Overwork climate scale: psychometric properties and relationships with working hard

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Received 21 March 2014
Revised 2 September 2014
5 March 2015
6 October 2015
Accepted 28 January 2016

Abstract

Purpose – The purpose of this paper is to evaluate whether employees' tendency to work excessive hours is motivated by the perception of a work environment that encourages overwork (overwork climate). Thus, this study introduces a self-report questionnaire aimed at assessing the perception of a psychological climate for overwork in the workplace.

Design/methodology/approach – In Study 1, the overwork climate scale (OWCS) was developed and evaluated using principal component analysis ($n = 395$) and confirmatory factor analysis ($n = 396$). In Study 2, the total sample ($n = 791$) was used to explore the association of the overwork climate with opposite types of working hard (work engagement and workaholism).

Findings – Two overwork climate dimensions were distinguished, namely, overwork endorsement and lacking overwork rewards. The lack of overwork rewards was negatively associated with engagement, whereas workaholism showed a strong positive association with overwork endorsement. These relationships remained significant after controlling for the impact of psychological job demands.

Research limitations/implications – The findings rely on self-report data and a cross-sectional design.

Practical implications – The perception of a work environment that encourages overwork but does not allocate additional compensation seems to foster workaholism. Moreover, the inadequacy of overwork rewards constitutes a lack of resources that negatively affect employees' engagement.

Originality/value – This study represents one of the first attempts to develop a questionnaire aimed at assessing a psychological climate for overwork and to explore whether the perception of this type of climate may be significantly related to workaholism and work engagement.

Keywords Workaholism, Work engagement, Overwork, Psychological climate, Psychological job demands

Paper type Research paper

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 beyond those associated with standard, agreed-upon hours (Golden and Altman, 2008). Organizations may require excessive work hours from their employees to deal with work overload without hiring new employees (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 (Golden, 2009). This organizational strategy may become counterproductive if one considers that two

Journal of Managerial Psychology
Vol. 31 No. 4, 2016
pp. 880-896

0268-3946
DOI 10.1108/JMP-03-2014-0100

psychosocial work characteristics 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 and 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 and Geurts, 2001). Hence, when 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 research focusses on employees' perceptions of a work environment that requires them to perform overwork and, at the same time, does not allocate any rewards for this extra effort: these perceptions are defined in terms of psychological climate for overwork, or in short overwork climate.

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, defined as a set of shared beliefs among employees that reflects the aggregation of individual-level psychological climate perceptions (Dickson *et al.*, 2006). Accordingly, psychological climate is investigated at the individual level of analysis, whereas organizational climate is assessed through the average perceptions of the members of the organization.

Psychological climate is perceptive and descriptive in nature: hence, perceptions of climate are rather stable overtime and enable employees to interpret events that occur within their workplace (Rousseau, 1988). Moreover, organization leaders play a key role in the emergence of climate perceptions by exposing employees to the same policies and procedures, thus providing them with directions to where they should focus their efforts (Ostroff *et al.*, 2003). Schneider (2000) has been one of the principal critics of the generalized construct of climate and argued that climate measures should differ depending upon the organizational outcome that is of greatest interest. Accordingly, Schneider and Reichers (1983) called for the inclusion of the idea of a climate measure that focusses on a specific reference term. 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 *et al.*, 2008) and climate for safety (e.g. Zohar, 1980).

Koys and DeCotiis (1991) carried out the most significant attempt to develop a measure of individuals' perceptions of an organizational environment that requires performing overwork. These authors derived eight components of psychological climate (autonomy, trust, cohesiveness, pressure, support, recognition, fairness, and innovation) from differently labeled dimensions reported in the literature. Pressure entails employees' perception of an organizational context that requires working beyond official work hours. However, this dimension indicates time demands regarding task completion. In contrast, the current research aims to delve deeper into the perception of a work environment where supervisors and colleagues consider it normal to devote an extraordinary amount of time to work without receiving appropriate compensation. Based on this rationale, two interrelated 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.

Furthermore, Study 2 assessed the differential impact of overwork climate on a negative and a positive form of working hard, workaholism, and work engagement, 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 a climate that expects them to perform overwork 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 response to management expectations, whereas other items referred to the lack of rewards associated with overwork.

