plans, several empirical studies have reported a strong correlation between conscientiousness and job performance (e.g., Barrick, Mount, & Strauss, 1993). Based on these findings, conscientiousness has been reported as a key individual characteristic leading to workaholism (Liang & Chu, 2009). This is supported by the results obtained from different studies aimed at assessing the role of conscientiousness as an antecedent of workaholism. These studies used the so-called workaholic triad developed by Spence and Robbins (1992), which defines workaholism as constituted by *high work involvement, strong drive to work*, and *low work enjoyment*, and concluded that conscientiousness is positively associated with all three of these dimensions (Andreassen, Hetland, & Pallesen, 2010; Aziz & Tronzo, 2011). Along the same path, another investigation based on the same model of workaholism indicated that employees characterized by a greater degree of conscientiousness report higher levels of drive (Burke, Matthiesen, & Pallesen, 2006). This evidence is particularly relevant for establishing the link between conscientiousness and workaholism, since drive describes the inner compulsion that propels workaholics to work excessively hard. On the whole, being self-disciplined, reliable, and orderly may play a central role in predisposing employees towards workaholism (Andreassen et al., 2010). According to Bandura (1977), self-efficacy refers to the extent to which individuals believe in their own

capabilities to organize and implement the courses of action required in order to achieve a given result. Based on the evidence that individuals scoring higher on generalized self-efficacy report greater levels of commitment to their work, Burke et al. (2006) assessed how generalized self-efficacy affects workaholism as conceived by Spence and Robbins (1992) and showed that higher levels of self-efficacy are related to a greater degree of workaholism. Del Libano and colleagues (2012) expanded on this result by testing the relationship between work self-efficacy and workaholism. The authors used specific measures of self-efficacy, which show more consistent and robust relationships with psychosocial health variables (Bandura, 2001), and found a mediating role of workaholism in the relationship between self-efficacy and negative outcomes (i.e., overwork and work/family conflict). This is consistent with the findings of Ng et al. (2007), who showed that those individuals who report higher levels of self-efficacy in work activities than in non-work activities are more likely to become workaholics. The belief of being better able to handle work tasks rather than extra-work activities may lead such employees to devote as much time as they can to work activities in order to avoid non-work activities at which they are less skilled. All in all, it should be noted that achievement motivation, perfectionism, conscientiousness and self-efficacy seem to represent person characteristics able to predispose employees towards becoming workaholics.

However, recent perspectives on work addiction suggest that organizational factors play a significant role in the development and maintenance of workaholism. Therefore, great attention has been paid to the workplace practices and policies that may act as drivers of workaholism (Fry & Cohen, 2009). In this vein, Ng and colleagues (2007) proposed a theoretical model that conceives workaholism as the combined result of dispositional traits (e.g., needs, traits, values), socio-cultural experiences (e.g., social learning, cultural emphasis on competence and competition), and behavioral reinforcements (e.g., organizational rewards and incentive systems). According to these authors, employees are likely to become workaholics when they possess certain personality traits, their social environment facilitates workaholism, and their workaholic behaviors are systematically reinforced. Accordingly, Liang and Chu (2009) developed a model that identifies three major antecedents of workaholism: personality traits, personal inducements, and organizational inducements. Once again, this explanation of

workaholism assigns a crucial role to those organizational environments that prompt or oblige employees to work hard and, simultaneously, it recognizes the combination of personal and environmental conditions as a crucial antecedent in determining the manifestation of workaholism. Hence, organizations may unintentionally act as "pushers" or "enablers" that encourage workaholic behaviors (Holland, 2008).

Workaholism and the work environment

Workaholism has been suggested to be particularly prevalent in those work environments characterized by a masculine culture that encourages employees to be extremely competitive, power-hungry, task-oriented, and fearful of failure (Ng et al., 2007). This type of culture is likely to have a "winner takes all" or "star" reward system that may compensate for and promote workaholic behavior by setting fewer limits on excessive work habits. As a result, employees who work long hours are perceived to be highly committed and capable of competing with peers for rewards, recognition, and career development opportunities (Burke, 2001). In a similar vein, using the workaholic triad proposed by Spence and Robbins (1992), Johnstone and Johnston (2005) found that employees who perceive an organizational climate characterized by strong *work pressure* display higher levels of *drive* (i.e. the inner compulsion that prompts workaholics to work incessantly). This evidence provides additional support for the hypothesis that the perception of a work environment characterized by high work demands and time pressure encourages employees to devote an extraordinary amount of time and energy to their organization and fosters workaholism. Therefore, organizational climate seems to contribute significantly in enhancing workaholism.

Organizational culture and climate represent two complementary constructs that show overlapping yet distinct features in the psychological life of the organization (Schneider, 2000). Organizational *culture* implies a set of shared meanings on core values, beliefs, underlying ideologies and assumptions of organizational life taught to newcomers as the proper way to think and based on stories, myths, and socialization experiences (Schein, 2010).

On the other hand, organizational *climate* represents the shared perceptions of and meaning employees attach to the policies, practices, and procedures they experience

and the behaviors they observe being rewarded and that are supported and expected (Schneider, Ehrart, & Macey, 2013). Hence, organizational culture refers to fundamental assumptions about the organization, and it has strong roots in history, meaning that it is unchanging in nature, resistant to manipulation, and collectively held (Denison, 1996; Schein, 2010).

By contrast, organizational climate is more "immediate" and subjective in nature, since it is grounded in employees' perceptions of their organization in terms of practices, policies, procedures, routines, and rewards (Schneider et al., 2013).

Beyond these core differences, culture and climate are closely related since the set of practices, policies, and procedures perceived by organizational members as climate reflect the underlying cultural values (Ostroff, Kinicki, & Tamkins, 2003). In this sense, climate should be conceived as the surface-level manifestation of culture (Schein, 1990). Moreover, the perception of an overwork climate is endorsed by the presence of executives and supervisors who encourage overtime work and expect employees to comply with it. This means that management conveys the message that working excessively represents desired behavior (Van Wijhe, Schaufeli, & Peeters, 2010). Indeed, researchers have long recognized the important role of organization leaders in the emergence of and consensus about climate perceptions (Ostroff et al., 2003). Managers and supervisors contribute to the development of common climate perceptions by exposing employees to the same policies, practices, and procedures, thus providing them with directions to where they should focus their skills and efforts on in order to attain organizational goals (Schneider, Gunnarson, & Niles-Jolly, 1994).

In line with this theoretical perspective, workaholism may be fostered when employees perceive 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. In the current study, employees' combined perceptions of these underlying values in their work environment described by the term *overwork climate.*

The findings discussed above suggest that this particular type of climate may foster workaholism especially among those employees who possess the individual characteristics identified in the previous section. Therefore, the present research aims at exploring whether the joint impact of overwork climate and person characteristics

(achievement motivation, perfectionism, conscientiousness, self-efficacy) may foster workaholism.

To the best of our knowledge, our study represents one of the first attempts to test the joint impact of environmental and individual antecedents of workaholism. The following four hypotheses are tested in our study:

Hypothesis 1: Achievement motivation moderates the relationship between overwork climate and workaholism. We expect that employees exposed to a greater overwork climate are more workaholic if they are characterized by higher levels of achievement motivation.

Hypothesis 2: Perfectionism moderates the relationship between overwork climate and workaholism. The occurrence of workaholism is expected to be higher when employees working in organizations characterized by an overwork climate report higher levels of perfectionism.

Hypothesis 3: Conscientiousness moderates the relationship between overwork climate and workaholism. We hypothesize that the positive association between overwork climate and workaholism is greater for employees characterized by higher conscientiousness.

Hypothesis 4: Self-efficacy moderates the relationship between overwork climate and workaholism. We expect that overwork climate results in higher levels of workaholism for employees that have high levels of self-efficacy.

The context of the study

The study has been carried out in the Netherlands, which is an individualistic, western European country where employees place greater emphasis on personal goals and personal achievement (Hofstede, 2001). In such individualistic countries the need to work hard tends to be self-centered, in contrast to eastern collectivistic societies where working hard is fuelled by group-centered motives (Snir & Harpaz, 2012). The annual

number of working hours in the Netherlands is rather low (1,181 hours), particularly because of widespread part-time jobs, notably for women. A study among a representative sample of Dutch employees found that 62% worked overtime, with 20% working overtime for more than 10 hours per week (Beckers et al., 2007). In addition, despite the relatively low number of working hours, levels of workaholism among Dutch employees are comparable to those in Japan (Schaufeli, Shimazu, & Taris, 2009), a country characterized by s high incidence of dramatic consequences of overwork, such as "karoshi" or work to death (Kanai, 2006).

Method

Procedure and participants

Participants were recruited through an advertisement in an electronic newsletter of a Dutch training and consultancy agency. Subscribers to the newsletter received background information about the general aim of the study and they were invited to follow the link that allowed them to fill out an online questionnaire. In the introduction to the survey, participant anonymity was emphasized and confidentiality guaranteed. After completion, participants received an automatically generated individual report based on their questionnaire results. A total of 686 employees filled out the questionnaire.

Since the sample might be contaminated if it contained highly engaged employees who also work very hard, they were removed from the sample. Work engagement is defined as a positive, fulfilling, work-related state of mind that consists of three interrelated dimensions: vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). A recent study showed the existence of a specific group of hard workers, called *engaged workaholics* (Van Beek, Taris, & Schaufeli, 2011). These employees score highly both on workaholism as well as on work engagement, meaning that they work harder than those recognized as being either only workaholic or engaged, while their levels of engagement seem to act as a buffer against the negative consequences of workaholism. Because the present research investigates the interaction effects between the organizational and individual antecedents of

workaholism, we decided to eliminate the overlap between work engagement and workaholism by excluding highly engaged employees from our sample. Hence, we considered only employees having an engagement score lower than 3.74, which represents the average total score of the Dutch normative sample (N = 9,679; Schaufeli & Bakker, 2004) of the Utrecht Work Engagement Scale (UWES 9; Schaufeli, Bakker, & Salanova, 2006).

The final sample of the study included 333 participants. The majority were women (51.4%) and the mean age of the sample was 45.4 years (*SD* = 8.45). Participants were Dutch employees from a wide range of companies and occupations, such as managers (26.1%), consultants (13.8%), HR officers or consultants (6%), project leaders/project managers (5.1%), and trainers/coaches (3.6%). Regarding educational level, 82.6% of respondents had a university or college degree, while the remaining participants were primary or secondary education graduates. The majority of the sample had a permanent job (89.5%) and worked full-time (63.7%); the mean period of employment was 12.02 years (*SD* = 8.65).

Measures

Overwork climate was assessed using a scale developed for the purposes of this study; it included eight items with a five-point answering format (see *Appendix*). This scale evaluated to what extent employees perceive their work environments to be characterized by a climate that expects them to perform overwork (i.e., working beyond set work hours, doing unpaid overtime work, taking work home, and working during weekends or holidays) in order to complete their work and achieve career advancement, financial benefits or other kinds of perks. The factor structure of this scale was tested using confirmatory factor analysis (CFA), which showed the following fit indices: χ^2/df = 2.92, CFI = .97; AGFI = .94; and RMSEA = .06. Factor loadings ranged from .43 to .78 and these were significant at $p < .01$. For the Cronbach's αs of the scales, see Table 1.

Achievement motivation was measured by using ten items (e.g., "Do you tend to plan ahead for your job or career?" – *Reversed*) taken from the short version of the Ray Achievement Motivation scale (Ray, 1979). Responses were 1 (*yes*), 2 (*neither no nor*

yes), or 3 (*no*). Overall, a higher overall score on this scale corresponded to a greater level of achievement motivation.

Perfectionism was assessed using a self-constructed scale that included eight work-related items (e.g., "I strive to do my work perfectly") and it was scored using a five-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). This scale aims to assess a specific facet of perfectionism, namely *positive perfectionism*, as defined by Frost and colleagues (1993). According to these authors, positive perfectionism entails behavior that refers to a willingness to approach stimuli, and to strive in order to achieve high standards. From a behaviorist perspective, these perfectionist behaviors are positively reinforced through praise, recognition and feelings of accomplishment. This sense of pleasure in achieving one's goals generates positive affect, an enhanced self-esteem and self-satisfaction. The adequacy of the unidimensional factor structure was confirmed by CFA: χ^2/df = 2.43; CFI = .95; AGFI = .94; and RMSEA = .07. Factor loadings ranged from .32 to .72 and these were significant at $p < .01$.

Conscientiousness was assessed by using the Conscientiousness Scale taken from the Dutch translation of the Big Five Inventory (Denissen, Geenen, Van Aken, Gosling, & Potter, 2008). This scale consisted of nine items (e.g., "At work, I persevere until the task is finished") rated on a five-point Likert scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Self-efficacy was assessed by using a self-constructed scale based on Bandura (2012) and composed of five items. All items (e.g., "At work, I reach my goal, even when unexpected situations arise") were scored on a five-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). The CFA results showed the following fit indices: χ^2/df = 1.79; CFI = .98; AGFI = .97; and RMSEA = .05. Factor loadings ranged from .41 to .65 and these were significant at $p < .01$.

Workaholism was measured using the 10-item Dutch Work Addiction Scale (DUWAS; Schaufeli et al., 2009) that included 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 seem to be in a hurry and racing against the clock"). Both subscales consisted of five items rated on a four-point frequency scale ranging from 1 (*(almost) never*) to 4 (*(almost) always*). Accepting the definition of workaholism as a

syndrome, the present study is based on an overall workaholism score (Schaufeli, Bakker, Van der Heijden, & Prins, 2009).

Strategy of analysis

Our hypotheses were tested using moderated regression analyses, implemented in PROCESS macro for SPSS 18.0 developed by Hayes (2013). It is important to note that this macro does not test the product terms hierarchically, but rather simultaneously together with the main effects. This is not a limitation, however, as Edwards (2009) argued that product terms do not have to be tested hierarchically in moderated regression analyses. In addition to estimating the moderation effects, the conditional effect of the independent variable on the dependent variable at specific values of the moderator was tested (by default, at mean, 1 SD above the mean, and 1 SD below the mean). In line with our hypotheses, the interaction effects were tested separately for each person characteristic. In addition, as evidence of relationships between socio-demographic characteristics and workaholism has been suggested by previous research (e.g., Burgess, Burke, & Oberklaid, 2006; Taris, Van Beek, & Schaufeli, 2012), gender, age, and educational level were included as covariates in the moderation models.

Table 1. Means, Standard deviation, Cronbach's Alphas (in brackets), and Correlations among the study variables (N = 333)

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Gender (1= female)	.51	.50	n.a.								
2. Age	45.4	8.45	-.23***	n.a.							
3. Educational level (1= higher education)	.83	.38	-.04	-.04	n.a.						
4. Overwork climate	2.40	.71	-.07	-.04	.12*	(.85)					
5. Achievement motivation	2.15	.38	.08	-.22***	.16**	.15**	(.60)				
6. Perfectionism	3.32	.54	.13*	-.09	-.19***	.10	.11*	(.75)			
7. Conscientiousness	3.71	.43	.11	.09	-.07	-.19**	.18**	.38***	(.72)		
8. Self-efficacy	3.72	.37	-.12*	-.09	.06	.06	.18**	-.07	.11*	(.64)	
9. Workaholism	2.07	.48	.03	-.18**	.06	.29***	.26***	.21***	-.07	-.01	(.82)

Note. *p < .05. **p < .01. ***p < .001

CHAPTER 2

Results

Descriptive results

The means, standard deviations, correlations, and internal consistencies (Cronbach's α) were calculated for all study variables (Table 1). All significant relationships between the variables were in the expected direction. Moreover, as shown in Table 1, the internal consistencies of the scores on all scales satisfied the criterion of .70 (Nunnally & Bernstein, 1994), except for the achievement motivation and self-efficacy scales, which showed slightly lower values (α = .60 and α = .64, respectively).

Control variables

Each model featured the variable overwork climate as the predictor, workaholism as the dependent, and person characteristics as the moderator. As mentioned earlier, gender, age, and educational level were additionally included as covariates. As shown in Table 2, age negatively affected workaholism in each moderation model. This result is consistent with the negative correlation between age and workaholism ($r = -.18$, $p < .01$) displayed in Table 1. Thus, in line with previous studies, in our sample lower levels of workaholism were reported for older employees. Furthermore, our results would suggest that education and gender were not significantly related to workaholism.

Table 2. Results of moderated regression analyses.

	Workaholism			
	B	**β**	**SE**	**ΔR²**
Main Effects				
Gender (1= female)	.03	.03	.05	
Age	-.01*	-.13	.00	
Educational level (1= higher education)	-.02	-.02	.06	
Overwork climate	.18***	.26	.03	
Achievement motivation	.24***	.19	.07	
Interaction Effects				
Overwork climate X Achievement motivation	.21*	.13	.08	.02*
Main Effects				
Gender (1= female)	.01	.01	.05	
Age	-.01**	-.15	.00	
Educational level (1= higher education)	.04	.03	.07	
Overwork climate	.18***	.26	.03	
Perfectionism	.16***	.18	.05	
Interaction Effects				
Overwork climate X Perfectionism	.16*	.13	.06	.02*
Main Effects				
Gender (1= female)	.03	.04	.05	
Age	-.01**	-.17	.00	
Educational level (1= higher education)	.02	.01	.07	
Overwork climate	.19***	.29	.04	
Conscientiousness	.01	.01	.06	
Interaction Effects				
Overwork climate X Conscientiousness	.21**	.15	.08	.02**
Main Effects				
Gender (1= female)	.02	.03	.05	
Age	-.01**	-.16	.00	
Educational level (1= higher education)	.01	.01	.07	
Overwork climate	.19***	.29	.03	
Self-efficacy	-.03	-.02	.07	
Interaction Effects				
Overwork climate X Self-efficacy	.21*	.13	.08	.02*

Note. *N* = 333. ***$p < .001$; **$p < .01$; *$p < .05$. All variables were mean-centered.*

CHAPTER 2

Interaction effects between overwork climate and person characteristics

The first model tested whether achievement motivation moderated the relationship between an overwork climate and workaholism (Hypothesis 1). As reported in Table 2, the overall model, $F_{(6, 326)} = 10.94$, $p < .001$, showed a significant main effect for overwork climate ($\beta = .26$, $p < .001$) and achievement motivation ($\beta = .19$, $p < .001$). Most relevant to Hypothesis 1, the interaction between overwork climate and achievement motivation was significant: $\beta = .13$, $p < .05$. Consistent with our expectations, employees exposed to a greater overwork climate in their workplaces are more workaholic if they are characterized by higher levels of achievement motivation (Figure 1). These findings supported *Hypothesis 1*.
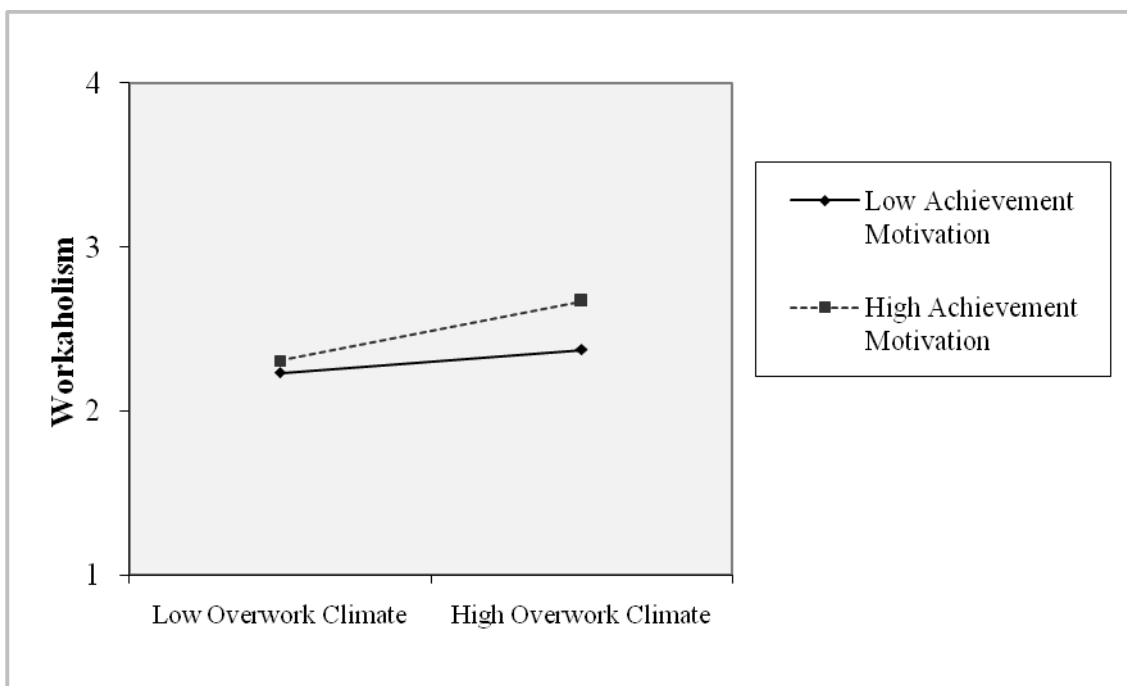

Figure 1. Interaction effect between Overwork Climate and Achievement Motivation on Workaholism

In the second model, perfectionism was hypothesized to influence the strength of the relationship between overwork climate and workaholism (Hypothesis 2). Once again, the overall model, $F_{(6, 326)} = 10.45$, $p < .001$, was statistically significant. The

main effects for overwork climate ($\beta = .26$, $p < .001$) and perfectionism ($\beta = .18$ $p < .001$) were significant as was the interaction between them ($\beta = .13$, $p < .05$). Consistent with Hypothesis 2, for employees working in organizations characterized by a strong overwork climate, the occurrence of workaholism is higher when they are perfectionists (Figure 2). Therefore, *Hypothesis 2* was supported.
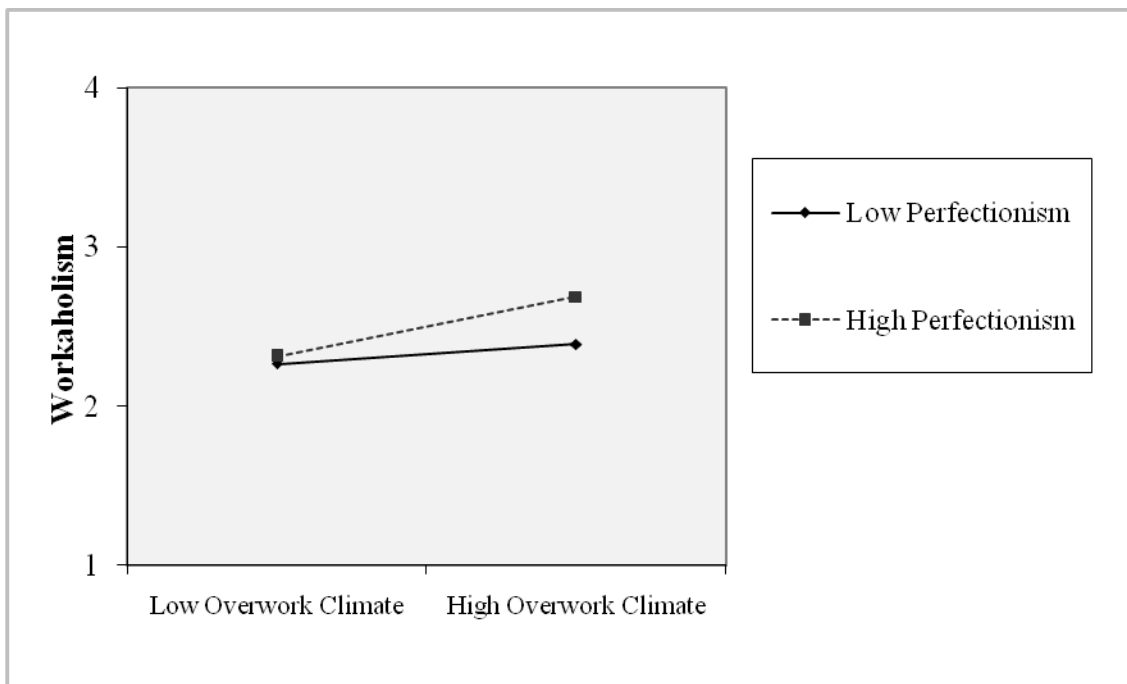

Figure 2. Interaction effect of Overwork Climate and Perfectionism on Workaholism

The third model included conscientiousness as a moderator between overwork climate and workaholism (Hypothesis 3). The main effect for overwork climate was significant ($\beta = .29$, $p < .001$), but conscientiousness did *not* significantly relate to workaholism (*ns*). Nonetheless, conscientiousness seemed to influence the strength of the relationship between overwork climate and workaholism ($\beta = .15$, $p < .01$), and the overall model was significant, $F(6, 326) = 8.61$, $p < .001$.

As shown in Figure 3, the positive relationship between conscientiousness and workaholism in our sample only becomes significant when this person characteristic is associated with a strong overwork climate. These results supported *Hypothesis 3.*
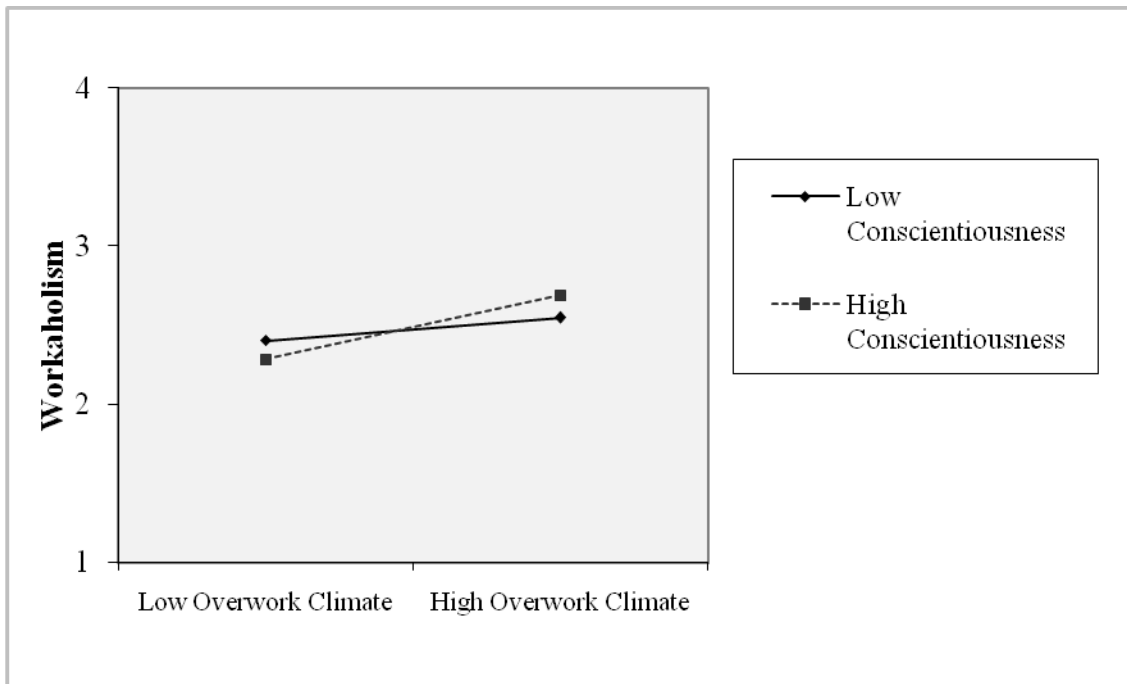
Figure 3. Interaction effect of Overwork Climate and Conscientiousness on Workaholism

Finally, we tested how the interaction between an overwork climate and self-efficacy impacts on workaholism (Hypothesis 4). Consistent with the previous results, the overall model was significant, $F(6, 326) = 8.30$, $p < .001$, as was the main effect of an overwork climate on workaholism ($\beta = .29$, $p < .001$). By contrast, self-efficacy did *not* influence workaholism (*ns*), but the interaction between the overwork climate and self-efficacy was significant ($\beta = .13$, $p < .05$). Hence, employees characterized by high levels of self-efficacy and who are exposed to an overwork climate display a higher degree of workaholism than those characterized by a low degree of self-efficacy and working in an overwork climate (see Figure 4). Hence, these results supported *Hypothesis 4.*
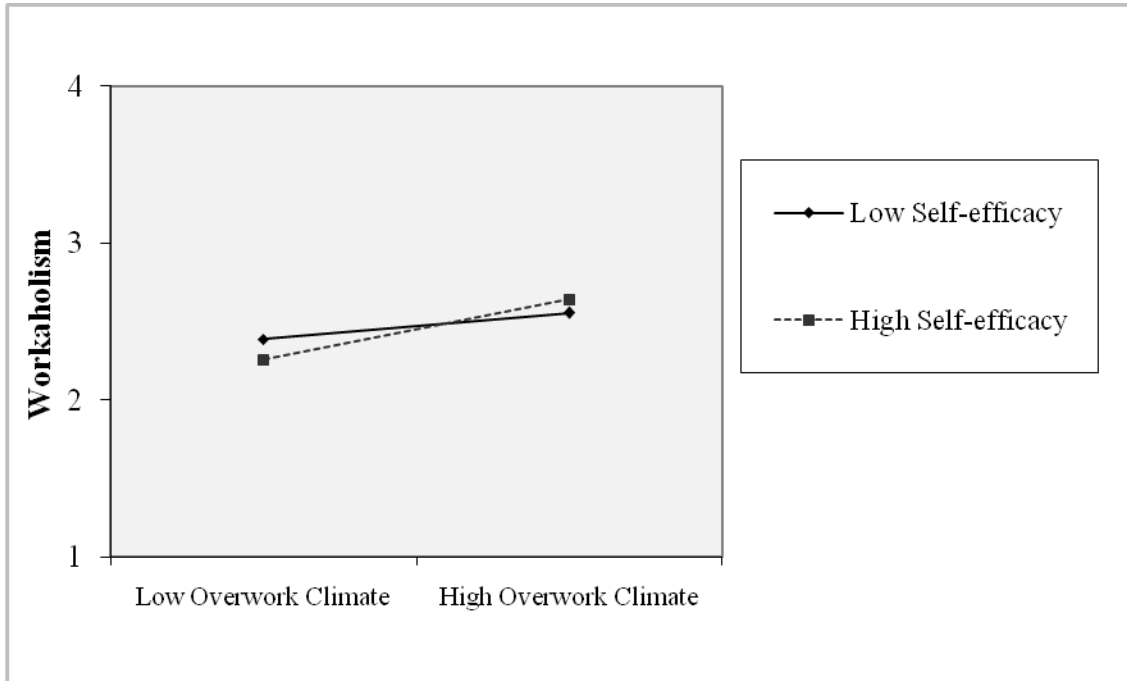
Figure 4. Interaction effect of Overwork Climate and Self-efficacy on Workaholism

Discussion

Drawing on data from 333 Dutch employees, the presented results fully supported the hypotheses of an interaction effect between overwork climate and person characteristics in fostering workaholism. Our findings provide initial evidence of the presence of a positive relationship between overwork climate and workaholism, defined as the combination of working excessively and compulsively, especially for employees who displayed high levels of achievement motivation, perfectionism, conscientiousness, and self-efficacy. Among these person characteristics, achievement motivation and perfectionism were significantly associated with workaholism.

By contrast, the main effects of conscientiousness and self-efficacy on workaholism were *not* significant, although the interaction between these two characteristics and overwork climate fostered workaholism significantly. Therefore, contrary to previous empirical findings suggesting that conscientiousness and self-efficacy are dispositional antecedents of workaholism (e.g., Aziz & Tronzo, 2011; Del Libano et al., 2012), our results indicated that these person characteristics contribute to the development of obsession with work *only when employees perceived an overwork*

climate. To be precise, the interactions between conscientiousness and overwork climate on the one hand, and between self-efficacy and overwork climate on the other hand, were disordinal. Therefore, it may be concluded that, when no overwork climate exists, employees characterized by a low degree of conscientiousness were more likely to be workaholic than employees that have high levels of conscientiousness. This suggests that conscientiousness does not inherently act as an antecedent of workaholism; rather *low* levels of conscientiousness seem to foster workaholism when no overwork climate is perceived, whereas high levels of conscientiousness seem to foster workaholism when an overwork climate is perceived.

As displayed in Figure 3, high levels of conscientiousness exert a stronger impact on workaholism across different organizational climates (i.e., a low or high overwork climate); in contrast, a low degree of conscientiousness does not engender a substantial variation in workaholism as the organizational climate changes. A similar pattern was found regarding the interaction between overwork climate and self-efficacy. Overall, and as hypothesized, a significant increase in workaholism was observed when employees possessed characteristics that predispose them towards becoming workaholics *and* when they perceived the presence of an overwork climate in their workplaces. As previously stated, empirical investigations on the joint impact of these different of antecedents of workaholism are lacking. The current study represents a first step toward a deeper understanding of the interaction between individual and environmental factors in fostering addiction to work.

However, it could be argued that employees with person characteristics that make them prone to workaholism are not influenced by the environment but instead these person characteristics may have led them to seek organizational contexts matching with their compulsion. The assumption that workaholics may be attracted to certain organizations is consistent with Attraction-Selection-Attrition theory (Schneider, 1987; Schneider, Goldstein, & Smith, 1995), which claims that different types of organizations attract, select, and retain different types of people. Hence, some individuals choose to work for organizations that correspond to their own traits and values (Burke, 2001). Following this lead, Porter (1996) focused on those organizational cultures that required employees to perform overwork in order to achieve success and advancement, and argued that the processes of self-selection, employee

recruitment, socialization, and reward systems could forge a context in which workaholics are more likely to display their compulsive behavior than in other organizations. Further to this conclusion, the results of the present study showed not only that overwork climate is positively related to workaholism and that the interaction between this type of organizational climate and person characteristics fosters workaholism, but also that conscientiousness and self-efficacy foster workaholism only in association with the presence of an overwork climate. Therefore, interventions aimed at modifying the work environment, in particular the organizational climate, could considerably reduce the level of workaholism among employees.

The present findings support the hypothesis that, compared with employees characterized by similar workaholic traits, those exposed to behavioral reinforcements in the workplace (e.g., an organizational climate that, to a certain extent, sustains workaholism) might display a greater degree of workaholism (Liang & Chu, 2009; Ng et al., 2007). This theoretical perspective on workaholism agrees with the findings of McMillan and colleagues (2003), who suggested that a combination of trait and learning theories provides the most promising potential for future research on workaholism: in particular, trait-based theory has received broad empirical support, and learning theory offers the most convincing scientific utility. Trait-based theory recognizes workaholism as a stable behavioral pattern that is dispositional in nature; it first emerges in late adolescence and is exacerbated by environmental stimuli. By contrast, learning theory is characterized by generality, parsimony, and pragmatism and presents a practicable basis for explaining workaholism. From an operant learning perspective, it may be concluded that the behavioral dimension of workaholism, namely *working excessively*, represents a desired behavior within the organization that is likely to be associated with continuous reinforcements (e.g., tangible rewards such as promotions, bonuses, fringe benefits, or salary increases).

The present research should be seen as an initial attempt to connect trait and learning perspectives on workaholism, by simultaneously considering person characteristics (achievement motivation, perfectionism, conscientiousness, self-efficacy) and the role of the environment (i.e., overwork climate).

CHAPTER 2

Study limitations

This study has some limitations that should be acknowledged. The first limitation concerns the use of self-constructed scales. Although the psychometric properties of these measures were satisfactory on the whole, further studies could explore the same hypotheses by using well-validated instruments for assessing these constructs.

Secondly, all data were cross-sectional. This means that conclusions about causality could not unequivocally be drawn. Further research using a longitudinal design will be needed to further unravel and understand the causal relationships among overwork climate, person characteristics and workaholism.

Thirdly, data were derived entirely from self-reported questionnaires; therefore, common method variance may have influenced our results (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future research should adopt a multi-method approach, combining self-reported and objective data, or data from more than one source (e.g., peer ratings from colleagues) in order to obtain more robust evidence.

Moreover, the scales used to assess achievement motivation and self-efficacy had a reliability coefficient slightly lower than the criterion of .70, which is traditionally considered as a heuristic (Nunnally & Bernstein, 1994). However, according to Nunnally's (1967) recommendation, scales with item consistencies higher than .60 can be used for research purposes. It would be appropriate in the future to increase the number of items in order to improve the psychometric properties of these instruments.

Finally, self-selection may have been a limitation. Indeed, the use of the Internet as a research tool has certain advantages, but also disadvantages. Online surveys have been criticized with regard to their representativeness (e.g., Couper, Kapteyn, Schonlau, & Winter, 2007). In general, respondents to online surveys are more likely to be younger and male than participants usually contacted through telephone surveys (Schmidt, 1997). However, the majority of participants in the present study were women and the average age was quite high. Moreover, whereas many stress-related studies are biased towards a specific group or occupation, the present research used data collected from employees working in a wide range of occupations and organizations.

Practical implications

Overall, the present study suggests that workaholism is most likely to occur when person characteristics interact with a specific type of climate. Given the very limited opportunities to influence person characteristics that predispose employees towards workaholism (i.e., achievement motivation, perfectionism, conscientiousness, self-efficacy), it might be more worthwhile for organizations to create an environment that does not reward compulsive work-related behavior. Perceptions of climate are strongly influenced by practices, policies, and procedures expected and rewarded in the workplace. As a consequence, an effective change in climate can be achieved only through a modification of these practices, which, in turn, may initiate a reinterpretation of organizational goals and expectations (Kopelman, Brief, & Guzzo, 1990). Furthermore, managers and executives play a significant role in creating and maintaining the organizational climate, mainly because their behavior is relevant for employees to identify organizational goals and shape the prevailing climate (Dragoni, 2005). Therefore, an effective intervention to discourage workaholism by changing the climate perceptions would only be successful when management acts as a role model, for instance by displaying work behaviors that favor a healthy work-life balance and minimize overwork (Van Wijhe et al., 2010). This way, management contributes to creating a climate that is not conducive to workaholism. This is particularly salient given the evidence that managers are often workaholic themselves and have gained professional advancement because of their tendency to work hard and compulsively (Brett & Stroh, 2003). Their contributions to organizational change are crucial because they implement shared practices through their behavior, communication, and interactions with employees (Ostroff et al., 2003).

As mentioned earlier, climate and culture are closely related constructs since climate can be conceived as the result of shared perceptions of enacted values and priorities within the organization, which represent the core elements of organizational culture (Zohar & Hofmann, 2012). Consequently, the successful modification of organizational climate may spur reinterpretations of culture (Ostroff et al., 2003). Therefore, an intervention aimed at replacing a climate that supports overwork may result in the reinterpretation of the culture, thus leading employees to perceive that their

organization emphasizes the relevance of an adequate work-life balance and encourages working smarter rather than harder.

At first glance, it may seem that workaholics attempt to give more of themselves to support organizational objectives, thus they are frequently rewarded for their frantic work behavior in the workplace. Indeed, the most obvious characteristic of workaholics is their tendency to display a great level of dedication to their jobs and to devote much more time to their work than others do (e.g., Burke & Fiksenbaum, 2009). Actually, these employees may compromise organizational goals in subtle ways in order to maintain or increase their need for more work (Porter, 2001). A crucial goal for organizations is finding ways to assist employees to perform work more efficiently. The occurrence of workaholism may be prevented if employees are exposed to an organizational environment that provides positive feedback for efficient work based on more productive time management strategies (Holland, 2008). In this sense, organizations and their representatives (i.e., managers, supervisors) should not encourage the appearance of productivity given by the extraordinary amount of time expended on work, but rather they should promote a climate that allows employees to perform well and reach productive outputs, but also enjoy non-work activities.

APPENDIX

Previously unpublished scales are shown below. All measures used a Likert scale that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Overwork climate

In my workplace...

1. Performing overwork is important to be promoted.

2. It is considered normal to work on weekends.

3. Most employees work beyond their official work hours.

4. It is considered normal for employees to take their work home.

5. Almost everybody expects employees to perform unpaid overtime work.

6. It is difficult to take a day off or paid holidays.

7. Management encourages overtime work.

8. Working overtime is appreciated by management.

Perfectionism

1. I am extremely meticulous.

2. I hate sloppy colleagues.

3. I often proofread the final versions of my colleagues' work.

4. My suggestions must be applied exactly as I say.

5. In your work, you should also pay attention to detail.

6. I strive to do my work perfectly.

7. Sometimes, I do my work too well.

8. I'm not easily satisfied with the results of my work.

Self-efficacy

1. If there are difficult problems at work, I know how to solve them.

2. At work I reach my goal even when unexpected situations arise.

3. If I encounter obstacles at work, I always find a way to overcome them.

4. Even if it takes me a lot of time and energy, I reach my goals at work.

5. If something new comes to me at work, I always know how to deal with it.

CHAPTER 3

Psychometric examination of the Overwork Climate Scale (OWCS)

Summary

The present study focuses on the development of a valid and reliable measure of employees' perceptions of organizational requirements and expectations concerning the overtime work. In Study 1 the Overwork Climate Scale (OWCS) was developed and tested for its factor structure and reliability using a principal component analysis ($N = 395$) and a confirmatory factor analysis ($N = 396$). The results indicated that two overwork climate dimensions can be distinguished, namely *overwork endorsement* and *lacking overwork rewards.* These two components could be reliably assessed with 11 items. In Study 2 the total sample ($N = 791$) was used to explore the association of overwork climate with two types of working hard (i.e. work engagement and workaholism). Results indicated that lacking overwork rewards was negatively associated with engagement, whereas overwork endorsement did not relate significantly with this positive form of working hard. On the other hand, both the overwork climate components showed a positive association with workaholism. These relationships remained significant after controlling for the impact of psychological job demands. On the whole, the perception of a work environment that encourages overwork but doesn't allocate additional compensation for this extra effort seems to foster workaholism. The inadequacy of overwork rewards, in addition, constitutes a lack of resources that impact negatively on employees' engagement.

CHAPTER 3

Introduction

The current trend toward a society able to provide many services 24 h per day and 7 day per week has led to the increasing occurrence of extended work hours among different occupational groups. The growing number of employees steadily working beyond the traditional 40 hours a week is the consequence of relevant economic, financial, institutional and cultural changes in most advanced Western economies. For instance, there is an increasing proportion of multiple-earner households and a rising participation of women in the workforce (Mishel, Bernstein, & Allegretto, 2005), as well as a progressive tendency to postpone leisure time during retirement (Kerwin & Decicca, 2007). In addition, the economic and financial crisis that began in late 2008 has strengthened those trends as companies attempt to keep or restore previous rates of productivity and profits (Maher & Aeppel, 2009).

In the light of these major changes, the present study aims to evaluate whether employees' tendency to work excessive hours is motivated also by the perception of a work environment that encourages, expects and rewards overwork.

Hence, the main purpose of this research is twofold: (1) to develop an effective questionnaire to assess *overwork climate* and examine its psychometric properties (reliability and factorial validity) and (2) to examine the relationship between *overwork climate* and two forms of working hard, i.e. workaholism and work engagement.

Causes and consequences of overwork

Overwork refers to the conduct of those employees that dedicate an amount of time to their work so excessive that it begins to entail escalating risks or harm beyond those associated with normal, standard, agreed-upon hours (Golden & Altman, 2008). Nowadays, the adverse consequences of overwork on several indicators of employees' well-being, interpersonal relationship and organizational outcomes have been fairly well established empirically. For instance, long work hours have been shown to be a major cause of stress, chronic fatigue, repetitive strain syndrome and exposure to harmful substances, leading to chronic or acute health conditions (Fenwick & Tausig, 2001).

In addition to these health-related outcomes, regular overtime work is also linked to impaired job performance (Josten, Ng-A-Thom, & Thierry, 2003), higher accident rates and a resulting greater risk of injury and illness (De Castro et al., 2010) and also greater levels of work-family imbalance and interference (Humbert & Lewis, 2008).

Organizations may require excessive work hours from their employees for several reasons. Employers may decide to lengthen the work hours of available staff to deal with work overload without hiring new employees. Indeed, this strategy avoids the expense of hiring and training new employees, and also the cost of employee benefit contributions (Hart, 2004). Moreover, senior staff may translate the willingness to do overwork as an indicator of subordinates' level of effort and commitment to their job, so that extended work hours may be used to evaluate employees' productivity (Golden, 2009). This organizational strategy may become counterproductive if one considers that the detrimental consequences of overwork are exacerbated when overwork is not voluntary. To be specific, two psychosocial work characteristics seem to foster the association between overtime work and impaired individual well-being: these characteristics refer to controlling overtime work and compensation for overwork (Härmä, 2006). Empirical results indicate that involuntary overwork is associated with lower levels of job satisfaction; greater work-home interference and impaired health (Tucker & Rutherford, 2005).

Moreover, overwork in low-reward jobs results in harmful consequences such as poor recovery, burnout symptoms and negative work-home interference; in contrast, employees who work overtime but receive adequate rewards do not report more negative outcomes than employees who do not perform overwork (Van der Hulst & Geurts, 2001). These results suggest that when performing overwork is combined with low rewards, there is an increased risk of adverse psychological symptoms (Beckers et al., 2008).

In the light of the above findings, the current study focuses on employees' perceptions of a work environment that requires and expects them to perform overwork and, at the same time, does not allocate any rewards for this extra time spent on work: such employee perceptions are defined in terms of an a psychological climate for overwork, or in short *overwork climate*.

CHAPTER 3

Psychological climate

Psychological climate has been traditionally conceptualized as employee's psychologically meaningful representations of proximal organizational features, processes and events (Rousseau, 1988). This construct has been distinguished from organizational climate, which is defined as a set of shared beliefs among employees that reflects the aggregation of individual-level psychological climate perceptions (Dickson, Resick, & Hanges, 2006). In this sense, organizational climate is conceived as an extension of psychological climate, and thus the collective description of the same work environment derived from the aggregation of the ways employees ascribe meaning to it (James, 1982).

One of the most widely used definitions suggests that psychological climate is *perceptive* and *descriptive* in nature: hence, perceptions of climate are rather stable over time and enable employees to interpret events that occur within their workplace, to predict their potential outcomes, and to evaluate the suitability of their actions (Rousseau, 1988). Moreover, organization leaders play a key role in the emergence of and consensus about climate perceptions (Ostroff, Kinicki, & Tamkins, 2003). Managers and supervisors contribute to the development of climate perceptions by exposing employees to the same policies, practices, and procedures, thus providing them with directions to where they should focus their skills and efforts on in order to attain organizational goals (Schneider, Gunnarson, & Niles-Jolly, 1994). Hence, their main function is to shape individual behavior toward the patterns expected by the organization in order to satisfy specific job related requirements.

Since employees' perceptions of their work environment influence their feelings, thoughts, and behaviors, they might be particularly relevant when seeking to understand individual outcomes. Accordingly, empirical evidence suggests that climate perceptions are related to both individual and organizational meaningful outcomes, such as job satisfaction (Schulte, Ostroff, & Kinicki, 2006), psychological well-being (Willness, Steel, & Lee, 2007), work attitudes, motivation and performance (Parker et al., 2003). For the most part, these studies have focused on a particular referent or facet of climate, such as service or safety.

Schneider (2000) has been one of the principal critics of the generalized construct of climate and argued that the content of climate measures should differ

depending upon the organizational outcome that is of greatest interest. Following this approach, Schneider and Reichers (1983, p. 21) stated that "climates are for something" and claimed for specification of a reference term for investigations on climate in work settings. The shift toward a greater specificity in climate research is particularly evident in the considerable amount of studies on climate for customer service (e.g., Sowinski, Fortmann, & Lezotte, 2008) and climate for safety (e.g., Zohar, 1980). Further examples of facet specific climates refer to organizational trust (McKnight & Webster, 2001), sexual harassment (Estrada, Olson, Berggren, & Harbke, 2011), transfer of learning (Bates & Khasawneh, 2005), initiative (Michaelis, Stegmaier, & Sonntag, 2010).