With the objective of making the instrument as clear as possible, we chose to evaluate the content validity using a panel of five judges. The judges, three men and two women with a $M_{age} = 45.4$ (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. 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: first, clarity of language, evaluates the language used in the questionnaire through the question: "To what extent do you believe that this item is understandable across different occupational populations?" and second, theoretical dimension, evaluates the relevance of the question for 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 an overwork climate in the workplace?" Each judge independently rated both these aspects of all items using a four-point Likert scale with 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), divided by the total number of experts. 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 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 0.80 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. A full description of these samples is reported in the first columns of Table I.

Sample 1 ($n = 395$) consisted of respondents from various organizations who filled out an online questionnaire on the occupational health website as part of an

	Study 1		Study 2
	Sample 1 ($n = 395$) exploratory factor analysis	Sample 2 ($n = 396$) confirmatory factor analysis	Total sample ($n = 791$)
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)

Table I. Description of participants to Studies 1 and 2

occupational health survey. 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.

Sample 2 ($n = 396$) included respondents from five different organizations who participated in a project about work-related psychosocial risks assessment. The link to

the online questionnaire was provided by the human resources departments of the participating organizations.

Results

Sample 1: exploratory factor analysis

A principal component analysis was conducted on the 11 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 0.32 or higher were considered (Tabachnick and Fidell, 2001). Results of the exploratory factor analysis are presented in Table II.

The results showed that two dimensions of overwork climate can be distinguished. The first factor, which explained 32.1 percent of the variance, is constituted by seven 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 closely related to a management that prompts overtime work, thus contributing to the prevalence of these work habits among employees. The first factor has been labeled overwork endorsement.

The second factor, explaining 18.56 percent of the variance, consists of four items and refers to employees' perception of lacking compensation in response to their long work hours. 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.

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

Items	*M*	SD	Factor loadings Factor 1	Factor 2
1. Almost everybody expects that employees perform overtime work	2.52	1.24	*0.81*	0.14
2. Management encourages overtime work	2.75	1.33	*0.78*	0.16
3. It is considered normal for employees to take work home	2.27	1.31	*0.77*	0.23
4. Most employees work beyond their official work hours	2.81	1.32	*0.75*	0.11
5. Performing overwork is important for being promoted	2.54	1.36	*0.69*	−0.12
6. It is considered normal to work on weekends	2.65	1.44	*0.54*	0.22
7. It is difficult to take a day off or paid holidays	2.19	1.22	*0.32*	0.17
8. Overtime work is fairly compensated by extra time off work or by other perks (*R*)	3.23	1.39	0.19	*0.78*
9. Working overtime is fairly compensated financially (*R*)	3.62	1.35	−0.13	*0.73*
10. (Almost) nobody needs to do unpaid overtime work (*R*)	3.22	1.28	0.21	*0.68*
11. A policy exists to restrict overtime work (*R*)	3.40	1.25	0.30	*0.67*
Eigenvalue			3.53	2.04
% of variance			32.1	18.56
Cronbach's α			0.80	0.70

Table II. Exploratory factor analysis results of the overwork climate scale (OWCS) in Sample 1

Notes: $n = 395$. Items with loadings of 0.32 or higher were considered (Tabachnick and Fidell, 2001), so thay are reported in italic. But item loadings are not chracterized by statistical significance. In a similar way, eigenvalues, % of variance and Cronbach's α are not associated to any statistical significance

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 0.90 or higher (for TLI and CFI) or 0.08 or lower (for RMSEA) signify acceptable fit (Byrne, 2001). The two-factor model obtained in the exploratory factor analysis, and consisting of overwork endorsement and lacking overwork rewards, showed a good fit in Sample 2: χ^2 (df = 43) = 112.7; $p < 0.001$, TLI = 0.90, CFI = 0.92, and RMSEA = 0.06. This model was compared with a model in which all items were supposed to load on one general factor. The one-factor model showed a poorer fit to the data compared to the one reporting two distinct factors ($\Delta\chi^2 = 143.94$, Δdf = 1, $p < 0.001$), with TLI = 0.69, CFI = 0.76, and RMSEA = 0.11.

Hence, the two-factor model adequately represents the data and fits substantially better than one-factor model, showing a low but positive correlation between the two dimensions ($r = 0.17$, $p < 0.01$). Moreover, all items loaded significantly on the latent variables, with coefficients ranging from 0.26 to 0.94 (all p's < 0.001).

Discussion

Study 1 presented a measure of a psychological climate for overwork, labeled as 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, seven items), while the second factor evaluated the absence of HRM policies aimed at rewarding the time spent at work (lacking overwork rewards, four 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

The second study explored the associations between 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 *et al.*, 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 *et al.*, 2002). 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 *et al.*, 2008) and are more satisfied with their jobs (Schaufeli *et al.*, 2008). Their high involvement in work-related matters leads engaged employees to work beyond what is officially required: hence, engagement is positively related to time committed to work (Schaufeli *et al.*, 2006). Research evidence suggests that engaged employees are mainly driven by a so-called autonomous motivation (Van Beek *et al.*, 2012). Autonomous motivation translates into intrinsically motivated behavior: individuals experiencing this type of motivation engage in an activity for its own sake and act out of a sense of volition (Deci and Ryan, 2000). Thus, engaged employees experience their work as inherently interesting, enjoyable, and satisfying (Van Beek *et al.*, 2011).

On the other hand, it may be hypothesized that the absence of rewards for extra time spent on work negatively affects work engagement. This assumption is in line with the motivational process postulated by the job demands-resources (JD-R) model

(Demerouti *et al.*, 2001). According to this process, job resources foster employees' levels of engagement, which, in turn, enhances several positive outcomes, such as an improved job performance. Job resources may foster extrinsic motivation at work because they are essential for dealing with the demanding aspects of work and for achieving work goals (Bakker and Derks, 2010). In addition, by satisfying the basic human needs of autonomy, belongingness, and competence, they are also intrinsically motivating and promote employees' growth, learning, and development (Van den Broeck *et al.*, 2008). Accordingly, it may be argued that the perception of a work environment that encourages employees to devote an extraordinary amount of time to work and does not reward this effort may negatively affect work engagement. Based on this rationale, we tested the following hypothesis:

H1. The perception of an overwork climate is negatively associated with work engagement. 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 represents a negative kind of involvement in one's job constituted by the combination of two dimensions: working excessively and working compulsively (Schaufeli *et al.*, 2008). Working excessively constitutes the behavioral component of workaholism, indicating that workaholics dedicate an exceptional amount of their time and energy to their work. 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. Workaholic employees experience higher levels of exhaustion (Taris *et al.*, 2005), 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 is referred to as controlled motivation (Van Beek *et al.*, 2011). This type of motivation turns into non-self-determined behavior, mainly driven by an external and an introjected regulation. Externally regulated behavior is determined 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 and Ryan, 2000). 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 (Koestner and Losier, 2002).

Although individual characteristics play a crucial role in predisposing employees toward becoming workaholics, organizational factors may play a significant role in the development and maintenance of workaholism (Ng *et al.*, 2007). 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 work pressure dimension was related to drive, which describes the inner compulsion that propels workaholic employees to work excessively. This finding supports the reasoning that the perception of an organizational environment where employees are pushed to work extra hours may contribute significantly to enhancing workaholism (Porter, 2004).

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), it may argued that the absence of adequate rewards for overwork is associated with higher levels of workaholism. Hence, the following hypothesis is tested:

H2. 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, 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 that employees have to deal with.

Karasek (1985) defined psychological job demands as psychological stressors present in the work environment, entailing the requirement to carry out difficult and mentally demanding work with a high work pace. 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. Demands such as time pressure, and high levels of job responsibility are defined as challenge that have the potential to promote mastery, personal growth, or future gains (Crawford *et al.*, 2010). These challenge demands trigger positive emotions and active problem-focussed coping styles, thus resulting in enhanced levels of engagement. Hence, psychological demands may significantly impact on work engagement. On the other hand, job demands are associated with workaholism, because the requirement to cope with additional tasks may foster the behavioral dimension of the construct, namely, the tendency to work excessively (Schaufeli *et al.*, 2009). In order to investigate the impact of a psychological climate for overwork on engagement and workaholism, psychological job demands are included as a third variable and the following hypotheses are tested:

H3. The negative association between overwork climate (i.e. overwork endorsement and lacking overwork rewards) and work engagement remains significant after controlling for psychological job demands.

H4. The positive association between overwork climate (i.e. overwork endorsement and lacking overwork rewards) and workaholism remains significant 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 total sample employed in Study 1, hence a total of 791 employees filled out the questionnaire. A detailed description of the total sample is reported in the third column of Table I.

Measures

Overwork climate was assessed with the OWCS 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 ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's α was 0.80 for overwork endorsement and 0.66 for lacking overwork rewards. The full OWCS is shown in Table II.

Work engagement was assessed using the nine-item version of the Utrecht Work Engagement Scale, which includes three subscales: vigor, dedication, and absorption (Schaufeli *et al.*, 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). Cronbach's α was 0.82 for vigor, 0.87 for dedication, and 0.81 for absorption.