Based on this rationale, the present study focuses on the development of a valid and reliable measure of *overwork climate* in order to provide a deeper understanding of employees' perceptions of organizational requirements and expectations related to this relevant outcome, i.e. performing overwork. For this purpose, two studies have been conducted. The first study (*Study 1*) developed and validated a measure of employees' perceptions of a climate for overwork, here defined as *overwork climate* (OWC). Furthermore, *Study 2* assessed the differential impact of overwork climate perceptions on both a negative and a positive form of working hard, workaholism and work engagement respectively, in order to identify effective intervention strategies aimed at preventing negative consequences of overwork climate.

Study 1: **Development of the Overwork Climate Scale (OWCS)**

An initial pool of 24 items was created to capture the core characteristics of a psychological climate for overwork based on the literature explored. These items were aimed at evaluating to what extent employees perceive their work environments to be characterized by a climate that expects them to perform overwork (i.e., working beyond set work hours, doing unpaid overtime work, taking work home, and working during weekends or holidays) in order to complete their tasks. These perceptions are primarily driven by executives and supervisors who encourage overtime work and expect employees to comply with it (Ostroff et al., 2003). Accordingly, some of these items referred to the diffusion of overwork in the workplace in response to management expectations, whereas other items referred to the lack of rewards associated with

overwork. Hence, overworkers are defined as employees who work long hours, but at the same time feel that the returns from their work are inequitably distributed in favor of the organization (Peiperl & Jones, 2001).

With the objective of making the instrument as clear as possible, we chose to evaluate the content validity of the instrument by employing a panel of five judges. The judges, three men and two women with a *Mage* = 45.4 (*SD* = 16.65), consisted of three faculty members who worked on average 14 years as Industrial-Organizational Psychologists and two PhD students attending the last year of their PhD. In order to test the content validity of items (I-CVI) and the overall scale (S-CVI) we followed the procedure suggested by Lynn (1986). Each judge was provided with an evaluation sheet covering two different criteria:

1) *Clarity of language*. Evaluates the language used in the questionnaire through the question: "To what extent do you believe that this item is clear enough and therefore understandable across different occupational populations?";

2) *Theoretical dimension*. Evaluates the relevance of questions to the construct of overwork climate as previously described. The judges were asked: "To what extent do you believe that this item is relevant to assess the perception of a psychological climate for overwork in the workplace?".

Each judge independently rated both these aspects of all items using a 4-point Likert scale ranging as follows: 1 = irrelevant; 2 = somewhat relevant; 3 = quite relevant and 4 = extremely relevant. Then, the I-CVI was computed as the number of judges giving a rating of either 3 or 4 (thus dichotomizing the ordinal scale into relevant and not relevant), divided by the total number of experts in the panel. According to Lynn (1986) the I-CVI should be 1.00 when there are five or fewer judges: therefore only items reporting a total agreement between judges for both the above-mentioned criteria (clarity of language and theoretical dimension) were included in the scale. As a result, 11 items were maintained.

The overall scale CVI (S-CVI) was calculated by averaging all I-CVIs. In this case, an S-CVI of .80 or higher is acceptable (e.g., Davis, 1992). Because only items with an I-CVI of 1.00 were present in the scale, the S-CVI showed an excellent content validity with a value of 1.00.

Method

Procedure and participants

To evaluate the psychometric properties of the OWCS, data were collected on two samples (Table 1).

Sample 1 (N = 395) consisted of respondents from various organizations who filled-out an online questionnaire on an Italian website as part of an occupational health survey. The study was announced on the homepage of the website that provides free services such as online self-report tests and coaching to employees. On this webpage participants received background information about the general aim of the study, and they were invited to follow the link that allowed them to fill out the questionnaire. In the introduction to the survey, participant anonymity was emphasized and confidentiality guaranteed. The slight majority of participants were men (58.4%) and the M_{age} was 44.36 years (SD = 10.21). Most of them were employed in the industrial sector (38.7%), public administration (21.4%), commerce (15.5%), service industry (8.1%), and tourism sector (4.3%). Regarding their work role, the majority of this sample was constituted by employees (41.1%), supervisors (36.2%), managers and store managers (22.7%). In addition, 49.4% of respondents had a university or post-graduate degree, 46.3% possessed a college degree, while the remaining participants (4.3%) were secondary education graduates. The majority of the sample had a permanent job (80.9%) with a full-time contract (88.8%), and the mean job tenure in their current organizations was 13.61 years (SD = 10.94). The average number of working hours according to their employment contract was 37.37 (SD = 6.34), while the effective number of work hours was 43.55 (SD = 10.05).

Sample 2 (N = 396) included respondents from different organizations who took part in a project about work-related psychosocial risks assessment. The link to the online questionnaire was provided by the human resources departments of the four participating organizations. The majority of this sample were women (71.9%) and the M_{age} was 36.5 years (SD = 8.74). They worked in the industrial sector (92.4%), commerce (5.1%) and service industry (0.8%). Most participants worked as employees (66.1%), managers (18.9%) and supervisors (15%). The educational level of the sample was relatively high, indeed 73.6% of participants possessed a college degree, 19.8% had

a university or post-graduate degree, and 6.6% were secondary education graduates. Most participants had a permanent job (88.4%) and they worked full-time (75.5%). In addition, the mean job tenure in the current workplace was 6.46 years ($SD = 5.03$). The mean number of working hours according to the employment contract was 36.15 ($SD = 7.05$), while the effective number of working hours was 38.14 ($SD = 8.49$) per week.

Table 1. Description of participants to Study 1 and 2

	SAMPLE 1 (*N*=395) Exploratory factor analysis	SAMPLE 2 (*N*=396) Confirmatory factor analysis	TOTAL SAMPLE (*N*=791) Study 2
Gender			
Men	58.4%	28.1%	43.3%
Women	41.6%	71.9%	56.7%
Age			
Mean (*SD*)	44.36 (*SD*= 10.21)	36.5 (*SD*= 8.74)	40.5 (*SD*= 10.28)
Work sector			
Industry	38.7%	92.4%	65.6%
Public administration	21.4%	3.3%	12.3%
Commerce	15.5%	1.3%	8.4%
Service industry	8.1%	0.5%	4.3%
Tourism	4.3%	0.3%	1.9%
Work role			
Employee	41.1%	66.1%	53.6%
Supervisor	36.2%	15%	25.7%
Manager	15.1%	18.9%	17%
Store manager	7.6%	0%	3.7%
Educational level			
Secondary School	4.3%	6.6%	5.5%
High School	46.3%	73.6%	59.9%
University degree	34.8%	17.2%	26%
Post-graduate degree	14.6%	2.6%	8.6%
Work contract			
Full time open-ended contract	78.3%	70.8%	74.5%
Part time open-ended contract	2.6%	17.6%	10.1%
Full time fixed term contract	10.5%	4.7%	7.5%
Part time fixed term contract	6.8%	5.9%	4%
Job tenure (years)			
Mean (*SD*)	13.61(*SD*= 10.94)	6.46 (*SD*= 5.03)	10.04 (*SD*= 9.23)
Working hours by contract			
Mean (*SD*)	37.37 (*SD*= 6.34)	36.15 (*SD*= 7.05)	36.73 (*SD*= 6.75)
Effective working hours			
Mean (SD)	43.55 (SD= 10.05)	38.14 (SD= 8.49)	40.75 (SD= 9.65)

Results

Sample 1: Exploratory factor analysis

In order to examine the factorial structure of our questionnaire, a principal component analysis (PCA) was conducted on the eleven items with oblique rotation across Sample 1 (N = 395). As a criterion to retain factors, those factors that had an Eigenvalue > 1 were retained. In addition, items with loadings of .30 or higher were considered (Tabachnick & Fidell, 1983).

The items, item means, standard deviations, Cronbach's alphas, and factor loadings are presented in Table 2.

On the basis of these criteria, the results showed that two dimensions of overwork climate can be distinguished. The first factor, which explained 32.1% of the variance, is constituted by 7 items and refers to the perception of a work environment that requires and expects employees to perform overwork. According to these items, climate perceptions are strongly influenced by management that prompts overtime work, thus contributing to the prevalence of this work habits among employees. Therefore the first factor has been labeled *overwork endorsement*.

The second factor, explaining 18.56% of the variance, consists of 4 items and refers to employees' perception of lacking compensation in response to their long work hours, in terms of salary increases, bonuses or fringe benefits. This dimension describes a crucial aspect of overwork that is the combination of extreme work hours with inadequate returns from the organization. Hence, the second factor has been labeled *lacking overwork rewards.*

Together, the two factors explained 50.66% of the variance and each of them showed a good reliability and satisfied the criterion of .70 (Nunnally & Bernstein, 1994). Taken together, these findings suggest that the Overwork Climate Scale (OWCS) is a reliable, two-dimensional measure of a psychological climate for overwork in organizations.

Table 2. Exploratory factor analysis results of the Overwork Climate Scale (OWCS) in Sample 1 (N = 395).

Items	M	SD	Factor loadings	
			Factor 1	Factor 2
1. Almost everybody expects that employees perform overtime work.	2.52	1.24	.81	
2. Management encourages overtime work.	2.75	1.33	.78	.16
3. It is considered normal for employees to take work home.	2.27	1.31	.77	.23
4. Most employees work beyond their official work hours.	2.81	1.32	.75	.11
5. Performing overwork is important for being promoted.	2.54	1.36	.69	-.12
6. It is considered normal to work on weekends.	2.65	1.44	.54	
7. It is difficult to take a day off or paid holidays.	2.19	1.22	.32	.17
8. Overtime work is fairly compensated by extra time off work or by other perks. *(R)*	3.23	1.39		.78
9. Working overtime is fairly compensated financially. *(R)*	3.62	1.35	-.13	.73
10. (Almost) nobody needs to do unpaid overtime work. *(R)*	3.22	1.28	.24	.68
11. A policy exists to restrict overtime work. *(R)*	3.40	1.25	.30	.67
Eigenvalue			**3.53**	**2.04**
% of variance			**32.1**	**18.56**
α			**.80**	**.70**

Sample 2: Confirmatory factor analysis

In order to cross-validate the findings obtained on Sample 1, we examined whether the two-factor structure (i.e., overwork endorsement and lacking overwork rewards) can be reliably replicated in Sample 2 (*N* = 396) using confirmatory factor analysis with the AMOS software package (Arbuckle, 2005). To assess model fit, the following indices were examined: the χ^2 goodness-of-fit statistic, the Tucker–Lewis Index (TLI), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). Generally, values of .90 or higher (for TLI and CFI) or .08 or lower (for RMSEA) signify acceptable fit (Byrne, 2001).

The two-factor model obtained in the exploratory factor analysis (M1) showed a good fit for most fit indices in Sample 2: χ^2 (df = 43) = 112.7; *p* < .001, TLI = .89, CFI

= .92 and RMSEA = .06. However, the TLI value was slightly lower than the criterion of .90, previously defined as a norm for a satisfactory fit.

To decide whether the model needed re-specification, the modification indices were inspected. These indicated that model fit could be increased by allowing the error terms for the items (10) "(Almost) nobody needs to do unpaid overtime work" and (11) "A policy exists to restrict overtime work" to correlate. Theoretically, these errors could be allowed to covary given the presence of a considerable overlap in their content, referring to the absence of HRM policies that reduce employees' need to perform overtime work in order to complete their tasks. It appeared that the model with this correlated errors fitted the data significantly better ($\Delta\chi^2$ = 10.43, Δdf = 1, $p < .001$) with TLI = .91, CFI = .93 and RMSEA = .06. M1 was compared with the fit of a one-factor model (M2) in which all items were supposed to load on one general factor. It appeared that M2 showed a poorer fit to the data ($\Delta\chi^2$ = 143.94, Δdf = 1, $p < .001$) compared to M1.

Hence, the two-factor model adequately represents the data and fitted substantially better than one-factor model, showing a low but positive correlation between these two dimensions (r = .17, $p < .01$). Moreover, all items loaded significantly on the latent variables, with coefficients ranging from .26 to .94 (all p's < .001). The fit indices of the CFA's are presented in Table 3.

Table 3. CFA fit indices of the OWCS in Sample 2 (*N* = 396).

Model	χ^2	df	TLI	CFI	RMSEA	$\Delta\chi^2$	Δdf	ΔTLI	ΔCFI	ΔRMSEA
M1. Two-factor model	102.27[***]	42	.91	.93	.06					
M0. One-factor model	246.21[***]	43	.69	.76	.11					
Difference M1 & M2						143.94[***]	1	.22	.17	.05

Note. χ2= Chi-square, df= degrees of freedom; CFI= Comparative Fit Index; TLI= Tucker-Lewis Index; RMSEA= Root Mean Square Error of Approximation; Δ= difference test; [***]*p*<.001

CHAPTER 3

Discussion

Study 1 presented a measure of a psychological climate for overwork, labeled as Overwork Climate Scale (OWCS). Drawing on data from two independent samples, exploratory and confirmatory factor analyses provided evidence for a theoretically interpretable 11-item scale composed of two factors. The first factor assessed to what extent overwork is encouraged and valued in the workplace (*overwork endorsement*, 7 items), while the second factor consisted of items measuring the absence of HRM policies aimed at rewarding those employees who dedicate an extraordinary amount of time to their work (*lacking overwork rewards*, 4 items). Overall, these results suggest that the OWCS is a factorially valid and internally consistent measure of the perception of an overwork climate at work.

Study 2: **Relationships between overwork climate and opposite forms of working hard**

Study 2 explored the associations between the existence of an overwork climate and two different types of working hard, an intrinsically positive form, i.e. work engagement, and an intrinsically negative form, i.e. workaholism (Schaufeli, Bakker, Van der Heijden, & Prins, 2009).

Work engagement is defined as a positive, fulfilling, work-related state of mind that consists of three interrelated dimensions: vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). According to this definition, *vigor* refers to high levels of energy and mental resilience while working, the willingness to invest effort in work, and persistence in the face of difficulties; *dedication* is defined as being involved in one's work, and experience a sense of enthusiasm, inspiration, pride, and challenge; and *absorption* is described as being happily engrossed in one's work, whereby time passes quickly and one has difficulties detaching oneself from work. The positive nature of this condition is confirmed by the association of engagement with several positive outcomes: for instance, engaged employees show greater organizational commitment and enhanced job performance (Hakanen, Schaufeli & Ahola, 2008), are more satisfied with their jobs (Schaufeli, Taris & Bakker, 2008), and exhibit higher levels of proactivity (Salanova & Schaufeli, 2008) and extra-role behavior (Salanova, Agut, & Peiró, 2005). In addition, work engagement is related to higher life satisfaction and a better mental and physical health (Schaufeli & Salanova, 2007). Their high involvement in work-related matters leads engaged employees to work beyond what is required by the job or by the organization, frequently take work home, work at weekends and do overtime work: hence, engagement is positively related to time committed to work (Schaufeli, Taris, & Bakker, 2006).

Research evidence suggests that engaged employees are mainly driven by a so-called *autonomous* motivation (Van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). Autonomous motivation translates into intrinsically motivated behavior, in other words individuals experiencing this type of motivation to engage in an activity for its own sake and act as a sense of volition (Deci & Ryan, 2000). In other words, engaged employees experience their work as inherently interesting, enjoyable and satisfying (Van Beek, Taris & Schaufeli, 2011). On the whole, these findings indicate that engaged employees

invest a great amount of time working because they cherish this activity and have integrated their work goals into their selves so that they are happily engrossed in it. Therefore, it may be argued that the perception of a work environment that strongly encourages employees to devote an extraordinary amount of time to work and do not adequately reward this exceptional effort may negatively impact on work engagement, which is primarily intrinsically motivated and leads employees to work hard because they genuinely want to.

Based on this rationale, we tested the following hypothesis:

Hypothesis 1: The perception of an overwork climate is negatively associated with work engagement. We expect that employees exposed to a greater overwork endorsement and lacking overwork rewards in their workplace experience lower levels of engagement.

As for work engagement, also workaholism is strongly associated with overtime work. Workaholism is conceived as a negative kind of involvement in one's job constituted by the combination of two underlying dimensions: *working excessively* and *working compulsively* (Schaufeli et al., 2008). W*orking excessively* represents the behavioral component of workaholism, indicating that workaholics dedicate an exceptional amount of their time and energy to their work, so that they work beyond what would be necessary to fulfill organizational or economic requirements (Burke, 2010). On the other hand, *working compulsively* represents the cognitive dimension of workaholism and indicates that workaholics are obsessed with their work and persistently think about work, even when they are not working. Empirical research suggests that workaholism is related to a wide range of negative outcomes. Generally speaking, workaholic employees experience lower levels of job satisfaction (Del Libano, Llorens, Salanova & Schaufeli, 2012), recurrent interpersonal conflicts at work (Mudrack, 2006), higher levels of exhaustion (Taris, Schaufeli, & Verhoeven, 2005) and health complaints (Burke, 2000), poorer social relationships outside the workplace (Schaufeli et al., 2008), and considerable levels of work-home conflict (Schaufeli et al., 2009).

In contrast to engagement, the underlying motivational dynamic that propels workaholic employees to devote an extraordinary amount of time to work is referred to as *controlled* motivation (Van Beek et al., 2011). This type of motivation turns into non-self-determined behavior, which is mainly driven by an *external* and an *introjected regulation*. Externally regulated behavior is driven by external contingencies involving threats of punishments and rewards; whereas introjected regulation originates from an internalization process in which people adopt external standards of self-worth and social approval without fully identifying with them (Deci & Ryan, 2000). In this sense, external contingencies motivating workaholic employees essentially refer to the desire to avoid disapproval by others and, at the same time, to obtain appreciation (Van Beek et al., 2011). The adoption of external standards of self-worth and social approval without a fully identifying with them leads workaholic employees to strive to meet these standards in order to experience self-worth and self-esteem: if they fail to meet these standards negative emotions and self-criticism arise (Koestner & Losier, 2002).

Recent theoretical perspectives suggest that organizational factors, e.g. organizational culture and climate, may play a significant role in the development and maintenance of workaholism (Liang & Chu, 2009; Ng, Sorensen & Feldman, 2007). In this regard, Johnstone and Johnston (2005) explored the relationship between four aspects of climate, namely *coworker cohesion, supervisor support*, *work pressure* and *involvement*, and found that only the dimension of *work pressure* was related to higher levels of *drive*, which constitutes the key feature of workaholism describing the inner compulsion that propels employees to work excessively hard. This finding supports the reasoning that the perception of an organizational environment where employees are pushed to work extra hours encourages them to devote an extraordinary amount of time and energy to their work and contributes significantly to enhance workaholism (Porter, 2004). Moreover, the perception of an overwork climate is endorsed by the presence of executives and supervisors who encourage overtime work and expect employees to comply with it. Therefore, it may be hypothesized that workaholism is fostered when employees perceive that organizational management considers working beyond set work hours as indispensable conditions for success and career advancement.

Based on empirical evidence supporting the hypothesis of a strong association between low compensation for overtime work and adverse individual consequences

(Beckers et al., 2008; Van der Hulst & Geurts, 2001), it may argued that also the absence of adequate rewards for overwork is associated with higher levels of workaholism, conceived as a negative form of working hard.

Hence, the following hypothesis is tested:

Hypothesis 2: The perception of an overwork climate in the workplace is positively associated with workaholism. The occurrence of workaholism is expected to be higher when employees work in organizations characterized by greater overwork endorsement and lacking overwork rewards.

In addition, the current study is aimed at assessing the relationship between the two dimensions of overwork climate on the one hand, and workaholism and engagement on the other hand, when controlling for psychological job demands. Indeed, it may be argued that the impact of these climate perceptions on the two types of *working hard* could be, at least to some degree, explained by the amount of job demands, or workload levels, that employees have to deal with.

Karasek (1985) defined psychological job demands as psychological stressors present in the work environment, essentially entailing the requirement to carry out difficult and mentally demanding work with a high work pace. Psychological job demands relate to organization constraints on task completion, and demanding and/or conflicting demands. Hence, high psychological job demands may foster an overwork climate, since the requirement to accomplish a great amount of demanding work may result in an enhanced request to perform overwork. At the same time, demands such as a high workload, time pressure, and high levels of job responsibility are defined as *challenge* that have the potential to promote mastery, personal growth, or future gains (LePine, Podsakoff, & LePine, 2005). These challenge demands trigger positive emotions and active problem-focused coping styles that increase willingness to invest energy in order to carry out one's work, thus resulting in enhanced levels of engagement (Crawford, LePine, & Rich, 2010). Hence, psychological demands may significantly impact on work engagement. On the other hand, empirical evidence indicates that job demands are associated with workaholism, essentially because the requirement to cope

with additional tasks and responsibilities may foster the behavioral dimension of the construct, namely the tendency to work excessively (Schaufeli et al., 2009).

In order to study the impact of a "pure" psychological climate for overwork on engagement and workaholism, psychological job demands are included as a third variable and the following hypotheses are tested:

Hypothesis 3: The negative association between overwork climate and work engagement remains significant, also after controlling for psychological job demands.

Hypothesis 4: The positive association between overwork climate and workaholism remains significant, also after controlling for psychological job demands.

Method

Participants and Procedure

To assess the impact of the overwork climate on workaholism and engagement, a series of Structural Equation Models analyses were performed using the whole sample described in Study 1 (exploratory and confirmatory factor analyses), hence a total of 791 employees filled out a questionnaire. More than half of the sample was female (56.7%) and the *Mage* was 40.5 years (*SD* = 10.28). Most participants worked in the industrial sector (65.6%), public administration (10.7%), commerce (10.3%), service industry (5.7%) and tourism sector (1.8%). The majority of the sample were employees (53.6%), supervisors (25.7%), managers and store managers (20.7%). With regards to their educational level, 59.9% of respondents had a college degree, 34.6% had a university or post-graduate degree, while the remaining participants (5.5%) were secondary education graduates. Most of the sample had a permanent job (84.6%) and worked full-time (82%). They had worked on average 10.04 (*SD* = 9.23) years in their current organization and the average working hours by contract were 36.73 (*SD* = 6.75), while the effective work hours were 40.75 (*SD* = 9.65).

Measures

Overwork Climate was assessed with the Overwork Climate Scale reported in Study 1, which includes two subscales: *Overwork endorsement* includes seven items (e.g., "Management encourages overtime work"), whereas *Lacking overwork rewards* comprises four items (e.g., "Working overtime is fairly compensated financially"– *Reversed*). All items were rated on a five-point Likert scale that ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The full OWCS is shown in Table 2.

Job demands were assessed with the scale taken from the Job Content Questionnaire (Karasek, 1985). This scale includes nine items referring to quantitative, demanding aspects of the job (e.g., time pressure, working hard). Example item is: "My job requires working very hard". The response options varied on a four-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

Work engagement was assessed by using the nine-item version of the Utrecht Work Engagement Scale, which includes three subscales: vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). All subscales consisted of three items: for example, "When I get up in the morning, I feel like going to work" (*Vigor*); "I am enthusiastic about my job" (*Dedication*) and "I feel happy when I am working intensely" (*Absorption*). All items were scored on a seven-point rating scale ranging from 0 (*(almost) never*) to 6 (*(almost) always*).

Workaholism was measured using the ten-item Dutch Work Addiction Scale (DUWAS; Schaufeli, Shimazu, & Taris, 2009) that included 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 seem to be in a hurry and racing against the clock"). Both subscales consisted of five items that were rated on a four-point frequency scale ranging from 1 (*(almost) never*) to 4 (*(almost) always*).

Strategy of Analysis

To test our hypotheses, structural equation modeling methods were employed using the AMOS 5 software package (Arbuckle, 2005) with maximum likelihood

estimation methods. To assess model fit, the same fit indices used in Study 1 were examined.

Results

Descriptive results

The means, standard deviations, correlations, and internal consistencies are reported in Table 4. All significant relationships between the variables were in the expected direction. Moreover, the internal consistencies of the scores on all scales satisfied the criterion of .70 (Nunnally & Bernstein, 1994), except for the *lacking overwork rewards* and *working compulsively* scales, which showed slightly lower values ($\alpha = .66$ and $\alpha = .65$, respectively).

To assess the association between the two components of overwork climate (i.e., overwork endorsement and lacking overwork rewards) and the two types of working hard (i.e., work engagement and workaholism), two different analyses were conducted: first the sample was divided into two groups on the basis of the median (Mdn) score for the two overwork climate dimensions, then differences in engagement and workaholism were assessed. Dichotomization of continuous variables is associated with information loss and may thus decrease statistical power (e.g., MacCallum, Zhang, Preacher, & Rucker, 2002), however in the present study further analyses were performed in order to test the relationship between overwork climate and the two forms of working hard. Participants were categorized into groups based on their scores, which are split around the median (here, Mdn *overwork endorsement* = 2.15; Mdn l*acking overwork rewards* = 3.5). Descriptive statistics for both groups are provided in Table 5. Concerning the overwork endorsement dimension, only levels of workaholism significantly differed between the subgroups. A higher level of overwork endorsement is associated with a greater degree of workaholism, at the same time it does not seem to relate with a substantial variation in work engagement.

Employees reporting a greater inadequacy of overwork compensation (i.e. lacking overwork rewards) were significantly less engaged. At the same time, the higher perception of insufficient rewards for overtime work was associated with a higher

degree of workaholism. As discussed in the following section, structural equation modeling was used to deepen the relationship between the overwork climate components and these opposite work-related conditions.

Table 4. Means, Standard deviation, Cronbach's Alphas (in brackets), and Correlations among the study variables ($N = 791$).

	M	SD	1	2	3	4	5	6	7	8
						r				
1. Overwork endorsement	2.28	.86	(.80)							
2. Lacking overwork rewards	3.47	.93	.13**	(.66)						
3. Vigor	4.38	1.02	-.01	-.15***	(.82)					
4. Dedication	4.61	.95	-.07	-.15***	.77***	(.87)				
5. Absorption	4.70	.85	.04	-.12**	.71***	.74***	(.81)			
6. WE	2.62	.58	.34***	.15***	-.04	-.06	.14**	(.70)		
7. WC	2.38	.55	.19***	.06	-.10**	-.09**	.10**	.62***	(.65)	
8. Job demand	2.83	.49	.40***	.09*	-.08*	-.09*	.07	.58***	.34***	(.78)

Note. * $p<.05$; ** $p<.01$; *** $p<.001$

Table 5. Characteristics of the high and low overwork endorsement and lacking overwork rewards subgroups.

	Overwork endorsement (Mdn = 2.15)		Lacking overwork rewards (Mdn = 3.5)	
	low	*high*	*low*	*high*
n	417	374	435	356
Work engagement M (*sd*)	4.56 (.78)	4.56 (.93)	4.69 (.84)	4.41 (.85)
Workaholism M (*sd*)	2.40 (.48)	2.60 (.52)	2.44 (.51)	2.56 (.50)
t(*df*) Work engagement	-.15 (789)		4.64 (789)	
p	ns		.000	
t(*df*) Workaholism	-5.69 (789)		-3.31 (789)	
p	.000		.001	

CHAPTER 3

Testing the model

First, a model was tested in which the latent variables overwork endorsement and lacking overwork rewards were indicated by the corresponding scale-scores displayed in Table 1. Latent work engagement was indicated by the three dimensions of vigor, dedication and absorption, whereas latent workaholism was indicated by working excessively and working compulsively.

This model presented a Heywood case since the error variance of working excessively (i.e. one of the two indicators of the latent workaholism) was negative ($\Theta\varepsilon$ = .06). Modification indices indicated that model fit could be increased by allowing the absorption dimension of engagement to load on the latent workaholism.

Previous empirical research highlighted that the dimension of work engagement classified as *absorption* shows a substantial double-loading on workaholism (Schaufeli Taris, & Van Rhenen, 2008). As previously described, this dimension is characterized by full concentration on one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. This overlap reflects the theoretical notion that both workaholics and engaged workers are deeply immersed in their work and are reluctant to disengage from it.

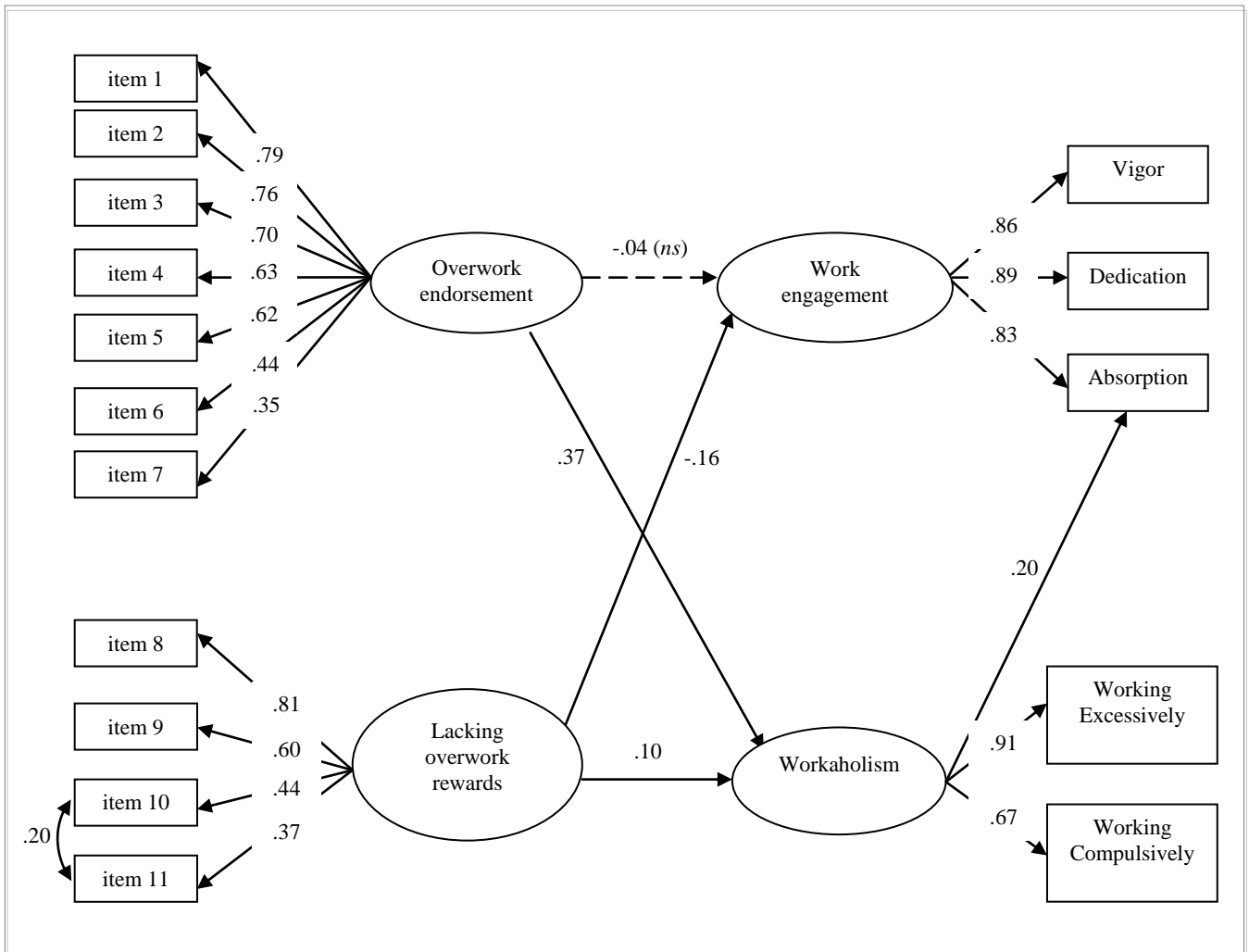Therefore absorption was allowed to load on workaholism.

Figure 1. The hypothesized model adjusted (*N* = 791)

As shown in the first row of Table 6, this model (M1) fitted reasonably well to the data with all indices meeting their respective criteria. In this model, all indicators loaded significantly on their intended latent factors and all effects were in the expected direction, except for the non-significant direct relation between overwork endorsement and work engagement (γ = -.04, ns). Therefore, this relation was omitted from the final model (M2). As displayed in Figure 1, overwork endorsement is negatively related to work engagement, thus *Hypothesis 1* was partially supported. In addition, both the dimension of overwork climate (i.e. overwork endorsement and lack of overwork rewards) are positively associates with workaholism. These results fully supported *Hypothesis 2*.

In order to test our last hypotheses, psychological job demand was entered as a covariate. Again this model (M3) showed a good fit to research data with all effects in the hypothesized direction (Table 6).

Table 6. Fit of models on the relationship between overwork climate, work engagement and workaholism (*N* = 791).

Model	χ²	df	TLI	CFI	RMSEA
M1. Hypothesized Model	328.47***	98	.93	.94	.06
M2. Hypothesized Model adjusted	329.43***	99	.93	.95	.05
M3. Model with psychological job demands	354.58***	111	.94	.95	.05

Notes: χ2= Chi-square, df= degrees of freedom; CFI= Comparative Fit Index; TLI= Tucker-Lewis Index; RMSEA= Root Mean Square Error of Approximation; Δ= difference test; *** *p*<.0

As shown in Figure 2, psychological job demands had a significant relation with overwork endorsement as well as with the two exogenous variables (i.e. work engagement and workaholism), but it showed a non-significant direct relation with lacking overwork rewards (γ = -.07, ns).

Moreover, the negative association between lack of overwork rewards and work engagement did not change, even after controlling for psychological job demand, therefore *Hypothesis 3* was partially supported. Indeed the relation between overwork endorsement and work engagement was excluded from the model.

The positive association between the two dimensions of overwork climate and workaholism became weaker after controlling for psychological job demand, especially for the overwork endorsement dimension, but it still remained significant. This result fully supported *Hypothesis 4*.
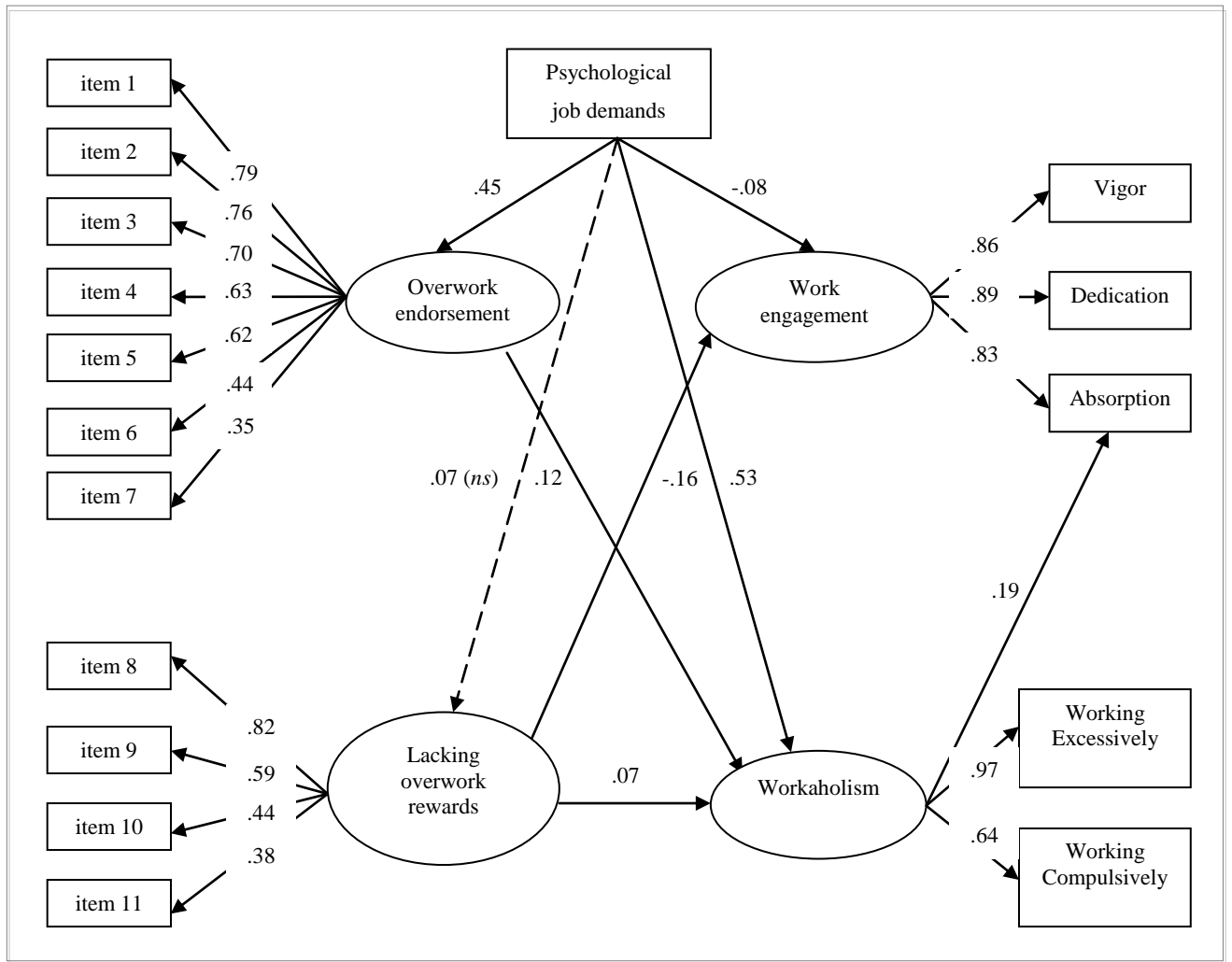
Figure 2. The hypothesized model with psychological job demands ($N = 791$)

Discussion

Drawing on data from 791 employees, Study 2 explored the relationship between overwork climate and a negative and a positive form of working hard, namely workaholism and work engagement. Our findings showed that overwork endorsement was *not* significantly associated with engagement. This result corroborates the idea that engaged employees act primarily out of a strong autonomous motivation, so they work hard mainly because of a sense of volition and choice, and are hardly influenced by the environment and by feedback from others (Van Beek et al., 2012).

On the other hand, the allocation of inadequate rewards for overwork was negatively related with engagement. From a theoretical perspective, this is consistent with the motivational process that is postulated by the Job Demands-Resources (JD-R) Model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). To be specific, this process posits that job resources allow employees to cope with the demanding aspects of their work and simultaneously stimulate them to learn from and grow in their job, which may lead to motivation, feelings of accomplishment, and organizational commitment (Bakker & Derks, 2010). Job resources may therefore foster extrinsic motivation because they are essential for dealing with job demands and for achieving work goals. In addition, by satisfying the basic human needs of autonomy, belongingness and competence, they are also intrinsically motivating and able to promote employees' growth, learning and development (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). In line with that, the inadequate allocation of resources for employees who work long hours may account for the negative relationship between a lack of overwork rewards and engagement.

In contrast, both overwork climate dimensions showed a positive association with workaholism, and this relationship is particularly strong for the dimensions related to widespread overwork encouragement in the workplace (i.e., overwork endorsement). This corroborates the hypothesis that the perception of a climate characterized by strong work pressure enhances the inner compulsion that prompts workaholics to work incessantly (Johnstone & Johnston, 2005).

The weak association between lack of overwork rewards and workaholism is consistent with previous results attesting that workaholic employees work extremely hard out of an obsessive drive that, in turn, is fostered by the perception of an overwork endorsement in the workplace. Taken together, our results are in line with previous findings indicating that workaholic employees are motivated by an introjected regulation that leads them to strive to meet external standards of self-worth and social approval in order to experience a higher self-esteem and avoid negative emotions (Koestner & Losier, 2002). At the same time, the external regulation that drives workaholic employees is essentially referred to the desire to avoid disapproval by others and to obtain their appreciation (Van Beek et al., 2011). Hence, the role played by the

presence or the lack of pay raises, promotions and other signs of recognition is rather irrelevant for this negative type of working hard.

A second aim of our study was to test whether the association between overwork climate and the opposite forms of working hard remained significant after controlling for psychological job demands. It appeared that psychological job demands were not associated with lack of overwork rewards, therefore the negative relationship between this dimension of overwork climate and work engagement remained unchanged. This result supported the hypothesis that engagement is negatively related to the scarcity of rewards provided by the organization to employees who overwork, regardless of the workload resulting from psychological job demands.

On the other hand, the positive association between overwork climate and workaholism was affected after controlling for psychological job demand, in particular for the lacking overwork rewards dimension, which became barely significant. As previously stated, the motivational dynamic involved gives reason for the poor relationship between the absence of forms of recognition and workaholism. In contrast, the relation between overwork endorsement and workaholism was affected when considering psychological job demands, but it still remained highly significant. Hence, the amount of workload placed on employees (i.e. psychological job demands) may partially explain the relationship between the perception of requirements for extreme work hours and workaholism. These results suggest that, when the environmental antecedents are under investigation, overwork endorsement constitutes the key dimension of overwork climate when studying workaholism.

General discussion

The general purpose of the present research was twofold: specifically, we wanted to conceive a measure of a facet-specific climate, here named overwork climate; and to test the impact of these perceptions on a positive and a negative form of working hard (respectively, work engagement and workaholism). The first Study provided evidence for a 11-item scale composed of two factors: *overwork endorsement* (7 items) and *lacking overwork rewards* (4 items). Results of Study 2 indicated that overwork endorsement was not significantly associated with engagement, whereas lacking

overwork rewards were negatively related with this positive form of working hard. In contrast, both overwork climate dimensions showed a positive association with workaholism: in particular, overwork endorsement was strongly related to this negative type of working hard. In addition, the second study explored whether the association between overwork climate and working hard (i.e., work engagement and workaholism) remained significant after controlling for psychological job demands.

Results showed that the negative relationship between lacking overwork rewards and engagement remained unchanged also when controlling for psychological job demand. In contrast, the introduction of this control variable affected the positive association between overwork climate and workaholism, in particular for the lacking overwork rewards dimension. Given that our findings are based on participants pertaining to different occupational groups and organizational settings, we can be reasonably confident that the observed association between overwork climate and individual involvement in one's work are widely generalizable.

Study limitations

The current study has some limitations that should be mentioned. First, the cross-sectional nature of these data precludes the opportunity to explore the dynamic nature of psychological climate for overwork in relation to organizational and individual outcomes. Further research using a longitudinal design will be needed to examine how changes in overwork climate influence relevant outcomes over time.

Second, data were derived entirely from self-report questionnaires, thus, common method bias may have affected the associations among the study variables. However, the main focus of the present study was overwork climate and this construct is by definition an individual perception. Therefore self-report measure represents a natural way to tap into this concept. As Schneider (1973) stated, climate refers to individuals' descriptions of organizational practices, policies, procedures and routines; as a consequence its definition can't be restricted to communal perceptions. On the other hand, future research should investigate whether these individual perceptions are shared by the entire team or organization.

Third, the scales used to assess lacking overwork rewards and working compulsively (i.e. one of the two defining dimensions of workaholism) had a reliability coefficient in Study 2 that was slightly lower than the criterion of .70, which is traditionally considered as a heuristic (Nunnally & Bernstein, 1994). However, according to Nunnally's (1967) recommendation, scales that have item consistencies higher than .60 can be used for research purposes. In addition, in the first study the internal consistency of the dimension labeled as *lacking overwork rewards* was .70, therefore it met the above-mentioned criterion for acceptable reliability.

Finally, all participants in both studies were Italian. Therefore these findings on the OWCS cannot be generalized to other nationalities. Future research based on the English version of the questionnaire provided in this paper (see Table 1) will be fruitful in order to examine whether the scale produces the same results when used in other countries.

Practical implications

Our results have implications for developing intervention strategies aimed to prevent a negative form of working hard, i.e. workaholism, and to encourage a positive one, i.e. work engagement. The present findings suggest that work engagement is negatively associated with lacking overwork rewards regardless of the amount of psychological demands placed on employees. This result is consistent with the well-established evidence that job demands are of secondary importance in predicting engagement, whereas job resources act as the more important and direct factor (Schaufeli & Salanova, 2007). When overwork is not the result of a widespread climate perception in the workplace but rather a contingent requirement, organizations should provide fair rewards for employees complying with this demand. In line with previous research findings, the negative effects of overwork, especially if resulting from a strong pressure from organizational management, may be reduced by fair compensation for extra work efforts (Beckers et al., 2008).

Our findings revealed that the presence of inadequate compensation for overtime work is also able to foster workaholism, but this negative type of working hard exhibited a stronger association with the constant endorsement of overwork in the

workplace. Although workaholics tend to work harder than is required primarily because they are driven by their inner compulsion (Bakker & Schaufeli, 2008), their obsession with work could be fostered by the perception of a work environment that expects them to overwork. In addition, the continuous request to dedicate an extraordinary amount of time to work could promote workaholism regardless of the workload (or psychological job demands) that employees have to meet. Hence, reducing the amount of conflicting and demanding tasks does not represent an effective way to prevent this obsession with work.

Overall, a climate that endorses the importance of an adequate work–life balance is an essential factor in avoiding obsessive work-related conduct and, in a complementary way, to improve the positive outcomes that an affective-motivational state of fulfillment produces.

CHAPTER 4

Are workaholism and work engagement in the eye of the beholder?

A multirater perspective on opposite forms of working hard

Summary

Using a sample of 73 dyads composed by employees and their coworkers, the present study was aimed: (1) to compare focal employees' and coworkers' perceptions concerning the level of work engagement and workaholism exhibited by the focal employee; (2) to explore the discriminant validity of engagement and workaholism. In order to achieve these two purposes, a multitrait-multimethod matrix and a correlated trait-correlated method model, i.e. the CT-C(M–1) model, were examined. Our results showed a considerable agreement between the two raters (i.e., focal employee and coworker) on levels of work engagement and workaholism. Nonetheless, a significative difference concerning the cognitive dimension of workaholism, i.e. working compulsively, was observed. This result differs from previous findings on a multirater evaluation of workaholism. Moreover, our results provided further evidence for the discriminant validity between the two forms of working hard.

CHAPTER 4

Introduction

To date, psychological research on workaholism has focused mostly on self-report measures, with only sporadic attempts to evaluate others' perceptions of this addiction to work (e.g., McMillan, O'Drisoll, & Brady, 2004). Moreover, all suchlike studies were based on the workaholic triad developed by Spence and Robbins (1992), which distinguishes various combinations of three dimensions: work involvement, drive, and work enjoyment. For instance, those who score high on involvement and high on drive, but low on enjoyment are considered "real workaholics", whereas those who score high on all three components are considered "enthusiastic workaholics". Hence, these investigations were based on a conceptualization that distinguishes between negative and positive forms of workaholism. In contrast, the current study is aimed at exploring coworkers' perception using a definition of workaholism as a negative psychological state characterized by working excessively due to an irresistible inner drive (Schaufeli, Taris, & Bakker, 2008).

Moreover, the present research aims to explore coworkers' perception, also concerning a positive form of working hard opposed to workaholism, that is work engagement. Empirical evidence indicated that others' perception of engagement may trigger positive individual and work-related outcomes (e.g., Bakker, Demerouti, & Schaufeli, 2005). Nonetheless, so far empirical investigations on engagement relied exclusively on self-report measures.

The purpose of this paper is twofold: (1) to compare focal employees' and coworkers' perceptions concerning the level of workaholism and work engagement exhibited by the focal employee; (2) to explore the discriminant validity of two forms of heavy work investment: engagement and workaholism.