Workaholism was measured using the ten-item Dutch Work Addiction Scale (Schaufeli *et al.*, 2009) that included two subscales: working compulsively (e.g. "I feel guilty when I take time off work") and working excessively (e.g. "I stay busy and keep my irons in the fire"). Both subscales consisted of five items rated on a four-point frequency scale ranging from 1 ((almost) never) to 4 ((almost) always). Cronbach's α was 0.70 for working excessively and 0.65 for working compulsively.

Psychological job demands were assessed with the scale taken from the Job Content Questionnaire (Karasek, 1985). 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). Cronbach's α for the scale was 0.78.

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 following indices were considered: the χ^2 goodness-of-fit statistic, the TLI, the CFI, and the RMSEA. As previously stated, values of 0.90 or higher (for TLI and CFI) or 0.08 or lower (for RMSEA) signify acceptable fit (Byrne, 2001).

Results

Descriptive results

The means, standard deviations, correlations, and internal consistencies are reported in Table III. In particular, overwork endorsement was significantly correlated with the two dimensions of workaholism: working excessively ($r = 0.34$, $p < 0.001$) and working compulsively ($r = 0.19$, $p < 0.001$). This facet of overwork climate did not relate significantly to any component of work engagement.

In contrast, lacking overwork rewards showed a negative correlation with vigor ($r = -0.15$, $p < 0.001$), dedication ($r = -0.15$, $p < 0.001$), and absorption ($r = -0.12$, $p < 0.01$). The correlation between the lacking overwork rewards and workaholism was positive for working excessively ($r = 0.15$, $p < 0.001$) and not significant for working compulsively ($r = 0.06$, ns).

Testing the model

In order to test *H1* and *H2*, a model was created in which the latent variables overwork endorsement and lacking overwork rewards were indicated by the corresponding items displayed in Table I. Moreover, work engagement was indicated by vigor, dedication, and absorption, whereas workaholism was indicated by working excessively and working compulsively.

Table III. Means, standard deviations, Cronbach's α coefficients, and correlations among the study variables

	M	SD	*r* 1	2	3	4	5	6	7	8
1. Overwork endorsement	2.28	0.86	(0.80)							
2. Lacking overwork rewards	3.47	0.93	0.13**	(0.66)						
3. Vigor	4.38	1.02	−0.01	−0.15***	(0.82)					
4. Dedication	4.61	0.95	−0.07	−0.15***	0.77***	(0.87)				
5. Absorption	4.70	0.85	0.04	−.12**	0.71***	0.74***	(0.81)			
6. Working excessively	2.62	0.58	0.34***	0.15***	−0.04	−0.06	0.14**	(0.70)		
7. Working compulsively	2.38	0.55	0.19***	0.06	−0.10**	−.09**	0.10**	0.62***	(0.65)	
8. Psychological job demands	2.83	0.49	0.40***	0.09*	−0.08*	−0.09*	0.07	0.58***	0.34***	(0.78)

Notes: $n = 791$. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

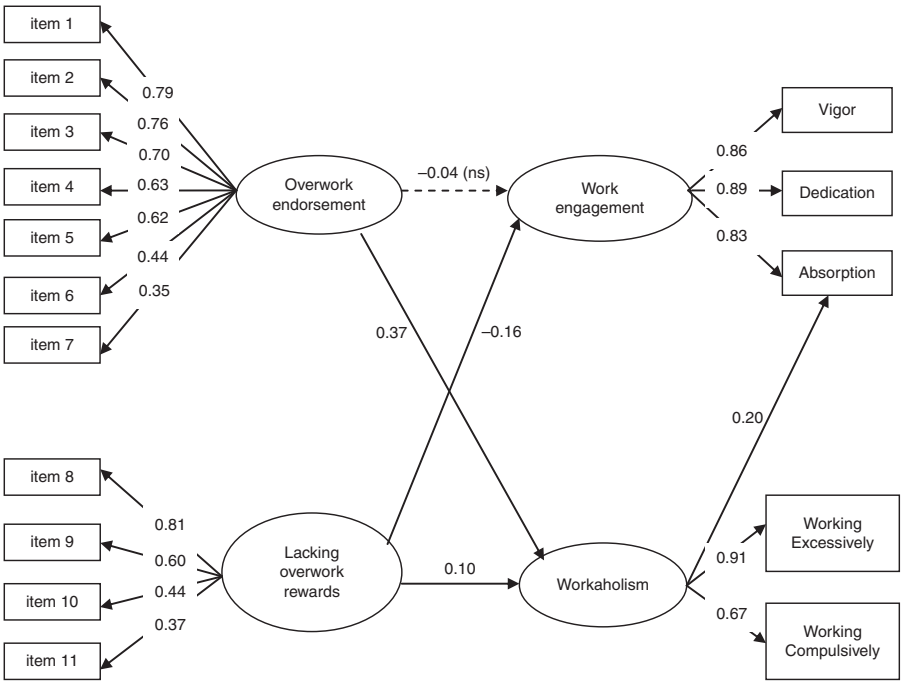
This model presented a Heywood case since the error variance of working excessively was negative ($\Theta\varepsilon = 0.06$). The modification indices suggested that model fit could be increased by allowing the absorption dimension of engagement to load on the latent workaholism. Prior empirical research revealed that absorption loaded on both work engagement and workaholism (Schaufeli *et al.*, 2008). 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). This model, labeled as M1, fits reasonably well to the data with all indices meeting their respective criteria. As shown in Table IV, all indicators loaded significantly on their latent factors and all effects were in the expected direction, except for the non-significant direct relation between overwork endorsement and work engagement ($\gamma = -0.04$, ns).