Theoretical background

Workaholism and engagement: two opposite kinds of working hard

According to the prominent conceptualizations, there is a growing consensus toward a definition of workaholism that emphasizes the role of an overwhelming compulsion to work in order explain the tendency to invest an excessive amount of time

and energy into work (e.g., Spence & Robbins, 1992; Scott, Moore, & Miceli, 1997; Ng, Sorensen, & Feldman, 2007). In line with this perspective, Schaufeli and colleagues (2008) proposed a definition of workaholism as the combination of two underlying dimensions: working excessively and working compulsively. According to this definition, 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 reasonably expected to fulfill organizational or economic requirements. Working compulsively, on the other hand, refers to the cognitive dimension of workaholism and implies that workaholics are obsessed with their work and persistently think about work when they are not working. Hence, the combination of the behavioral and cognitive components is held to be essential for workaholism (Schaufeli, Bakker, Van der Heijden, & Prins, 2009). The underlying motivational dynamic that propels workaholic employees to work extremely hard is referred to as *controlled motivation* (Van Beek, Taris, & Schaufeli, 2011). On the one hand, their behavior is driven by external contingencies that refer to the desire to avoid disapproval by others and to obtain their appreciation; on the other hand, these employees strive to meet extremely high standards derived by internalization processes of external standards of self-worth and social approval (Van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). As a consequence, if they fail to meet these standards, these employees will experience negative emotions and self-criticism (Schaufeli & Salanova, 2014).

In addition, a large body of empirical evidence points out that workaholism has a detrimental impact on several life spheres. Concerning the work domain, workaholics may display an impaired work performance given their tendency to make their work more complex than necessary (Gorgievski & Bakker, 2010), and they exhibit recurrent interpersonal conflicts at work (Mudrack, 2006). Given the extraordinary amount of time spent working, workaholics have insufficient time for recovery and have poor quality social relationship outside work (Bakker, Demerouti, Oerlemans, & Sonnentag, 2013), they report considerable levels of work-home conflict (Schaufeli, Shimazu, & Taris, 2009), and a higher occurrence of marital problems (Robinson, Flowers, & Carroll, 2001). In addition, workaholism has a negative effect on employees' health and well-being. Indeed, this addiction to work has been found to predict mental distress and

health complaints (Andreassen, Hetland, Molde, & Pallesen, 2011; Schaufeli, Taris, & Van Rhenen, 2008) and it is related to higher levels of exhaustion (Kubota et al., 2011). Taken together, the motivational dynamics involved and the association with a wide range of harmful outcomes constitute the main distinguishing features of workaholism, that is conceived as a negative type of heavy work investment, as opposed to work engagement, representing a positive form of heavy work investment.

Work engagement is defined as a positive, fulfilling, work-related state of mind that consists of three interrelated dimensions: vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). According to this definition, vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by focused attention and being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulty detaching oneself from work.

In contrast to workaholics, engaged employees are intrinsically motivated, so they experience their work as inherently interesting, enjoyable, and satisfying (Van Beek et al., 2011). This type of motivation encourages individuals to engage in an activity for its own sake and to act on a sense of volition; therefore, engaged employees invest a great amount of time working because they cherish this activity and have integrated their work goals mentally, which makes that they are happily engrossed in their work (Van Beek et al., 2012). A large body of research demonstrates the association between work engagement and a variety of positive outcomes in all life domains. Concerning the work field, engaged employees are more likely to craft their jobs in ways that lead to increased resources and greater challenges (Bakker, Albrecht, & Leiter, 2011), causing better in role and extra role performance (Bakker & Bal, 2010). In addition, engaged employees tend to be more committed to their organizations (Sacks, 2006). Given this positive attitude toward work, work engagement is also negatively related to turnover intention (Schaufeli & Bakker, 2004b) and rates of sickness absences (Schaufeli, Bakker, & Van Rhenen, 2009). In contrast to workaholics, engaged employees do not neglect their social life outside work; rather, they spend time

on socializing, hobbies, and volunteering, thus exhibiting better social functioning outside work (Schaufeli et al., 2008). With regard to employees' health and well-being, work engagement predicts employees' well-being, that is, decreased depression (Hakanen & Schaufeli, 2012) and higher levels of life satisfaction (Shimazu, Schaufeli, Kubota, & Kawakami, 2012).

To sum up, the underlying work motivations of engaged and workaholic employees differ fundamentally. The former are primarily intrinsically motivated, so they enjoy their work and are satisfied by it, whereas the latter are primary driven by internalized standards of self-worth and social approval (Van Beek et al., 2012). Moreover, the opposite nature of these conditions is confirmed by the reverse association with outcomes pertaining to the work domain, life outside work (i.e., extra job activities and social relationships), and several indicators of individual health and well-being. Finally, psychometric studies indicate that these two forms of heavy work investment can be measured independently of each other (Schaufeli et al., 2009; 2008), although some overlap exists. Notably, confirmative factor-analytic studies showed that the absorption dimension of work engagement loads on workaholism as well. This indicates that both workaholics and engaged employees are deeply immersed in their work and are reluctant to disengage from it, albeit that their motivation to do so differs fundamentally.

A multirater approach to workaholism and engagement

Over the last two decades, several scholars have drawn attention to misleading results obtained from self-report research (e.g., Donaldson & Grant-Vallone, 2002). To be specific, social desirability, fear of negative consequences, the sensitivity of constructs under investigation, and dispositional characteristics may compromise the reliability of research findings. Hence, typically in their final sections papers on workaholism and engagement lament the use of self-report measures for these very reasons.

Collecting data from other sources to supplement the primary respondent may overcome these problems mentioned above and may also thus be relevant in research on workaholism and engagement. Indeed, Porter (1996) speculated that workaholics are

often unaware of the obsession that leads them to be completely immersed in their work. Because of this denial tendency, workaholics' evaluation of their behavior and their attitude toward work might not agree with their significant others' views; thus, they may underestimate their obsession with work. Moreover, they may be unconscious of the damaging effects that long working hours have on their physical and psychological well-being. Accordingly, it may be argued that coworkers who spend the majority of their working day next to workaholic employees acknowledge the endless hours the workaholic devotes to work and the detrimental outputs that result. This reasoning originates from addiction theory, in which drug addicts and alcoholics tend to deny they are addicted and thus are resistant to treatment (Porter, 1996). This evokes the original conceptualization that described workaholism as a veritable kind of addiction and that emphasized its similarity to the well-known addictive disorder of alcoholism (Oates, 1971). To date, few studies have addressed the claim that workaholics deny and therefore under-report their compulsive conduct by gathering data from more than one source.

The first study, conducted by McMillan and colleagues (2004), collected data from both employees ($N = 88$) and their partners ($N = 40$). Participants completed two scales contained in the Workaholism Battery (WorkBat; Spence & Robbins, 1992) - feeling driven to work and work enjoyment - and estimated the number of hours they worked per week. The results indicated that workaholic employees (i.e., the focal person) rated their work enjoyment slightly higher than their partners did. Most surprisingly, workaholics rated themselves significantly higher in drive than their partners rated them. According to these findings, workaholics did not tend to under-report their compulsive conduct toward work in comparison to their partners; rather, they appeared to possess a quite accurate perception of their level of workaholism.

In a similar vein, Aziz and Zickar (2006) assessed the level of agreement on the three workaholism dimensions identified by Spence and Robbins (1992), namely work involvement, feeling driven to work, and work enjoyment, between employees and an acquaintance sample composed by a family member, a friend, or a coworker of the focal person. Analyses were based on a total of 174 paired surveys and revealed that the acquaintances substantiated the responses provided by the employees. The study found comparable mean ratings between acquaintances' and employees' responses.

Burke and Ng (2007) collected data from employees in professional and managerial jobs ($N = 62$) along with a self-nominated coworker. Akin to the previous study, the obtained results showed a substantial agreement on all three components of workaholism. Moreover, this study's participants (i.e., focal persons and their coworkers) showed analogous evaluations on a one-item global assessment of workaholism. On the whole, the previous findings provide evidence for a substantial agreement among self-report and significant others in evaluating levels of workaholism, meaning that employees do not tend to deny their behavior, but rather seemed to have a fairly accurate view of themselves.

Whereas research on workaholism has tried to gather data from multiple sources in order to evaluate the differences between self-reports and significant others' reports, to the best of our knowledge, the present research represents the first attempt to evaluate multirater agreement on work engagement. Actually, this type of investigation could be interesting with reference to engagement, since this positive state may transfer from one individual to another both in the work environment and in the family context. The process that occurs when the psychological well-being experienced by one person affects the level of well-being of another person, is referred to as crossover (Westman, 2001).

Previous research has provided evidence for a reciprocal crossover of the engagement's dimensions of vigor and dedication among partners (Bakker et al., 2005; Bakker & Demerouti, 2009). With reference to the work domain, work engagement has been proven contagious within work teams, so that team-level work engagement is related to individual members' engagement (Bakker, Van Emmerik, & Euwema, 2006). More specifically, engagement transmits from one employee to another, particularly on days when coworkers interact more frequently than usual (Bakker & Xanthopoulou, 2009).

In addition, these findings suggest that the three dimensions of engagement seem to cross over via somewhat different processes. The crossover of vigor and absorption seems to result from an unconscious modeling process in which employees imitate each other's behavior (Bakker & Xanthopoulou, 2009). As a consequence, employees may become unconsciously more energetic and/or immersed in their activity when working next to a vigorous coworker. In contrast, dedication may result from a more conscious

cognitive process, so that employees "tune in" to their coworker's dedication (Bakker & Xanthopoulou, 2009). In other words, dedication expressed by one employee may fuel his or her coworker's dedication because the coworker's thoughts are focused on the same engrossing aspects of work. Although the level of engagement exhibited by employees has a relevant and beneficial impact on the motivation and the attitude toward work experienced by coworkers, research on others' perceptions of this work-related condition is still lacking.

Therefore, the present study has two main purposes. On the one hand, it aims to compare focal employees' and their coworkers' perceptions concerning employees' level of workaholism, as measured by the Dutch Work Addiction Scale (DUWAS; Schaufeli et al., 2009), and work engagement, as measured with the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). On the other hand, these measures will be employed also to explore the discriminant validity of work engagement and workaholism using different information sources.

Method

Participants

Focal employees. The participants consisted of 73 dyads of Italian employees. The focal employees were mostly female (53.4%), and the M_{age} was 41.16 ($SD = 6.51$). 61.6% of participants worked in the commercial sector, 28.8% in the industrial sector, and the remaining 9.6% worked in public administration. Regarding their work roles, this sample was constituted by employees (30%), managers (30%), store managers (19.2%), vice store managers (6.8%), sales personnel (6.8%), function manager (4.1%), and opticians (2.7%). In addition, 49.3% possessed a high school degree, 38.4% had a university degree, and 12.3% had a post-graduate degree. The majority of the sample had a permanent job (95.9%) with a full-time contract (97.3%), and the mean job tenure in their current organizations was 10.77 years ($SD = 7.1$). The average effective working hours per week reported by these employees was 46.54 ($SD = 5.77$).

Coworkers. The slight majority of participants who completed the questionnaire as coworkers of the focal employees were women (58.9%), and the M_{age} was 36.14

($SD = 7.60$). 61.6% of the coworkers worked in the commercial sector, 28.8% in the industrial sector, and 9.6% in public administration. For the most part, this group of participants constituted the following: employees (41.1%), store managers (23.3%), managers (16.1%), vice store managers (8.2%), sales personnel (8.2%), and opticians (2.7%). Regarding educational levels, 45.2% possessed a university degree, 45.2% had a high school degree, and the remaining 9.6% of respondents had a post-graduate degree. The majority of coworkers had a permanent job (87.7%), worked full-time (94.5%), and had worked in their current organizations for an average of 6.73 years ($SD = 5.98$).

Procedure

Questionnaires were distributed to 73 employees working for different organizations operating in several occupational sectors. These individuals (focal employees) were provided with two copies of the same questionnaire. Each focal employee had to complete one of these copies as a self-report questionnaire, and to identify a coworker who habitually worked with him/her. The identified coworker received the second copy of the questionnaire and was asked to answer each question referring to focal employee's behaviors. Therefore, both questionnaires pertained to the same subject, i.e., the focal employee. Then, the coworker put his/her questionnaire in a sealed envelope and returned it to the focal employee. Finally, each pair of questionnaire was returned to the research group.

Measures

Work engagement was assessed using the nine-item version of the Utrecht Work Engagement Scale (Schaufeli et al., 2006). In line with the theoretical conceptualization previously described, this questionnaire includes three subscales of three items each: vigor, dedication, and absorption. Example items are: "When I get up in the morning, I feel like going to work" (vigor); "I am enthusiastic about my job" (dedication); and "I

feel happy when I am working intensely" (absorption). All items were scored on a seven-point rating scale ranging from 0 (*(almost) never*) to 6 (*(almost) always*).

Workaholism was assessed using the 10-item Dutch Work Addiction Scale (DUWAS; Schaufeli et al., 2009), which included 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 seem to be in a hurry and racing against the clock"). Each subscale consisted of five items that were rated on a four-point frequency scale ranging from 1 (*(almost) never*) to 4 (*(almost) always*).

Strategy of Analysis

The two main purposes of the study were achieved by using two different strategies of analysis: first, the Multitrait-Multimethod (MTMM) matrix, i.e., correlations among measures of multiple traits assessed by multiple methods, provided preliminary information about the convergent and discriminant validity between work engagement and workaholism (Campbell & Fiske, 1959).

Next, a multiple-indicator correlated trait-correlated method minus one model, i.e. the CT-C(M–1) model was analyzed (Eid, Lischetzke, Nussbeck, & Trierweiler, 2003; Nussbeck, Eid, Geiser, Courvoisier, & Lischetzke, 2009). The CT-C(M–1) model is a special case of the correlated trait-correlated method (CT-CM) model, with one method factor less than the numbers of methods considered.

Indeed, in the CT-C(M–1) model one of the methods is selected as a *reference method* (or standard method), and therefore is not modeled as a factor. In the current model, we had *structurally different methods*, since each of them (focal employee and coworker) had a particular perspective of the employee's behavior. In other words, the focal employee was asked to rate him- or herself, while the coworker was asked to rate another person. In this sense, the methods involved in our study did not have the same level of access to the employee's behavior, but rather, each rater had a particular perspective of the employee's behavior. Focal employee's report is structurally different from coworker's report because the former provides ratings based on a complete sample of situations.

The presence of structurally different methods led us to define self-report as the reference method. The exclusion of a specified method factor for self-report implied that the trait factors (engagement and workaholism) were interpreted as the traits measured by focal employees' self-report. The modeled method factor (i.e., coworker report) therefore indicated the residual between the self-report and the method it represents.

Hence, the present study contrasted the focal employee self-report with the coworker report, thus allowing us to explore the deviations of the self-report ratings from the coworker ratings. When compared to classical strategies of analysis applied to MTMM data (e.g., Campbell & Fiske, 1959), a relevant advantage of the multiple-indicator CT-C(M–1) model is that it allows to separate measurement error from true trait and method effects. This model permits to evaluate the convergent and discriminant validities at latent levels; therefore, it leads to a proper estimation of the discriminant and convergent validities through the correction for measurement error.

The traditional MTMM matrix considers only one indicator (e.g., one scale) per trait-method unit (TMU) (e.g., self-report of work engagement). In contrast, the CT-C(M–1) model represents each TMU with multiple indicators. The use of multiple indicators allows trait-specific and method-specific influences to be disentangled from measurement error (Höfling, Schermelleh-Engel, & Moosbrugger, 2009). In addition, it allows each observed variable (indicator) to represent a slightly different facet of the construct because the indicators should not be perfectly unidimensional within one trait.

An additional characteristic of the CT-C(M–1) model is that trait-specific method factors should be identified, so that method factors exist separately within each trait. In the present study we had one modeled method, i.e. coworker report, and two traits, i.e. work engagement and workaholism, therefore two method factors were defined: coworker report of work engagement and coworker report of workaholism. In contrast to traditional models assuming perfect consistency of method effects across traits (e.g., CT-CM model), the CT-C(M–1) model assumes that while the method factors belonging to the same method but different traits are significantly correlated, these correlations are far from perfect. For instance, coworker report may be characterized by the tendency to over- or underestimate focal employees with respect to

different traits, but the degree of this over- and underestimation may vary across the different traits considered.

Results

Correlation coefficients among Multitrait-Multimethod (MTMM) measures

The full MTMM matrix of the correlations among the single dimensions of engagement and workaholism and the total scores on these dimensions, as measured by focal employees and coworkers, is displayed in Table 1.

Overall, a comparison of the means of the focal employees and coworkers revealed very similar patterns. Nonetheless, the focal employees' average self-evaluations were in general slightly higher than those provided by their coworkers for the two central dimensions of engagement, namely vigor and dedication. However, this difference was not statistically significant neither for vigor ($t(72) = .76$, *ns*), nor for dedication ($t(72) = .96$, *ns*).

In contrast, focal employees' average assessment of absorption was hardly higher than the average rating provided by coworkers, but also this difference was far from being significant ($t(72) = -.18$, *ns*).

Most interestingly, the focal employees' average self-evaluations on the general score of work engagement were higher than those provided by their coworkers: *M* self-report engagement = 5.36 (*SD* = .62); *M* coworker report engagement = 5.31 (*SD* = .83). Once again the comparison between these means revealed that they were not significantly different ($t(72) = -.61$, *ns*).

In contrast with the general trend concerning work engagement, the average assessments of the workaholism dimensions indicated that the scores provided by coworkers were higher than those provided by focal employees. In particular, there was a significant difference for working compulsively ($t(72) = 2.50$, $p < .05$), with coworkers assigning higher scores than focal employees.

In contrast, focal employees' average assessment of working excessively was not significantly different from the average rating provided by coworkers ($t(72) = -.46$, *ns*).

Table 1. Means, Standard deviation, Cronbach's Alphas (in brackets), and MTMM correlations among the variables.

| | | | Self report | | | | | | | Coworker report | | | | | | |
| | | | *r* | | | | | | | | | | | | | |
Method and trait	*M*	SD	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Self report																
1. Vigor	5.19	.76	(.81)													
2. Dedication	5.49	.84	.73***	(.92)												
3. Absorption	5.40	.57	.54***	.47***	(.60)												
4. Work engagement	5.36	.62	.90***	.89***	.74***	(.88)											
5. WE	2.76	.64	-.26*	-.30**	-.15	-.29*	(.83)										
6. WC	2.25	.57	-.27*	-.26*	-.14	-.27*	.82***	(.73)									
7. Workaholism	2.50	.58	-.28*	-.30*	-.15	-.29*	.95***	.95***	(.88)								
Coworker report																
1. Vigor	5.11	1.04	**.58*****	.52***	.33**	.57***	-.21	-.12	-.18	(.83)						
2. Dedication	5.40	.92	.52***	**.62*****	.24*	.57***	-.20	-.12	-.17	.79***	(.91)					
3. Absorption	5.42	.74	.42***	.51***	**.17**	.46***	-.19	-.19	-.20	.67***	.84***	(.76)				
4. Work engagement	5.31	.83	.56***	.60***	.28*	**.59*****	-.22	-.15	-.20	.91***	.95***	.89***	(.92)			
5. WE	2.78	.49	-.18	-.11	-.09	-.15	**.70*****	.67***	.72***	-.08	.06	.02	-.01	(.64)		
6. WC	2.42	.55	-.07	-.09	-.16	-.12	.46***	**.46*****	.48***	.03	.21	.20	.15	.64***	(.66)	
7. Workaholism	2.60	.47	-.13	-.11	-.14	-.15	.64***	.62***	**.66*****	-.02	.15	.12	.08	.89***	.91***	(.78)

Note. * $p<.05$; ** $p<.01$; *** $p<.001$. Coefficient alpha is displayed in parentheses on the main diagonal. Correlations between the same trait measured by two different methods (convergent validity) are in bold

In a similar way, the focal employees' average self-evaluations on the general score of workaholism were lower than those provided by coworkers, with M self-report workaholism = 2.50 (SD = .58) and M coworker report workaholism = 2.60 (SD = .47). On the other hand, these average ratings were not significantly different ($t(72)$ = -1.87, ns).

In the MTMM matrix, correlations among measures of multiple traits assessed by multiple methods give information about the convergent and discriminant validity (Campbell & Fiske, 1959). High correlations between measures of the same trait assessed by different methods provide evidence of *convergent validity*. Therefore, in the current study convergent validity is indicated by high correlations between measures of the same trait provided by focal employees and coworkers. Conversely, *discriminant validity* is supported if correlations among measures of different traits (using either the same or different methods) are significantly weaker than correlations between measures of the same trait in which different methods are used. Hence, in the current study discriminant validity is proved if correlations among measures of different traits are significantly weaker than correlations between measures of the same trait provided by focal employees and coworkers.

In our study, an inspection of the MTMM correlations revealed a significant convergence between focal employees and coworkers in all the reported components (rs ranged from .46 to .70). The only exception is constituted by the third component of work engagement, absorption, which showed a non-significant correlation between self-report and coworker report. Our results also showed a high convergent validity for the general score of work engagement (r = .59, p < .001) and workaholism (r = .66, p < .001). Among the engagement dimensions, dedication was characterized by the higher convergent validity coefficient (r = .62, p < .001), whereas the component of workaholism showing the strongest convergent validity was working excessively (r = .70, p < .001). On the whole, these positive correlations support the convergent validity for the dimensions of engagement and workaholism and their general scores, with the only exception of the third dimension of engagement, that is absorption.

When we take the single dimensions of engagement and workaholism into account, we found evidence for the prevalence of strong method effects. Indeed, the

single dimensions of engagement (i.e., vigor, dedication, absorption) and workaholism (i.e., working excessively, working compulsively) showed monomethod correlations which were even higher than their respective convergent validity coefficients. In other words, in several cases correlations among different dimensions measured by the same method (focal employee or coworker) were higher than the respective convergent validity coefficients.

These coefficients did not satisfy the criterion established by Campbell and Fiske (1975) necessary to support a clear discriminant validity, since the highest correlations are not between heteromethod-monotrait measures.

On the other hand, when only the total engagement score is taken into account, the highest correlation by far is that between the heteromethod-monotrait measures, hence between engagement as measured by focal employee and coworker ($r = .59$, $p < .001$). Therefore, work engagement showed strong discriminant validity from the general score of workaholism and its single components, i.e. working excessively and working compulsively.

In a similar way, when only the general workaholism score is assessed, the highest correlation is between the heteromethod-monotrait measure, hence between workaholism as assessed by focal employee and coworker ($r = .66$, $p < .001$). Hence, workaholism showed high discriminant validity from work engagement and its single dimensions, i.e. vigor, dedication and absorption.