As displayed in Figure 1, lacking overwork rewards was negatively related to work engagement, thus *H1* was partially supported. In addition, both the dimensions of overwork climate (i.e. overwork endorsement and lacking overwork rewards) were positively associated with workaholism. These results fully supported *H2*.

In order to test our last hypotheses, psychological job demands were entered as a covariate. Again, this model (M3) showed a good fit to data with all effects in the hypothesized direction (Table III). As shown in Figure 2, psychological job demands had a significant relation with overwork endorsement as well as with the two endogenous variables (i.e. work engagement and workaholism), but they showed a non-significant direct relation with lacking overwork rewards ($\gamma = -0.07$, $p = 0.07$). As the previous model, also M3 reports a non-significant direct relation between overwork endorsement and work engagement ($\gamma = 0.001$, $p = 0.99$).

The negative association between lack of overwork rewards and work engagement did not change, even after controlling for psychological job demands: hence, *H3* 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 demands,



Note: $n = 791$

Figure 1.
The hypothesized model adjusted

Table IV.
Fit of models on the relationship between overwork climate, work engagement, and workaholism

Model	χ^2	df	TLI	CFI	RMSEA
M1. Hypothesized model	328.47***	98	0.93	0.94	0.06
M2. Hypothesized model adjusted	329.43***	99	0.93	0.95	0.05
M3. Model with psychological job demands	354.58***	111	0.94	0.95	0.05

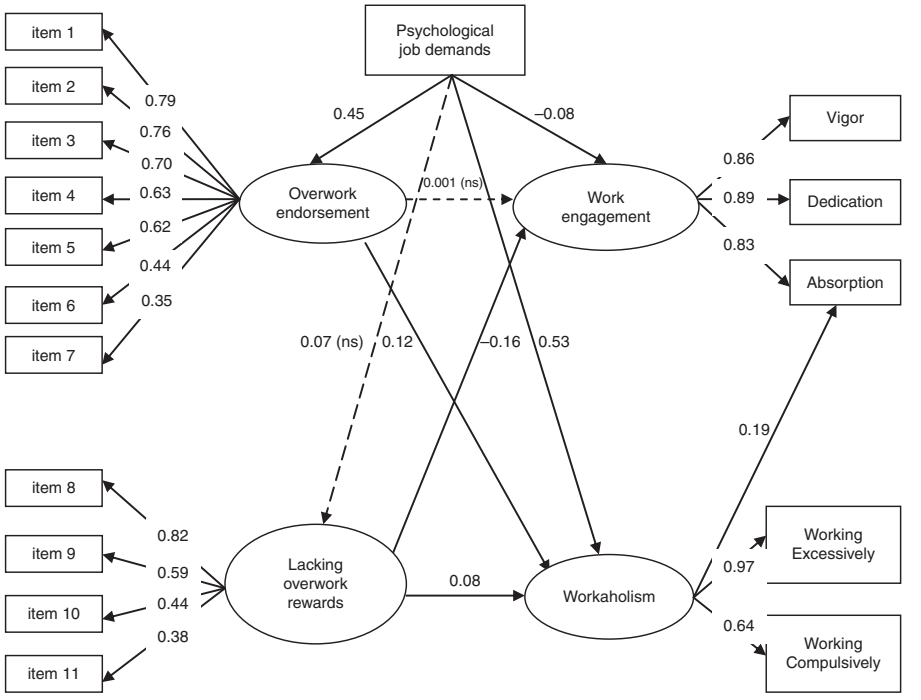
Notes: $n = 791$. χ^2, Chi-square, df, degrees of freedom; CFI, comparative fit index; TLI, Tucker-Lewis Index; RMSEA, root mean square error of approximation. ***$p < 0.001$

especially for overwork endorsement, but it still remained significant. This result fully supported *H4*.