Testing the CT-C(M–1) model

The above correlation coefficients are helpful for descriptive purposes, but multitrait-multimethod data are optimally analyzed with a structural equation model. The CT-C(M–1) model was estimated using the AMOS 5 software package (Arbuckle, 2005) with a maximum likelihood estimation procedure (Figure 1).
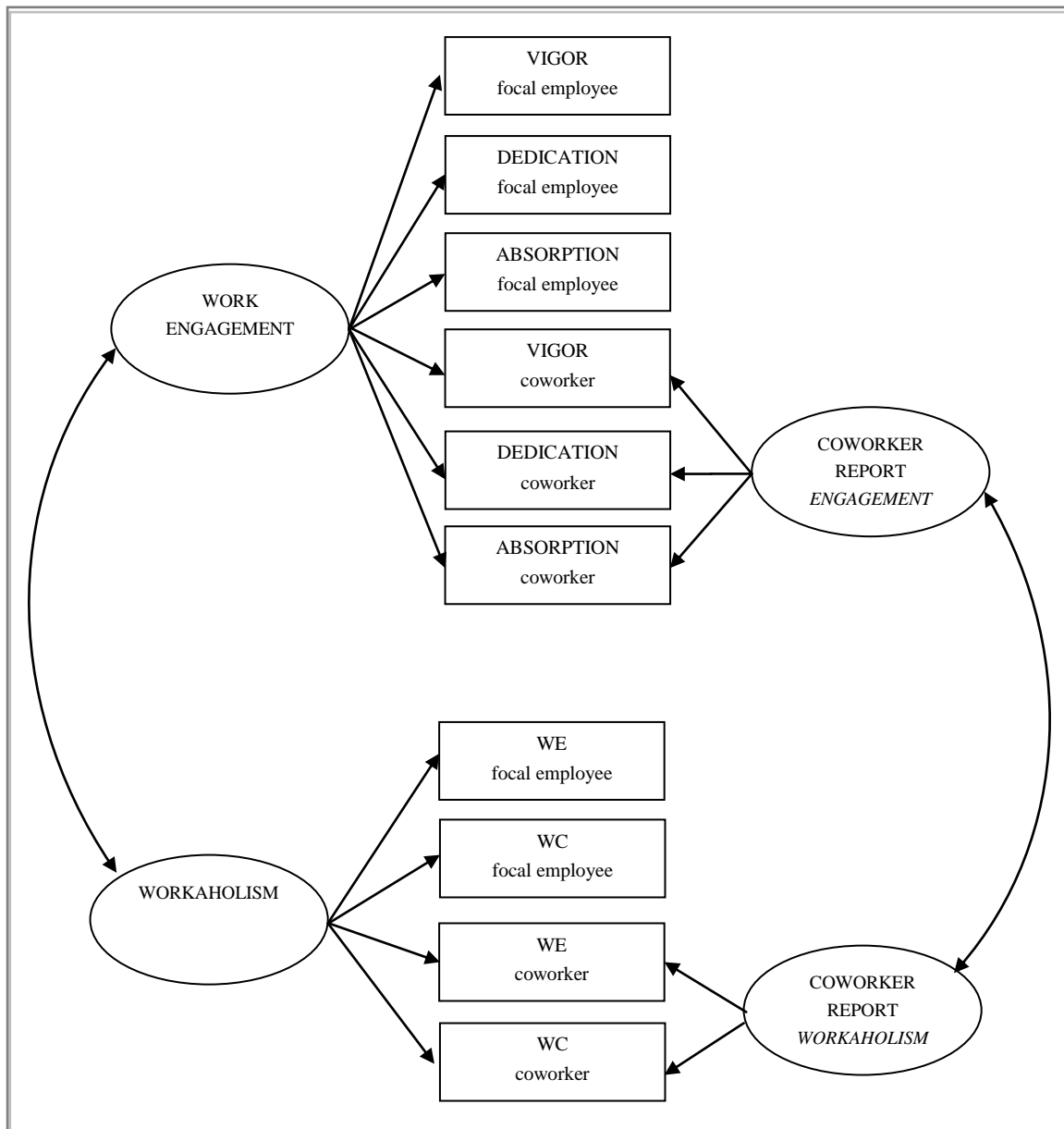
Note. WE = Working Excessively; WC = Working Compulsively.

Figure 1. CT-C(M–1) model for work engagement and workaholism with self-report as reference method.

The model fit to the data was evaluated using the chi-square (χ^2) statistic and the root mean square error of approximation (RMSEA). We also examined fit indices less sensitive to sample size, including the Comparative Fit Index (CFI) and the Tucker Lewis Index (TLI). For the RMSEA, values equal to or less than .08 indicate an

acceptable model fit (Bentler, 1990). For the other fit statistics, values of .90 represent acceptable fit, whereas values of .95 or higher indicate good fit (Hu & Bentler, 1999). The model presented in Figure 1 showed a good fit to the data: χ^2 (28) = 36.137, p = .139; RMSEA = .06, CFI = .98, TLI = .97.

Factor loadings

Standardized factor loadings for the trait and method factors are reported in Table 2.

Table 2. Standardized factor loadings for trait and method (self report and coworker report) factors from the CT-C(*M*–1) model

		Work engagement			Workaholism	
			Method			Method
	Indicator	Trait	Coworker report	*Indicator*	Trait	Coworker report
Self report	Vigor	.87***		WE	.94***	
	Dedication	.85***		WC	.87***	
	Absorption	.58***				
Coworker report	Vigor	.63***	.50***	WE	.75***	.40***
	Dedication	.62***	.78***	WC	.50***	.67**
	Absorption	.50***	.66***			
Correlation between traits (work engagement, workaholism)					-.33**	
Correlation between methods (coworker report of work engagement, coworker report of workaholism)					.54**	

Note. WE = Working Excessively; WC = Working Compulsively. * $p<.05$; ** $p<.01$; *** $p<.001$

Factor loadings were strong (.58-.94) for self-reports as well as for coworker reports (.50-.75). It should be noted that coworker report represented the only modeled method factor of the current study, since self-report was selected as reference method and therefore was not modeled. Hence, trait loadings of coworker reports are lower than those pertaining to self-reports because coworker reports have trait-specific method factors to "absorb" some of the covariance among indicators. The high loadings of coworker reports on the trait factors indicates that the self-reports can explain a large amount of the variances of their coworkers' ratings. Consequently, it can be concluded that the convergent validity between self-reports and coworker reports is high.

In addition, there was some variability across traits: the lowest trait loadings for coworker reports were found for absorption and working compulsively (.50), whereas working excessively showed the highest loading (.75). This suggests that convergent validity of self-report vis-à-vis coworker report was strongest for working excessively, and weakest for absorption and working compulsively. Because our model controlled for measurement error through its use of multiple indicators, information from these factor loadings enhances the understanding of convergent validity that was found through simple correlation analysis based on the MTMM matrix (Table 1).

Correlations among factors

In the CT-C(M–1) model, the correlation of different traits measured by the same method indicates the generalizability of method effects across traits (Eid et al., 2003). For instance, a correlation of zero would indicate that there is no generalizability of method effects across traits. In the current study, the correlation between engagement and workaholism as measured by coworkers was $r = .54$ ($p < .05$), suggesting a trait-specific method effect. In other words, the positive correlation between the method factors of engagement and workaholism indicates that coworkers who overestimate focal employee engagement also tend to overestimate that person's level of workaholism. Conversely, underestimation of engagement is associated with underestimation of workaholism.

The correlation of the trait factors (i.e., work engagement and workaholism) indicates the discriminant validity at the level of the standard method. In the current

study the standard method was the self-report, therefore, this correlation coefficient measured the discriminant validity with respect to the focal employees. As reported in Table 2, work engagement showed a negative correlation with workaholism ($r = -.33$, $p < .05$). Given that measurement error has been accounted for, this correlation is disattenuated: in other words, it represents the correlation between true scores of these variables. This negative correlation coefficient indicated that engagement and workaholism emerge as distinct dimensions.

Variance components

Table 3 illustrates the variance components of the observed variables and the true-score variables.

The reliabilities of the observed indicators are relatively high, with the exception of absorption as measured by focal employees. In line with the internal consistency indicated in Table 1, the reliability of this specific indicator is slightly lower than the value of .70 which is generally used as an indicator for sufficient internal consistency (Nunnally & Bernstein, 1994). The consistency coefficients describe the amount of true variance for an observed variable, or true-score variables, which is explained by respective trait factors. Hence, the consistency coefficients are interpreted as indicators of convergent validity between structurally different raters.

Method specificity indicates the amount of true variance for an observed variable, or true-score variable, which is explained by the respective method factor. For the three work engagement indicators, the consistency coefficients of the coworkers' ratings range from .26 to .39. Hence, between 26% and 39% of the coworkers' ratings can be explained by the self-reports. Inspection of the method specificity coefficients suggests that between 25% and 61% of reliable variation in the engagement dimensions as reported by coworkers was unique to these methods. For dedication and absorption, the consistency coefficients are slightly lower compared with the method-specificity coefficients.

Nonetheless, when the variance components of the true-score variables are considered, the consistency coefficients of the coworker ratings for these two

dimensions range from .37 to .39; therefore, a real preponderance of method specificity can be excluded.

Table 3. Variance Components in the CT-C(*M*−1) Model

Rating	Observed variables			True-score variables		
	Reliability	Consistency	Method specificity	Consistency	Method specificity	Latent correlation
Work engagement						
Self report						
Vigor	.75	.75		1.00		
Dedication	.72	.72		1.00		
Absorption	.33	.33		1.00		
Coworker report						
Vigor	.64	.39	.25	.62	.38	.79
Dedication	1.00	.39	.61	.39	.61	.62
Absorption	.70	.26	.44	.37	.63	.61
Workaholism						
Self report						
Working Excessively	.88	.88		1.00		
Working Compulsively	.75	.75		1.00		
Coworker report						
Working Excessively	.71	.55	.15	.78	.22	.88
Working Compulsively	.69	.24	.45	.35	.65	.59

Note. CT-C(M−1) = correlated trait–correlated method minus one. Latent correlation with the standard method (√consistency).

Concerning the two indicators of workaholism, the consistency coefficients of the coworkers' ratings range from .24 to .55. To be specific, 55% of the coworkers' ratings on the behavioral dimension of workaholism (working excessively) can be explained by the self-reports. On the other hand, the corresponding rate for the cognitive

dimension (i.e., working compulsively) equals 24%. These results are in line with the convergent validity coefficients displayed in Table 1, were working excessively and working compulsively showed the highest and the lowest convergent validity coefficients, respectively. When the variance components of the true-score variables are examined, the consistency coefficient of the coworker ratings for working excessively is .78, thus suggesting a strong association between self- and coworker reports for this dimension of workaholism. Working compulsively showed a consistency coefficient of .35, and a method specificity coefficient of .65, suggesting that 65% of reliable variation in working compulsively as measured by coworkers' reports was unique to this method.

The last column of Table 3 shows the latent correlations between the self- and coworker reports. These coefficients are correlations between the true scores of the coworker ratings and the corresponding true scores of the first self-reported indicator. Therefore, they represent correlations between self- and coworker reports corrected for measurement error. Thus, the latent correlations between coworker-reported latent traits and self-report indicators ranged from .59 to .88.

Discussion

Drawing on a sample of 73 dyads, the purpose of the present study was twofold: 1) to compare focal employees' and coworkers' perceptions concerning the levels of work engagement and workaholism exhibited by the focal employee as measured by the UWES (Schaufeli et al., 2006) and workaholism as measured by the DUWAS (Schaufeli et al., 2009), and 2) to explore the discriminant validity of work engagement and workaholism.

Results deriving from the analysis of the MTMM matrix (Campbell & Fiske, 1959) confirmed the discriminant validity between work engagement and workaholism. In addition, the CT-C(M–1) model (Eid et al., 2003; Nussbeck et al., 2009) confirmed the presence of a high discriminant validity between work engagement and workaholism at the level of the focal employee, chosen as reference method for the current model. Since the CT-C(M–1) offers the opportunity to control for measurement error, the negative correlation coefficient between engagement and workaholism represents the discriminant validity between the true scores of these variables. In line

with previous studies (Schaufeli et al., 2009; 2008), the current research provided evidence for the distinctive nature of these forms of working hard.

According to the MTMM matrix, the assessment of the three dimensions of work engagement, namely, vigor, dedication, and absorption, showed a substantial agreement between the two groups of raters. The only exception was represented by absorption, which did not show a significant correlation (convergent validity) between focal employees' and coworkers' evaluations. However, it should be noted that this component is not considered a crucial dimension of the construct, since vigor and dedication are regarded as the core features of work engagement (Schaufeli & Bakker, 2004b). Therefore, these results supported the presence of a high convergent validity between focal employee and coworker with respect to the central dimensions of work engagement (vigor and dedication).

Work engagement as assessed by the UWES is conceived of as a unitary construct constituted by three different yet closely related aspects. For that reason, Schaufeli and colleagues (2006) recommend, particularly for practical purposes, that the total score on the UWES be used as a single indicator of work engagement. Accordingly, employees are considered engaged if they score high on each of the three underlying dimensions (Schaufeli & Bakker, 2010). In the present study, the general assessment of work engagement showed a high agreement between the two raters involved; therefore, it can be concluded that our results indicated a high convergent validity between focal employee and coworker in relation to a positive kind of heavy work investment, that is, work engagement.

Concerning workaholism, the MTMM matrix indicated highly comparable evaluations for the behavioral component of the construct, i.e., working excessively, but significantly different assessments of the cognitive dimension, i.e., working compulsively. In other words, in our sample, focal employees tended to under-report their compulsive attitude toward work in comparison to their coworkers.

On the other hand, the total score on workaholism did not show any significant difference between focal employees and coworkers. This finding is particularly relevant because workaholism is defined as a syndrome implying the combination of high scores on both its underlying dimensions: working excessively *and* working compulsively (Schaufeli et al., 2009).

All in all, results concerning the convergent validity between focal employee and coworker assessments of engagement and workaholism and their single dimensions were corroborated by loadings and consistency coefficients reported in the CT-C(M–1) model. The high trait loadings suggested that self-report can explain a large amount of the variances of coworkers' ratings, thus confirming a high convergent validity between focal employees' and coworkers' evaluations.

In particular, the highest loading for coworker report pertained to working excessively, whereas absorption and working compulsively showed the lowest loading. In line with the results of the MTMM matrix, the CT-C(M–1) model suggested that convergent validity between the two raters was strongest for working excessively and weakest for absorption and working compulsively. These results were supported by the analysis of the variance components of the CT-C(M−1) model. Consistency coefficients suggested an extremely high convergent validity between raters with reference to working excessively. In contrast, absorption and working compulsively showed strong method specificity: a large amount of variance for these dimensions was explained by method factors, thus by the specific rater taken into account.

Therefore, the two key dimensions of workaholism exhibited a different convergent validity between focal employees' and coworkers' assessments. This evidence constitutes an interesting difference from previous findings suggesting a complete overlap between self- and other reports of all workaholism dimensions. In particular, empirical results based on the workaholism triad developed by Spence and Robbins (1992) indicated analogous ratings among focal employees and significant others, also for the dimension of workaholism describing the inner compulsion that propels these employees to work excessively hard, i.e., *drive* (McMillan et al., 2004; Aziz & Zickar, 2006; Burke & Ng, 2007).

To sum up, the present research corroborates the evidence that work engagement and workaholism represent two conceptually and empirically distinct forms of involvement in one's work; in addition, these constructs seem to be accurately assessed by both focal employees and their coworkers.

CHAPTER 4

Study limitations

Although a strength of the present study design is the exploration and matching of data between employees and coworkers with reference to two opposite forms of working hard (work engagement and workaholism), there are some limitations that should be mentioned. First, the sample size was relatively small, which might have reduced the statistical power of our analyses and also decreases the opportunity to generalize the obtained results to the entire working population. A second limitation of the present study is that it is cross-sectional in nature, so we cannot draw any conclusions regarding the stability of our findings.

Therefore, adopting a rigorous longitudinal research design would reduce the likelihood of the findings having arisen due to chance and would allow us to investigate whether the current results are stable across time. Moreover, the engagement dimension of absorption (as measured by focal employee report) and the two dimensions of workaholism (as measured by coworker report) had a reliability coefficient that was slightly lower than the criterion of .70, which is traditionally used as a rule of thumb (Nunnally & Bernstein, 1994). Nevertheless, this alpha coefficient is satisfactory considering Nunnally's (1967) recommendation to only use scales with item consistencies higher than .60 in basic research. In addition, these scales reflect only single components of the constructs under investigation, whereas the current study mainly focused on two opposite kinds of employee heavy work investment. Hence, a crucial role was attributed to the total scores of the UWES and the DUWAS.

Finally, the adopted measures were paper-and-pencil reports, which can lead the subject to reporting bias. Although adopting coworker report addressed this critical issue to some extent, including behavioral observations is important. Objective measures would be suitable only for assessing the behavioral dimension of workaholism (i.e., working excessively), for instance, by observing whether employees continue to work after their coworkers finish. On the other hand, attempting to collect such measures of the inner drive that prompts workaholic employees (i.e., working compulsively) would not be feasible.

Future research directions

Despite these limitations, the current findings have implications for future research directions. Indeed, for future studies on a multirater perspective of workaholism and engagement, it may be of interest to investigate also the perceptions of other subjects both within the workplace (e.g., supervisor) and the family context (e.g., partner). This will allow revealing overlaps or differences in focal employees' workaholism and engagement as measured by different raters. Moreover, future research should investigate the effective impact of focal employees' workaholism and engagement on personal relationships. To this end, measures of relationship quality should be assessed by different raters (e.g., coworkers, partners) in order to corroborate the hypothesis that workaholism and engagement have detrimental and positive consequences also on quality of employees' relationships, respectively.

CHAPTER 5

General discussion

5.1 Introduction

During the last few decades, there has been a great deal of sustained interest in the subject of workaholism both within the academic literature and also in the popular press (Burke, Matthiesen, & Pallesen, 2006). To date, there is a substantial consensus on a definition of workaholism that emphasizes the role of an overwhelming compulsion to work, explaining the tendency to dedicate an excessive amount of time to the job (Schaufeli, Taris, & Bakker, 2006; 2008). Accordingly, the present thesis is based on a definition of workaholism as a negative psychological state characterized by working excessively, essentially due to an internal drive that cannot be resisted (Salanova, Del Líbano, Llorens, Schaufeli, & Fidalgo, 2008).

As workaholism has garnered increasing attention in the scientific literature, several scholars have developed a conceptual models in which individual and environmental variables concur to determine the occurrence of this addiction to work. Specifically, two noteworthy reviews on workaholism suggested that the combination of personality and environmental conditions plays a key role in determining the manifestation of this addiction to work (Ng, Sorensen, & Feldman, 2007; Liang & Chu, 2009). To be specific, these models posit that whereas person characteristics play a major role in generating workaholism, specific characteristics pertaining to the work environment may exacerbate this condition. Hence, the combination of personal and environmental conditions is recognized as a key antecedent in determining the manifestation of workaholism. In this sense, organizations may unintentionally act as the "pushers" or "enablers" that encourage workaholic behaviors (Holland, 2008). Therefore, the lack of attempts to assess the joint impact of individual and environmental antecedents of workaholism represents a gap within the academic literature currently available.

Moreover, given workaholics' tendency to dedicate an extreme amount of time to their work, the assessment of environmental antecedents of workaholism should rely on a valid measure of the perception of a work environment that expects or obliges

employees to work hard. Accordingly, workaholism has been suggested to be particularly prevalent in those work environments that encourage employees to be extremely competitive, power-hungry, task-oriented, and fearful of failure (Ng et al., 2007). To date, only one study has focused on the environmental antecedent of workaholism, namely organizational climate, and showed that the perception of a high work pressure was related to greater levels of compulsion toward work (Johnstone & Johnston, 2005). Nonetheless, there is no study available that employs a valid and reliable questionnaire aimed to assess employees' perceptions concerning a climate that requires working beyond the official work hours, and thus likely to foster the behavioral dimension of workaholism.

All in all, it may be concluded that so far the multi-causal nature of workaholism, widely suggested by recent conceptualizations of workaholism, has not been empirically explored. Moreover, the literature on workaholism suggests that gaining a multi-rater perspective on workaholism may address the claim that workaholics deny and therefore under-report their compulsive conduct (Porter, 1996). Gathering data from different sources would also allow overcoming weaknesses usually associated with self-report research reported in many studies focused on workaholism. Although few studies have tried to gather data from multiple sources in order to evaluate the differences between self-reports and other-reports (e.g., McMillan, O'Drisoll, & Brady, 2004), none of them was based on a definition of workaholism as a negative psychological state characterized by the combination of a behavioral dimension, i.e., working excessively, and a cognitive dimension, i.e., working compulsively (Schaufeli et al., 2006). In addition, all of these studies were based on limited strategies of analysis, i.e., comparisons between means, which do not permit comparing self- and other-reports with a clear estimation of the measurement error.

In light of these considerations, the central aim of the present thesis was to give a significant contribution to the conceptualization of workaholism by 1) testing whether the joint impact of environmental and personal antecedents may enhance workaholism; 2) developing and exploring the psychometric properties of a questionnaire aimed to assess a psychological climate for overwork; 3) contrasting focal employees' and coworkers' perceptions of the employees' levels of workaholism, defined as the combination of working excessively and working compulsively.

5.2 Summary of main findings

Chapter 2 described the results of a study aimed to explore the interaction effect between a climate that requires to perform overwork and employees' individual characteristics on workaholism. Indeed, empirical evidence suggests that achievement motivation, perfectionism, conscientiousness, and self-efficacy significantly predispose employees toward becoming workaholics (e.g., Clark, Lelchook, & Taylor, 2010). However, recent perspectives on work addiction suggest that organizational factors play a significant role in the development and maintenance of workaholism (Ng et al., 2007). Therefore, we hypothesized that workaholism may be fostered by the perception of a work environment that expects and compels employees to work beyond set work hours, to take their work home, and to work during weekends or holidays. In the present thesis we described employees' combined perceptions of these underlying values in their work environment with the term *overwork climate*. Because person characteristics are by definition rather stable over time, they are assumed to act as moderators able to amplify the impact of the overwork climate on workaholism.

Based on a sample of 333 Dutch employees, this study fully supported the hypothesis of an interaction effect between an overwork climate and person characteristics in fostering workaholism. These results provide initial evidence of the presence of a positive relationship between an overwork climate and workaholism, defined as the combination of working excessively and compulsively, especially for employees who displayed high levels of achievement motivation, perfectionism, conscientiousness, and self-efficacy.

Specifically, among these person characteristics, only achievement motivation and perfectionism were significantly associated with workaholism. In contrast, the main effects of conscientiousness and self-efficacy on workaholism were *not* significant, although the interaction between these two characteristics and overwork climate fostered workaholism significantly. Therefore, contrary to the previous empirical findings suggesting that conscientiousness and self-efficacy are dispositional antecedents of workaholism (e.g., Aziz & Tronzo, 2011; Del Libano, Llorens, Salanova, & Schaufeli, 2012), our results indicated that these person characteristics contribute to the development of obsession with work *only when employees perceived an overwork climate*. It may be concluded that conscientiousness and self-efficacy do not inherently

act as antecedents of workaholism; rather, *low* levels of conscientiousness seem to foster workaholism when no overwork climate is perceived, whereas high levels of conscientiousness seem to foster workaholism when an overwork climate is perceived. An analogous pattern was found regarding the interaction between an overwork climate and self-efficacy. These findings support the hypothesis that, compared to employees characterized by similar workaholic traits, those exposed to behavioral reinforcements in the workplace (e.g., an organizational climate that encourages workaholism) might display higher levels of workaholism (Liang & Chu, 2009; Ng et al., 2007).

This perspective on workaholism is in line with that of McMillan and colleagues (2003), who suggested that a combination of trait and learning theories provides the most promising potential for future research on workaholism: hence, trait-based theory defines workaholism as a stable behavioral pattern that is dispositional in nature; it first emerges in late adolescence and is exacerbated by environmental stimuli. In contrast, learning theory is characterized by generality, parsimony, and pragmatism, and presents a practicable basis for explaining workaholism. Therefore, Chapter 2 represents a first attempt to connect trait and learning perspectives on workaholism, by simultaneously considering person characteristics (achievement motivation, perfectionism, conscientiousness, and self-efficacy) and the role of the environment (i.e., overwork climate).

In line with the first purpose of the present thesis, Chapter 2 reports a first attempt to assess empirically whether the interaction between the perception of a climate that encourages overwork and person characteristics may enhance workaholism. Overall, a significant increase in workaholism is observed when employees possess characteristics that predispose them towards becoming workaholics and when they perceive the presence of an overwork climate in their workplaces.

Chapter 3 consists of two interrelated studies. Study 1 aimed to develop a measure of psychological climate for overwork, labeled as Overwork Climate Scale (OWCS), and to examine its psychometric properties (i.e., reliability and factorial

validity). Study 2 aimed to examine the relationship between overwork climate and two forms of working hard, i.e., workaholism and work engagement.

In Study 1, a principal component analysis was conducted on the eleven items with oblique rotation across Sample 1 ($N = 395$) and a confirmatory factor analysis was conducted in Sample 2 ($N = 396$). The obtained results provided evidence for a theoretically interpretable 11-item OWCS composed of two factors. The first factor assessed to what extent overwork is encouraged and valued in the workplace (referred to as *overwork endorsement*, 7 items), while the second factor consisted of items measuring the absence of HRM policies aimed at rewarding those employees who dedicate an extraordinary amount of time to their work (*lacking overwork rewards*, 4 items).

Study 2 explored the associations between the existence of an overwork climate and two different types of working hard, an intrinsically positive form, i.e., work engagement, and an intrinsically negative form, i.e., workaholism (Schaufeli, Bakker, Van der Heijden, & Prins, 2009). Based on a sample of 791 employees, our findings showed that the OWCS dimension labeled as *overwork endorsement* (i.e., a widespread overwork encouragement in the workplace) was not significantly associated with engagement. This result corroborates the idea that engaged employees act primarily out of a strong autonomous motivation, so they work hard mainly because of a sense of volition and choice, and are hardly influenced by the environment or feedback from others (Van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). On the other hand, the dimension of *lacking overwork rewards* (i.e., the insufficient allocation of rewards for employees who work long hours) was negatively related with engagement. From a theoretical perspective, this finding is consistent with the motivational process postulated by the Job Demands-Resources (JD-R) Model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). This process posits that job resources allow employees to cope with the demanding aspects of their work and simultaneously stimulate them to learn from and grow in their job, which may lead to motivation, feelings of accomplishment, and organizational commitment (Bakker & Derks, 2010). In line with that, the inadequate allocation of resources for employees who work long hours may account for the negative relationship between a lack of overwork rewards and engagement. Moreover, the negative relationship between *lacking overwork rewards*

and engagement remained unchanged after controlling for psychological job demands. This result supported the hypothesis that engagement is negatively related to the scarcity of rewards provided by the organization to employees who overwork, regardless of the workload resulting from psychological job demands.

In contrast, both the OWCS dimensions showed a positive association with workaholism. This relationship is particularly strong for the dimensions of *overwork endorsement*. This finding supports the reasoning that an organizational environment where employees are pushed to work extra hours encourages them to devote an extraordinary amount of time and energy to their work, and contributes significantly to enhance workaholism (Porter, 2004). The weak association between *lacking overwork rewards* and workaholism is consistent with previous results attesting that workaholic employees work extremely hard out of an obsessive drive, so that the presence or the lack of different kinds of rewards is rather irrelevant for this negative type of working hard (Van Beek, Taris, & Schaufeli, 2011). The positive association between overwork climate and workaholism was affected after controlling for psychological job demand, in particular for the *lacking overwork rewards* dimension. Hence, the amount of workload placed on employees (i.e. psychological job demands) may partially explain the relationship between the perception of requirements for extreme work hours and workaholism.

In line with the second purpose of the present thesis, Chapter 3 presents a factorially valid and internally consistent measure of the perception of an overwork climate at work. The OWCS consists of two different dimensions: overwork endorsement and lacking overwork rewards. Lacking overwork rewards is negatively associated with engagement, whereas overwork endorsement is not significantly related with this positive form of working hard. In contrast, both the overwork climate components show a positive association with workaholism. In particular, overwork endorsement constitutes the key dimension of overwork climate when studying workaholism.

Chapter 4 had two main purposes. First, it aimed to compare focal employees' and their coworkers' perceptions concerning the employees' level of workaholism, as measured by the Dutch Work Addiction Scale (DUWAS; Schaufeli, Shimazu, & Taris, 2009), and work engagement, as measured by the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Second, these measures have been employed to explore the discriminant validity of work engagement and workaholism using different information sources.

This study applied two different strategies of analysis. First, the Multitrait-Multimethod (MTMM) matrix, i.e., correlations among measures of multiple traits assessed by multiple methods, provided preliminary information about the convergent and discriminant validity between work engagement and workaholism (Campbell & Fiske, 1959). Second, a multiple-indicator correlated trait-correlated method minus one model, i.e. the CT-C(M–1) model, was analyzed (Eid, Lischetzke, Nussbeck, & Trierweiler, 2003; Nussbeck, Eid, Geiser, Courvoisier, & Lischetzke, 2009).

Using a sample of 73 dyads composed by employees and their coworkers, this study supported the presence of a high convergent validity between focal employee and coworker with respect to the central dimensions of work engagement (i.e., vigor and dedication) and the general assessment of work engagement. Concerning workaholism, this study showed a high convergent validity between raters with reference to the general assessment of workaholism and the behavioral dimension of the construct, namely working excessively. In contrast, working compulsively showed strong method specificity: the assessment of this dimension of workaholism was significantly different for the two raters. This evidence constitutes an interesting difference from previous findings suggesting a complete overlap between self- and other-reports of all workaholism dimensions (Aziz & Zickar, 2006; Burke & Ng, 2007; McMillan et al., 2004). Finally, our results showed a high discriminant validity between work engagement and workaholism; thus, they corroborate the evidence that these constructs represent two conceptually and empirically distinct kinds of heavy work investment (Schaufeli et al., 2006).

In line with the third purpose of the present thesis, Chapter 4 shows a considerable agreement between focal employees' and their coworkers' perceptions on

levels of work engagement and workaholism exhibited by the focal employee. Nonetheless, our findings indicate a significant difference on the assessment of the cognitive dimension of workaholism, i.e. working compulsively. Furthermore, empirical results reported in Chapter 4 provide further evidence for the discriminant validity between the two forms of working hard.

5.3 Limitations

The results of the present work contribute to the ongoing conceptualization of workaholism as a work-related condition that could be better understood by adopting a multi-causal and multi-rater perspective. Before discussing the theoretical and practical implications of our findings, some important limitations of the present thesis should be further acknowledged.

First, all studies were based on cross-sectional data, so that caution must be exercised in the causal interpretation of the observed associations. With reference to Chapter 2 and 3, the use of cross-sectional data implies that conclusions about causality could not be drawn unequivocally. In other words, the data prevent us from clearly establishing the hypothesized causal relationships among overwork climate, person characteristics (assessed in Chapter 2), and workaholism. Concerning Chapter 4, the cross-sectional nature of the data precludes the opportunity to draw any conclusions regarding the stability of our findings about the focal employees' and coworkers' perceptions of workaholism and engagement. Hence, adopting a rigorous longitudinal research design would reduce the likelihood of the findings having arisen due to chance, and would allow investigation to determine whether the current results are stable across time.

Moreover, Chapter 2 and 3 were based on data derived entirely from self-reported questionnaires, and it should be considered that the results obtained from the self-report research could be misleading for several reasons. First of all, common method variance may have influenced our results (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Common method variance refers to the shared amount of spurious covariance between variables due to the common method employed (i.e., self-report). Therefore, when all variables under investigation are based on one method of

measurement, substantive findings are likely to be contaminated by shared method variance. In addition, self-report data may be subject to distortion and inaccuracy due to social desirability bias. This occurs because research participants tend to under-report behaviors deemed inappropriate by researchers or other observers, and they tend to over-report behaviors typically considered as appropriate (Donaldson & Grant-Vallone, 2002). Self-report bias is particularly likely in organizational behavior research because employees often suppose there is at least a remote possibility that their supervisors could gain access to their responses (Moorman, & Podsakoff, 1992). On the other hand, Chapter 4 could be considered an attempt to overcome limitations due to self-report by gathering data from more than one source in order to evaluate the differences between the self-reports and other-reports as regards workaholism and work engagement.

In addition, Chapter 3 reported two interrelated studies where participants were Italian. This evidence could represent a limitation, especially for this specific research, because it aimed to evaluate the psychometric properties of a novel measure of the employees' individual perceptions of an overwork climate in the workplace. Therefore, our findings on the OWCS cannot be generalized to other nationalities. Further research based on the English version of the OWCS would be extremely fruitful in order to examine whether the scale produces the same results when used in other countries.

Finally, it should be acknowledged that in Chapter 4 the sample size was relatively small, and this limitation might have reduced the statistical power of our analyses and increased the estimation error (Cronbach, Gleser, Nanda, & Rajaratnam, 1972). In addition, the employment of a small sample precludes the opportunity to represent accurately the characteristics of the populations from which they were derived, thus preventing us from generalizing the obtained results to the entire working population (Marcoulides, 1993).

5.4 Practical implications and future research directions

The studies reported in this thesis have several implications. In particular, our findings may suggest effective interventions that may prevent the fostering and exacerbation of workaholism. At first glance, workaholics may appear to be an advantage for their organization in terms of their commitment and effort. The most

evident characteristic of workaholics is their tendency to display a great level of dedication to their jobs and to devote much more time to this activity than others do (Burke & Fiksenbaum, 2009). Actually, these employees may compromise organizational goals in subtle ways in order to maintain or increase their need for more work. Additionally, their attitude may imply a high potential for stress among co-workers, essentially due to the fact that workaholics perceive their co-workers as being of lesser value than themselves and underestimate the quality of their co-workers' work if compared to their own work (Porter, 2001). As a result, workaholic employees often have problematic relationships with their co-workers because they usually refuse to delegate work: in doing so, they also try to actively create more work for themselves (Spence & Robbins, 1992; Taris, Schaufeli, & Verhoeven, 2005). It may be concluded that workaholism may compromise employees' performance and have detrimental consequences in terms of organizational outcomes. Hence, a crucial goal for organizations is finding ways to assist employees to perform work more efficiently. Given the very limited opportunities to influence person characteristics that predispose employees towards workaholism, as suggested by Chapter 2, it might be more worthwhile for organizations to create an environment that does not encourage or require excessive work habits that may originate from and foster this compulsive work conduct. In this sense, an effective change in climate can be achieved only through a modification of practices, policies, and procedures adopted in the workplace; this kind of intervention, in turn, may result in a reinterpretation of organizational goals and expectations (Kopelman, Brief, & Guzzo, 1990). In addition, employers and supervisors play a significant role in creating a climate that is not conducive to workaholism, since they implement shared practices through their behavior, communication, and interactions with employees, as well as provide employees with clear indications about the desired behaviors in the workplace (Ostroff, Kinicki, & Tamkins, 2003). As indicated by Chapter 3, a closer inspection of the aspects of an overwork climate able to foster workaholism suggest that this negative type of heavy work investment is strongly associated with the constant encouragement of overwork in the workplace, here defined as overwork endorsement. In other words, a workplace characterized by a widespread diffusion of overwork and the presence of an organizational management that forces employees to work beyond the official set hours constitutes a key aspect of a climate

that fosters workaholic tendencies among employees. In addition, our findings suggest that the continuous request to dedicate an extraordinary amount of time to work could promote workaholism regardless of the workload (or psychological job demands) that employees have to meet. Hence, reducing the amount of conflicting and demanding tasks does not represent an effective way to prevent this obsession with work.

In contrast, the presence of inadequate compensation for overtime work, here defined as lacking overwork rewards, is scantily able to foster workaholism, but it may negatively affect work engagement. This result is consistent with the well-established evidence that job resources act as the more important and direct factor (Schaufeli & Salanova, 2007). Specifically, job resources may foster extrinsic motivation because they are essential for dealing with job demands and for achieving work goals; they are also intrinsically motivating because they are able to satisfy the basic human needs of autonomy, belongingness, and competence (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). In line with that, the allocation of insufficient resources for employees who overwork may reduce their level of engagement. In addition, this relationship is not influenced by the amount of psychological demands placed on employees. From a practical point of view, the requirement to work beyond the official work hours should be associated by fair compensation for extra work efforts.

Although these results are highly relevant in developing effective interventions aimed to discourage workaholism and foster work engagement, we suggest that future research should expand the current comprehension of the multi-causal perspective on workaholism. Indeed, the academic literature recognizes several individual antecedents of workaholism in addition to the person characteristics investigated in Chapter 2. For instance, obsessive-compulsive personality, narcissism, and perfectionism have been suggested as person characteristics that predispose individuals towards becoming workaholics (Andreassen, Hetland, & Pallesen, 2010; Mudrack, 2006). However, empirical investigations aimed at assessing the joint impact of these individual characteristics and environmental factors, e.g., overwork climate in the workplace, is still lacking.

Moreover, in order to achieve a deeper understanding of workaholism, defined as the combination of working excessively and working compulsively, the obtained results employed a multi-rater assessment of this compulsive attitude towards work. In

particular, Chapter 4 evaluated the level of agreement between the focal employees' and coworkers' perceptions with regard to the level of engagement and workaholism displayed by the focal employee. It may be of additional interest to investigate the perceptions of other subjects both within the workplace (e.g., supervisors) and the family context (e.g., partners). This kind of investigation would allow further exploration of the presence of significant differences among raters having a different experience of focal employee's behavior in evaluating his/her level of workaholism. In addition, a relevant contribution to the comprehension of workaholism from an interpersonal viewpoint could derive from studies aimed at investigating other raters' assessment of the quality of relationships with workaholics. Indeed, empirical evidence suggests that workaholism has harmful consequences for interpersonal relationships within and outside the organizational context. For instance, workaholic employees exhibit recurrent interpersonal conflicts at work (Mudrack, 2006), have poor quality social relationship outside work (Bakker, Demerouti, Oerlemans, & Sonnentag, 2013), and report great levels of work-home conflict (Schaufeli et al., 2009), as well as a higher incidence of marital problems (Robinson, Flowers, & Carroll, 2001).

Therefore, future research should collect data from multiple sources in order to provide further evidence of these findings or, in contrast, demonstrate that the detrimental effect of workaholism on interpersonal relationships is judged in different ways depending on the specific rater.

Final note

Overall, the empirical findings discussed in the present thesis lay the foundation for a deeper comprehension of workaholism as a negative work-related state that could be better explained by assuming a multi-causal and multi-rater perspective.

References

Andreassen, C. S., Hetland, J., Molde, H., & Pallesen, S. (2011).''Workaholism'' and potential outcomes in well-being and health in a cross-occupational sample. *Stress and Health*, *27*, e209–e214. doi: 10.1002/smi.1366

Andreassen, C. S., Hetland, J., & Pallesen, S. (2010). The relationship between 'workaholism', basic needs satisfaction at work and personality. *European Journal of Personality*, *24*(1), 3–17. doi: 10.1002/per.737

Araki, S., & Iwasaki, K. (2005). Death due to overwork (Karoshi): Causation, health service, and life expectancy of Japanese males. *Japan Medical Association Journal*, *48*, 92–98.

Arbuckle, J. L. (2005). *Amos 6.0 user's guide*. Chicago, IL: SPSS, Inc.

Armor, D. J., Polich, J. M., & Stambul, H. B. (1978). *Alcoholism and treatment*. New York: Wiley.

Aziz, S., & Tronzo, C. (2011). Exploring the relationship between workaholism facets and personality traits: A replication in American workers. *The Psychological Record*, *61*(2), 269–286.

Aziz, S., & Zickar, M. J. (2006). A cluster analysis investigation of workaholism as a syndrome. *Journal of Occupational Health Psychology*, *11*(1), 52–62. doi: 10.1037/1076-8998.11.1.52

Bakker, A. B., Albrecht, S., & Leiter, M. P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*, *20*(1), 4–28. doi: 10.1080/1359432X.2010.485352

References

Bakker, A. B., & Bal, P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, *83*(1), 189–206. doi: 10.1348/096317909X402596

Bakker, A. B., & Demerouti, E. (2009). The crossover of work engagement between working couples: A closer look at the role of empathy. *Journal of Managerial Psychology*, *24*(3), 220–236. doi: 10.1108/02683940910939313

Bakker, A. B., Demerouti, E., Oerlemans, W., & Sonnentag, S. (2013). Workaholism and daily recovery: A day reconstruction study of leisure activities. *Journal of Organizational Behavior*, *34*(1), 87–107. doi: 10.1002/job.1796

Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2005). The crossover of burnout and work engagement among working couples. *Human Relations*, *58*(5), 661–689. doi: 10.1177/0018726705055967

Bakker, A. B., & Derks, D. (2010). Positive occupational health psychology. In: S. Leka, J. Houdmont (Eds.), *Occupational health psychology* (pp. 194–224). Oxford: Blackwell Publishing.

Bakker, A. B., & Schaufeli, W. B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior*, *29*(2), 147–154. doi: 10.1002/job.515

Bakker, A. B., Van Emmerik, H., & Euwema, M. C. (2006). Crossover of Burnout and Engagement in Work Teams. *Work and Occupations*, *33*(4), 464–489. doi: 10.1177/0730888406291310

Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor–partner interdependence model. *Journal of Applied Psychology*, *94*(6), 1562–1571. doi: 10.1037/a0017525

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215. doi: 10.1037/0033-295X.84.2.191

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*, 1–26. doi: 10.1146/annurev.psych.52.1.1

Bandura, A. (2012). *Information on self-efficacy*. Retrieved from: http://www.uky.edu/~eushe2/Pajares/self-efficacy.html (October 14th, 2012).

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*, 1–26. doi: 10.1111/j.1744-6570.1991.tb00688.x

Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance of sales representatives: Test for the mediating effect of goal setting. *Journal of Applied Psychology*, *78*, 715–722. doi: 10.1037/0021-9010.78.5.715.

Bates, R., & Khasawneh, S. (2005). Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations. *International Journal of Training and Development*, *9*(2), 96–109. doi: 10.1111/j.1468-2419.2005.00224.x

Beckers, D. G. J., Van der Linden, D., Smulders, P. G. W., Kompier, M. A. J., Taris, T. W., & Van Yperen, N. W. (2007). Distinguishing between overtime work and long work hours among full-time and part-time workers. *Scandinavian Journal of Work Environment and Health, 23*, 37–44.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246. doi: 10.1037/0033-2909.107.2.238

Blair-Loy, M., & Jacobs, J. A. (2003). Globalization, Work Hours, and the Care Deficit among Stockbrokers. *Gender & Society, 17*, 230–249. doi: 10.1177/0891243202250777

References

Bovornusvakool, W., Vodanovich, S. J., Ariyabuddhiphongs, C., & Sakkaphat, N. (2012). Examining the antecedents and consequences of workaholism. *The Psychologist Manager Journal, 15,* 56–70. doi: 10.1080/10887156.2012.649994

Bozionelos, N. (2004). The Big Five of personality and work involvement. *Journal of Managerial Psychology*, *19*(1), 69–81. doi: 10.1108/02683940410520664

Brett, J. M., & Stroh, L. K. (2003). Working 61 plus hours a week: Why do managers do it?. *Journal of Applied Psychology*, *88*(1), 67–78. doi: 10.1037/0021-9010.88.1.67

Burgess, Z., Burke, R. J., & Oberklaid, F. (2006). Workaholism among Australian psychologists: gender differences. *Equal Opportunities International*, *25*(1), 48–59.

Burke, R. J. (2000). Workaholism in organizations: Psychological and physical well-being consequences. *Stress Medicine*, *16*(1), 11–16. doi: 10.1002/(SICI)1099-1700(200001)16:1<11::AID-SMI825>3.0.CO;2-U

Burke, R. J. (2001). Workaholism in organizations: the role of organizational values. *Personnel Review*, *30*(6), 637–645. doi: 10.1108/EUM0000000005977

Burke, R. J. (2010). Work hours, work intensity and work addiction: Weighing the costs. In R. J. Burke, C. L. Cooper (Eds.), *Risky business: Psychological, physical and financial costs of high risk behavior in organizations* (pp.67–105). Farnham, UK: Gower Publishing.

Burke, R. J., Burgess, Z., & Oberklaid, F. (2003). Predictors of workaholic behaviors among Australian psychologists. *The Career Development International*, *8*(6), 301–308. doi: 10.1108/13620430310496116

Burke, R. J., Davis, R. A., & Flett, G. L. (2008). Workaholism types, perfectionism and work outcomes. *Journal of Industrial Relations and Human Resources*, *10,* 30–40.

Burke, R. J., & Fiksenbaum, L. (2009). Work motivations, satisfactions, and health among managers: Passion versus addiction. *Cross-Cultural Research: The Journal of Comparative Social Science*, *43*(4), 349–365. doi: 10.1177/1069397109336990

Burke, R. J., & Koksal, H. (2002). Workaholism among a sample of Turkish managers and professionals: An exploratory study. *Psychological Reports*, *91*(1), 60–68. doi: 10.2466/PR0.91.5.60-68

Burke, R. J., Matthiesen, S., & Pallesen, S. (2006). Personality correlates of workaholism. *Personality and Individual Differences, 40,* 1223–1233. doi: 10.1016/j.paid.2005.10.017

Burke, R. J., & Ng, E. W. (2007). Workaholic behaviors: Do colleagues agree?. *International Journal of Stress Management*, *14*(3), 312–320. doi: 10.1037/1072-5245.14.3.312

Byrne, B. M. (2001). Structural Equation Modeling With AMOS, EQS, and LISREL: Comparative Approaches to Testing for the Factorial Validity of a Measuring Instrument. *International Journal of Testing*, *1*(1), 55–86. doi: 10.1207/S15327574IJT0101_4

Campbell, J. P., Dunnette, M. D., Lawler, E. E., & Weick, K. E. (1970). *Managerial behavior, performance, and effectiveness*. New York: McGraw-Hill.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81–105. doi: 10.1037/h0046016

Caruso, C. C. (2006). Possible broad impacts of long work hours. *Industrial Health*, *44*, 531–536. doi: 10.2486/indhealth.44.531

Clark, M. A., Lelhoock, A. M., & Taylor, M. L. (2010). Beyond the Big Five: How narcissism, perfectionism, and dispositional affect relate to workaholism.

References

Personality and Individual Differences, 48, 786–791. doi: 10.1016/j.paid.2010.01.013

Couper, M. P., Kapteyn, A., Schonlau, M., & Winter, J. (2007). Noncoverage and nonresponse in an Internet survey. *Social Science Research*, *36*(1), 131–148. doi: 10.1016/j.ssresearch.2005.10.002

Crawford, E. R., LePine, J. A., & Rich, B. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, *95*(5), 834–848. doi: 10.1037/a0019364

Cronbach, L. J., Gleser, G. C., Nanda, H., & Rajaratnam, N., (1972). *The dependability of behavioral measurements: Theory of generalizability for scores and profiles.* New York: Wiley.

Davis, L. L. (1992). Instrument review: Getting the most from your panel of experts. *Applied Nursing Research*, *5*, 194–197. doi: 10.1016/S0897-1897(05)80008-4

De Castro, A. B., Fujishiro, K. K., Rue, T. T., Tagalog, E. A., Samaco-Paquiz, L. G., & Gee, G. C. (2010). Associations between work schedule characteristics and occupational injury and illness. *International Nursing Review*, *57*(2), 188–194. doi: 10.1111/j.1466-7657.2009.00793.x

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. doi: 10.1207/S15327965PLI1104_01

Del Líbano, M., Llorens, S., Salanova, M., & Schaufeli, W. B. (2010). Validity of a brief workaholism scale. *Psicothema*, *22*(1), 143–150.

Del Líbano, M., Llorens, S., Salanova, M., & Schaufeli, W. B. (2012). About the dark and bright sides of self-efficacy: Workaholism and work engagement. *The Spanish*

Journal of Psychology, *15*(2), 688–701. doi: 10.5209/rev_SJOP.2012.v15.n2.38883

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512. doi: 10.1037/0021-9010.86.3.499

Denison, D. R. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review, 21,* 619–654. doi: 10.2307/258997

Denissen, J. A., Geenen, R., Van Aken, M. G., Gosling, S. D., & Potter, J. (2008). Development and validation of a Dutch translation of the Big Five Inventory (BFI). *Journal of Personality Assessment*, *90*(2), 152–157. doi: 10.1080/00223890701845229

Dickson, M. W., Resick, C. J., & Hanges, P. J. (2006). When organizational climate is unambiguous, it is also strong. *Journal of Applied Psychology*, *91*(2), 351–364. doi: 10.1037/0021-9010.91.2.351

Donaldson, S. I., & Grant-Vallone, E. J. (2002). Understanding self-report bias in organizational behavior research. *Journal of Business and Psychology*, *17*(2), 245–260. doi: 10.1023/A:1019637632584

Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*(6), 1084–1095. doi: 10.1037/0021-9010.90.6.1084

Duxbury, L., & Smart, R. (2011). The 'Myth of Separate Worlds': An Exploration of How Mobile Technology has Redefined Work-Life Balance. In S. Kaiser, M. J. Ringlstetter, D. R. Eikhof, & M. Pina e Cunha (Eds.), *Creating balance?* (pp. 269–284). Berlin, Heidelberg: Springer Berlin Heidelberg.

References

Edwards, J. R. (2009). Seven deadly myths of testing moderation in organizational research. In C. E. Lance, & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends* (pp. 143–164). New York: Routledge.

Eid, M., Lischetzke, T., Nussbeck, F. W., & Trierweiler, L. I. (2003). Separating trait effects from trait-specific method effects in multitrait-multimethod models: A multiple-indicator CT-C(M-1) model. *Psychological Methods*, *8*(1), 38–60. doi: 10.1037/1082-989X.8.1.38

Estrada, A. X., Olson, K. J., Harbke, C. R., & Berggren, A. W. (2011). Evaluating a brief scale measuring psychological climate for sexual harassment. *Military Psychology*, *23*(4), 410–432. doi: 10.1037/h0094765

Eurofound (2013). *Quality of employment conditions and employment relations in Europe*. Dublin: Eurofound.

Farrar, J. E. (1992). Workaholism. In L. L. Abate, J. E. Farrar, & D. A. Serritella (Eds.), *Handbook of differential treatments for addiction* (pp. 230–241). Boston: Allyn & Bacon.

Fenwick, R., & Tausig, M. (2001). Scheduling stress: Family and health outcomes of shift work and schedule control. *American Behavioral Scientist*, *44*(7), 1179–1198. doi: 10.1177/00027640121956719

Frost, R. O., Heimberg, R. G., Holt, C. S., Mattia, J. I., & Neubauer, A. L. (1993). A comparison of two measures of perfectionism. *Personality and Individual Differences*, *14*, 119–126. doi: 10.1016/0191-8869(93)90181-2

Fry, L. W., & Cohen, M. P. (2009). Spiritual leadership as a paradigm for organizational transformation and recovery from extended work hours cultures. *Journal of Business Ethics*, *84*(2), 265–278. doi: 10.1007/s10551-008-9695-2

Golden, L. (2009). A brief history of long work time and the contemporary sources of overwork. *Journal of Business Ethics*, *84*(Suppl2), 217–227. doi: 10.1007/s10551-008-9698-z

Golden, L., & Altman, M. (2008). Why Do People Overwork? Oversupply of Hours of Labor, Labor Market Forces and Adaptive Preferences. In R. Burke, & G. Cooper (Eds.) *Effects of work hours and work addiction: Strategies for dealing with them.* (pp.61–83). London: Emerald Group Publishing Ltd.

Goodman, B. (2006). A field guide to the workaholic. *Psychology Today*, *39*, 40–41.

Gorgievski, M. J., & Bakker, A. B. (2010). Passion for work: Work engagement versus workaholism. In S. L. Albrecht (Ed.), *Handbook of employee engagement: Perspectives, issues, research and practice* (pp. 264–271). Glos, UK: Edward Elgar.

Greenhouse, S. (2001). Report shows Americans have more " Labor Days": Lead over Japan in hours on the job grows. *The New York Times*, September 1, p. A5.

Hakanen, J. J., & Schaufeli, W. B. (2012). Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *Journal of Affective Disorders*, 141, 415–424.

Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, *22*(3), 224–241.
doi: 10.1080/02678370802379432

Härmä, M. (2006). Work hours in relation to work stress, recovery and health. *Scandinavian Journal of Work, Environment & Health*, *32*, 502–514. doi: 10.5271/sjweh.1055

Hart, R. (2004). *The economics of overtime working*. Cambridge University Press, Cambridge, UK.

References

Hayes, A. F. (2013). *An Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press. Retrieved from: http://www.guilford.com (December 11th, 2012).

Höfling, V., Schermelleh-Engel, K., & Moosbrugger, H. (2009). Analyzing multitrait-multimethod data: A comparison of three approaches. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, *5*(3), 99–111. doi: 10.1027/1614-2241.5.3.99

Hofstede, G. (2001). *Culture's consequences: comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.

Holland, D. W. (2008). Work Addiction: Costs and Solutions for Individuals, Relationships and Organizations. *Journal of Workplace Behavioral Health*, *22*(4), 1–15. doi: 10.1080/15555240802156934

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. doi: 10.1080/10705519909540118

Humbert, A., & Lewis, S. (2008). "I have no life other than work"- Long working hours, blurred boundaries and family life: The case of Irish entrepreneurs. In C. L. Cooper, & R. J. Burke (Eds.), *The long work hours culture: Causes, consequences and choices* (pp. 159–181). Bingley: Emerald Publishing.

James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, *67*(2), 219–229. doi: 10.1037/0021-9010.67.2.219

Johnstone, A., & Johnston, L. (2005). The relationship between organization climate, organizational type and workaholism. *New Zealand Journal of Psychology*, *34*, 181–188.

Jones, F., Burke, R. J., & Westman, M. (2006). Work-life balance: key issues. In: F. Jones, R. J. Burke, & M. Westman (Eds.), *Work-life balance: A psychological perspective* (pp. 1–9). East Sussex: Psychology Press.

Jones, A. P., & James, L. R. (1979). Psychological climate: dimensions and relationships of individual and aggregated work environment perceptions. *Organizational Behavior and Human Performance*, *23*(2), 201–250. doi: 10.1016/0030-5073(79)90056-4

Josten, E. J., Ng-A-Tham, J. E., & Thierry, H. (2003). The effects of extended workdays on fatigue, health, performance and satisfaction in nursing. *Journal of Advanced Nursing*, *44*(6), 643–652. doi: 10.1046/j.0309-2402.2003.02854.x

Kanai, A. (2006). Economic and employment conditions, karoshi (work to death) and the trend of studies on workaholism in Japan. In R. J. Burke (Ed.), *Research companion to working time and work addiction* (pp. 158–172). Cheltenham, UK: Edward Elgar.

Karasek, R. A. (1985). *Job Content Questionnaire and user's guide*. Lowell: University of Massachusetts Lowell, Department of Work Environment.

Kerwin, K. C., & Decicca, P. (2007). Hours flexibility and retirement. *Economic Inquiry, 45*(2), 251–267.

Killinger, B. (2006). The workaholic breakdown syndrome. In R. J. Burke (Ed.), *Research companion to working time and work addiction* (pp. 61–88). Cheltenham (UK): Edward Elgar.

Koestner, R., & Losier, G. F. (2002). Distinguishing three ways of being highly motivated: A closer look at introjection, identification, and intrinsic motivation. In E. L. Deci and R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 101–122). Rochester (NY): University of Rochester Press.

References

Kopelman, R. E., Brief, A. P., & Guzzo, R. A. (1990). The role of climate and culture in productivity. In B. Schnieder (Ed.), *Organizational climate and culture* (pp. 282–318). San Francisco, CA: Jossey-Bass.

Kubota, K., Shimazu, A., Kawakami, N., Takahashi, M., Nakata, A., & Schaufeli, W. B. (2011). Association between workaholism and sleeping problems among hospital nurses. *Industrial Health, 48*, 864–871.

Lepine, J. A., Podsakoff, N. P., & Lepine, M. A. (2005). A meta-analytic test of the challenge stressor-hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, *48*(5), 764–775. doi: 10.5465/AMJ.2005.18803921

Liang, Y., & Chu, C. (2009). Personality traits and personal and organizational inducements: Antecedents of workaholism. *Social Behavior and Personality*, *37*, 645–660. doi: 10.2224/sbp.2009.37.5.645

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, *35*(6), 382–385. doi: 10.1097/00006199-198611000-00017

MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, *7*(1), 19–40. doi: 10.1037/1082-989X.7.1.19

Maher, K., & Aeppel, T. (2009). Overtime creeps back before jobs. *Wall Street Journal-Eastern Edition, 254* (126), A3.

Marcoulides, G. A. (1993). Maximizing power in generalizability studies under budget constraints. *Journal of Educational Statistics*, *18*(2), 197–206. doi: 10.2307/1165086

McClelland, D. C., & Winter, D. G. (1969). *Motivating economic achievement*. NY: Free Press.

McCrae, R. R., & Costa, P. R. (2003). *Personality in adulthood: A five-factor theory perspective (2nd ed.)*. New York, NY US: Guilford Press.

McIntosh, N. J. (1995). Exhilarating work: an antidote for dangerous work? In S. L. Sauter, & L. R. Murphy (Eds.), *Organizational risk factors for job stress* (pp. 303–316). Washington, DC: American Psychological Association.

McKnight, D. H., & Webster, J. (2001). Collaborative insight or privacy invasion? Trust climate as a lens for understanding acceptance of awareness systems. In C. L. Cooper, S. Cartwright, & P. C. Earley (Eds.), *The international handbook of organizational culture and climate* (pp. 533–555). Chichester, UK: John Wiley & Sons.

McMillan, L. W., O'Driscoll, M. P., & Brady, E. C. (2004). The impact of workaholism on personal relationships. *British Journal of Guidance & Counselling*, *32*(2), 171–186. doi: 10.1080/03069880410001697729

McMillan, L. H. W., O'Driscoll, M. P., & Burke, R. J. (2003). Workaholism: A Review of Theory, Research, and Future Directions. In C. L. Cooper and I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 167–189). John Wiley & Sons, Ltd, New York.

Michaelis, B., Stegmaier, R., & Sonntag, K. (2010). Shedding light on followers' innovation implementation behavior: The role of transformational leadership, commitment to change, and climate for initiative. *Journal of Managerial Psychology*, *25*(4), 408–429. doi: 10.1108/02683941011035304

Mishel, L., Bernstein, J., & Allegretto, A. (2005). *The state of working America, 2004–05.* Washington DC: Economic Policy Institute.

Moorman, R. H., & Podsakoff, P. M. (1992). A meta-analytic review and empirical test of the potential confounding effects of social desirability response sets in

References

organizational behavior research. *Journal of Occupational and Organizational Psychology*, *65*, 131–149. doi: 10.1111/j.2044-8325.1992.tb00490.x

Mudrack, P. E. (2006). Understanding workaholism: The case of behavioral tendencies. In R. J. Burke (Ed.), *Research companion to working time and work addiction* (pp. 108–128). Cheltenham: Edward Elgar.

Mudrack, P. E., & Naughton, T. (2001). The assessment of workaholism as behavioral tendencies: Scale development and preliminary empirical testing. *International Journal of Stress Management*, *8*(2), 93–111. doi: 10.1023/A:1009525213213

Ng, T. W. H., Sorensen, K., & Feldman, D. (2007). Dimensions, antecedents, and consequences of workaholism: A conceptual integration and extension. *Journal of Organizational Behavior*, *28*, 111–136. doi: 10.1002/job.424

Nunnally, J. C. (1967). *Psychometric theory* (1st ed.). New York: McGraw-Hill.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

Nussbeck, F. W., Eid, M., Geiser, C., Courvoisier, D. S., & Lischetzke, T. (2009). A CTC(M−1) model for different types of raters. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, *5*(3), 88–98. doi: 10.1027/1614-2241.5.3.88

Oates, W. (1971). *Confessions of a workaholic.* New York: World.

Ostroff, C., Kinicki, A. J., & Tamkins, M. M. (2003). Organizational culture and climate. In W. C. Borman, D. R. Ilgen, R. J. Klimoski, (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, pp. 565–593). Hoboken, NJ: John Wiley & Sons.

Parker, C. P., Baltes, B. B., Young, S. A., Huff, R. A., Altmann, R. A., Lacost, H. A., & Roberts, J. E. (2003). Relationships between psychological climate perceptions and work outcomes: A meta-analytic review. *Journal of Organizational Behavior*, *24*, 389–416. doi: 10.1002/job.198

Patel, A. S., Bowler, M. C., Bowler, J. L., & Methe, S. A. (2012). A meta-analysis of workaholism. *International Journal of Business and Management*, *7*, 2–17. doi: 10.5539/ijbm.v7n11p2

Peiperl, M., & Jones, B. (2001). Workaholics and overworkers: Productivity or pathology?. *Group & Organization Management*, *26*(3), 369–393. doi: 10.1177/1059601101263007

Podsakoff, P. M., MacKenzie, S. M., Lee, J., & Podsakoff, N. P. (2003). Common method variance in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879–903. doi: 10.1037/0021-9010.88.5.879

Porter, G. (1996). Organizational impact of workaholism: Suggestions for researching the negative outcomes of excessive work. *Journal of Occupational Health Psychology*, *1*, 70–84. doi: 10.1037/1076-8998.1.1.70

Porter, G. (2001). Workaholic tendencies and the high potential for stress among co-workers. *International Journal of Stress Management*, *8*(2), 147–164. doi: 10.1023/A:1009581330960

Porter, G. (2004). Work, work ethic, work excess. *Journal of Organizational Change Management*, *17*(5), 424–439. doi: 10.1108/09534810410554461

Ray, J. J. (1979). A quick measure of achievement motivation: Validated in Australia and reliable in Britain and South Africa. *Australian Psychologist*, *14*(3), 337–344. doi: 10.1080/00050067908254361

References

Rhoades, J. M. (1977). Overwork. *The Journal of the American Medical Association*, *23*, 2615-2618. doi: 10.1001/jama.237.24.2615

Robinson, B. E. (2000). A Typology of Workaholics With Implications for Counselors. *Journal of Addictions and Offender Counseling*, *21*, 34–48. doi: 10.1002/j.2161-1874.2000.tb00150.x

Robinson, B. E., Flowers, C., & Carroll, J. (2001). Work stress and marriage: A theoretical model examining the relationship between workaholism and marital cohesion. *International Journal of Stress Management*, *8*(2), 165–175. doi: 10.1023/A:1009533415030

Rousseau, D. M. (1988). The construction of climate in organizational research. In C. Cooper, & I. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 139–158). New York: Wiley.

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, *21*(7), 600–619. doi: 10.1108/02683940610690169

Salanova, M., Agut, S., & Peiró, J. (2005). Linking Organizational Resources and Work Engagement to Employee Performance and Customer Loyalty: The Mediation of Service Climate. *Journal of Applied Psychology*, *90*(6), 1217–1227. doi: 10.1037/0021-9010.90.6.1217

Salanova, M., Del Líbano, M., Llorens, S., Schaufeli, W., & Fidalgo, M. (2008). La adicción al trabajo. *Nota técnica de prevención* 759. Instituto Nacional de Seguridad, Higiene y Trabajo.

Salanova, M., & Schaufeli, W. B. (2008). A cross-national study of work engagement as a mediator between job resources and proactive behaviour. *The International Journal of Human Resource Management*, *19*(1), 116–131. doi: 10.1080/09585190701763982

Schaufeli, W. B., & Bakker, A. B. (2004a). UWES - UTRECHT WORK ENGAGEMENT SCALE Preliminary Manual [Version 1.1, December 2004]. Retrieved from: http://www.schaufeli.com/ (December 20th, 2012).

Schaufeli, W. B., & Bakker, A. B. (2004b). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, *25*(3), 293–315. doi: 10.1002/job.248

Schaufeli, W. B., & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker (Ed.), *Work engagement: A handbook of essential theory and research* (pp. 10–24). New York, NY US: Psychology Press.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*(4), 701–716. doi: 10.1177/0013164405282471

Schaufeli, W. B., Bakker, A. B., Van der Heijden, F. A., & Prins, J. T. (2009). Workaholism among medical residents: It is the combination of working excessively and compulsively that counts. *International Journal of Stress Management*, *16*(4), 249–272. doi: 10.1037/a0017537

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement and sickness absenteeism. *Journal of Organizational Behavior*, *30*(7), 893–917. doi: 10.1002/job.595

Schaufeli, W. B., & Salanova, M. (2007). Work engagement: An emerging psychological concept and its implications for organizations. In S.W. Gilliland, D.D. Steiner, & D.P. Skarlicki (Eds.), *Research in social issues in management* (Vol. 5; pp. 135–177). Greenwich, CT: Information Age Publishers.

References

Schaufeli, W. B., & Salanova, M. (2014). Burnout, boredom and engagement at the workplace. In Peeters, M., de Jonge J., & Taris, T. (Eds.), *People at work: An introduction to contemporary work psychology* (pp. 293–320). Chichester, Wiley-Blackwell.

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71–92. doi: 10.1023/A:1015630930326

Schaufeli, W. B., Shimazu, A., & Taris, T. W. (2009). Being driven to work excessively hard: The evaluation of a two-factor measure of workaholism in the Netherlands and Japan. *Cross-Cultural Research: The Journal of Comparative Social Science*, *43*(4), 320–348. doi: 10.1177/1069397109337239

Schaufeli, W. B., Taris, T. W., & Bakker, A. B. (2006). Dr Jekyll or Mr Hyde? On the differences between work engagement and workaholism. In R. Burke (Ed.) *Research companion to working time and work addiction* (pp. 193–217). Cheltenham, Uk and Northampton, MA: Edward Elgar.

Schaufeli, W. B., Taris, T. W., & Bakker, A. B. (2008). It takes two to tango: Workaholism is working excessively and working compulsively. In R. J. Burke & C. L. Cooper (Eds.), *The long work hours culture. Causes, consequences and choices* (pp. 203–226). Bingley, UK: Emerald.

Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being?. *Applied Psychology: An International Review*, *57*(2), 173–203. doi: 10.1111/j.1464-0597.2007.00285.x

Schein, E. H. (1990). Organizational culture. *American Psychologist, 45,* 109–119. doi: 10.1037/0003-066X.45.2.109

Schein, E. H. (2010). *Organizational culture and leadership.* San Francisco, CA: Jossey-Bass.

Schmidt, W. C. (1997). World-Wide Web survey research: Benefits, potential problems, and solutions. *Behavior Research Methods, Instruments & Computers*, *29*(2), 274–279. doi: 10.3758/BF03204826

Schneider, B. (1973). The perception of organizational climate: The customer's view. *Journal of Applied Psychology*, *57*(3), 248–256. doi: 10.1037/h0034724

Schneider, B. (1987). The people make the place. *Personnel Psychology, 40,* 437–453. doi: 10.1111/j.1744-6570.1987.tb00609.x

Schneider, B. (2000). The psychological life of organizations. In N. M. Ashkanasy, C. P. M. Wilderon, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (pp. 17–21). Thousand Oaks, CA: Sage.

Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. *Personnel Psychology*, *36*, 19–39. doi: 10.1111/j.1744-6570.1983.tb00500.x

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational Climate and Culture. *Annual Review of Psychology*, *64*, 361–388. doi: 10.1146/annurev-psych-113011-143809

Schneider, B., Goldstein, H. W., & Smith, D. B. (1995). The ASA framework: An update. *Personnel Psychology*, *48*(4), 747–773. doi: 10.1111/j.1744-6570.1995.tb01780.x

Schneider, B., Gunnarson, S. K., & Niles-Jolly, K. (1994). Creating the climate and culture of success. *Organizational Dynamics*, *23*(1), 17–29. doi: 10.1016/0090-2616(94)90085-X

References

Schulte, M., Ostroff, C., & Kinicki, A. J. (2006). Organizational climate systems and psychological climate perceptions: A cross-level study of climate-satisfaction relations. *Journal of Occupational and Organizational Psychology*, *79*(4), 654–671. doi: 10.1348/096317905X72119

Scott, K., Moore, K., & Miceli, M. (1997). An exploration of the meaning and consequences of workaholism. *Human Relations*, *50*, 287–314. doi: 10.1177/001872679705000304

Selmer, J., & Waldstrøm, C. (2007). Work values of surviving and non-surviving managers during economic recession. *The Career Development International*, *12*(5), 433–445. doi: 10.1108/13620430710773754

Shimazu, A., & Schaufeli, W. B. (2009). Is workaholism good or bad for employee well-being? The distinctiveness of workaholism and work engagement among Japanese employees. *Industrial Health, 47,* 495-502. doi: 10.2486/indhealth.47.495

Shimazu, A., Schaufeli, W. B., Kubota, K., & Kawakami, N. (2012). Do workaholism and work engagement predict employee well-being and performance in opposite directions? *Industrial Health*, 50, 316–321. doi: 10.2486/indhealth.MS1355

Snir, R., & Harpaz, I. (2012). Beyond workaholism: Towards a general model of heavy work investment. *Human Resource Management Review*, *22*, 232–243. doi: 10.1016/j.hrmr.2011.11.011

Sowinski, D. R., Fortmann, K. A., & Lezotte, D. V. (2008). Climate for service and the moderating effects of climate strength on customer satisfaction, voluntary turnover, and profitability. *European Journal of Work and Organizational Psychology, 17*, 73–88. doi: 10.1080/13594320701473065

Spence, J., & Robbins, A. (1992). Workaholism: Definition, measurement, and preliminary results. *Journal of Personality Assessment*, *58*, 160–178. doi: 10.1207/s15327752jpa5801_15

Tabachnick, B., & Fidell, L. (1983). *Using multivariate statistics.* New York: Harper & Row.

Taris, T. W., Schaufeli, W. B., & Verhoeven, L. C. (2005). Workaholism in the Netherlands: Measurement and Implications for Job Strain and Work-Nonwork Conflict. *Applied Psychology: An International Review*, *54*(1), 37–60. doi: 10.1111/j.1464-0597.2005.00195.x

Taris, T. W, Van Beek, I., & Schaufeli, W. B. (2010). Why do perfectionists have a higher burnout risk than others? The mediational effect of workaholism. *Romanian Journal of Applied Psychology, 12*(1), 1–7.

Taris, T. W., Van Beek, I., & Schaufeli, W. B. (2012). Demographic and occupational correlates of workaholism. *Psychological Reports*, *110*(2), 547–554. doi: 10.2466/03.09.17.pr0.110.2.547-554

Towers, I., Duxbury, L. E., Higgins, C., & Thomas, J. (2006). Time thieves and space invaders: Technology, work and the organization. *Journal of Organizational Change Management*, *19*(5), 593–618. doi: 10.1108/09534810610686076

Tucker, P., & Rutherford, C. (2005). Moderators of the Relationship Between Long Work Hours and Health. *Journal of Occupational Health Psychology*, *10*(4), 465–476. doi: 10.1037/1076-8998.10.4.465

Van Beek, I., Hu, Q., Schaufeli, W. B., Taris, T. W., & Schreurs, B. H. J. (2012). For Fun, Love, or Money: What Drives Workaholic, Engaged, and Burned-Out Employees at Work?. *Applied Psychology: An International Review*, *61*, 30–55. doi: 10.1111/j.1464-0597.2011.00454.x

References

Van Beek, I., Taris, T. W., & Schaufeli, W. B. (2011). Workaholic and work engaged employees: Dead ringers or worlds apart?. *Journal of Occupational Health Psychology*, *16*(4), 468–482. doi: 10.1037/a0024392

Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, *22*(3), 277–294. doi: 10.1080/02678370802393672

Van der Hulst, M., & Geurts, S. (2001). Associations between overtime and psychological health in high and low reward jobs. *Work & Stress*, *15*(3), 227–240. doi: 10.1080/026783701110.1080/02678370110066580

Van Wijhe, C. I., Schaufeli, W. B., & Peeters, M. C. W. (2010). Understanding and treating workaholism: Setting the stage for successful interventions. In R. J. Burke and C. L. Cooper (Eds.) *Risky business: Psychological, physical and financial costs of high risk behaviour in organizations* (pp. 107–134). Farnham, UK: Gower Publishing.

Westman, M. (2001). Stress and strain crossover. *Human Relations*, *54*(6), 717–752. doi: 10.1177/0018726701546002

Willness, C. R., Steel, P., & Lee, K. (2007). A meta-analysis of the antecedents and consequences of workplace sexual harassment. *Personnel Psychology*, *60*(1), 127–162. doi: 10.1111/j.1744-6570.2007.00067.x

Zohar, D. (1980). Safety climate in industrial organizations: Theoretical and applied implications. *Journal of Applied Psychology*, *65*(1), 96–102. doi: 10.1037/0021-9010.65.1.96

Zohar, D., & Hofmann, D. A. (2012). Organizational culture and climate. In S. W. J. Kozlowski (Ed.), *Oxford handbook of organizational psychology* (pp. 643–666). New York, NY: Oxford University Press.