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 supports the idea that engaged employees act primarily out of a strong autonomous motivation, and are hardly influenced by the environment (Van Beek *et al.*, 2012).

On the other hand, the allocation of inadequate rewards for overwork was negatively related with engagement. This result is consistent with the motivational process of the JD-R Model (Demerouti *et al.*, 2001). As previously stated, this process



Note: $n = 791$

Figure 2.
The hypothesized model with psychological job demands

posits that job resources allow employees to cope with the demanding aspects of their work and stimulate them to learn from and grow in their job. Accordingly, the inadequate allocation of resources for employees who work long hours may account for the negative relationship between a lack of rewards and engagement.

In contrast, the overwork climate showed a positive association with workaholism, especially for the overwork endorsement dimension. This corroborates the hypothesis that a climate characterized by strong work pressure enhances the inner compulsion that prompts workaholics to work incessantly (Johnstone and Johnston, 2005). The weak association between lacking rewards and workaholism is consistent with the evidence that workaholic employees are motivated by an introjected regulation: they strive to meet external standards of self-worth and social approval (Koestner and Losier, 2002). Hence, the presence or the lack of 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 working hard remained significant after controlling for psychological job demands. 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. Accordingly, engagement is negatively related to the inadequate 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 demands, in particular

for the lacking overwork rewards dimension. As previously stated, the motivational dynamic involved may explain the poor relationship between the absence of recognition and workaholism. In contrast, the association 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.

General discussion

The general aim of the present research was twofold: 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). For this purpose, we conducted two interrelated studies. Study 1 provided evidence for a 11-item scale composed of two factors: overwork endorsement (seven items) and lacking overwork rewards (four 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 the overwork climate dimensions showed a positive association with workaholism: in particular, overwork endorsement was strongly related to this negative type of working hard.

The negative relationship between lacking overwork rewards and engagement remained unchanged also when controlling for psychological job demands. 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. Our findings are based on participants pertaining to different occupational groups and organizations, thus future research on the relationship between overwork climate and working hard may be expected to confirm these results.

Study limitations

The current study has some limitations that should be mentioned. First, all data were cross-sectional. Further research using a longitudinal design will be needed to examine how changes in overwork climate influence relevant outcomes overtime.

Second, data were derived from self-report questionnaires; thus, common method bias may have affected the associations among the study variables. The results of Harman's one-factor test and single-factor confirmatory factor analysis suggest that common method variance is not of great concern and thus is unlikely to confound the interpretation of the results. Moreover, an avenue for future research is the shared perceptions of an overwork climate among work team or organizations to test the presence of a unit or organizational climate for overwork.

Third, the scales used to assess lacking overwork rewards and working compulsively in Study 2 had a reliability coefficient slightly lower than the criterion of 0.70, which is traditionally considered as a heuristic (Nunnally and Bernstein, 1994). However, according to Nunnally's (1967) recommendation, scales with item consistencies higher than 0.60 can be used for research purposes.

Finally, all participants in both studies were Italian. Future research based on the English version of the OWCS (see Table II) 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 at preventing a negative form of working hard, i.e. workaholism, and to encourage a positive one, i.e. work engagement. Work engagement is negatively associated with lacking overwork rewards, regardless of the psychological demands placed on employees. This result confirms that job demands are of secondary importance in predicting engagement, whereas job resources act as the more important and direct factor (Schaufeli and Salanova, 2007). When overwork is a contingent requirement, organizations should provide fair rewards for employees complying with this demand. In line with previous results, the negative effects of overwork may be reduced by adequate compensation for extra work efforts (Beckers *et al.*, 2008).

Our findings revealed that the presence of insufficient compensation for overtime work may also foster workaholism, but this negative type of working hard exhibited a stronger association with overwork endorsement. Although workaholics tend to work harder than required primarily because they are driven by their inner compulsion (Schaufeli *et al.*, 2006), their compulsion could be fostered by a work environment that expects them to overwork. Overall, a climate that does not put pressure on employees to devote an exceptional amount of time to work is essential to avoid obsessive conduct and, concurrently, to improve the positive outcomes stemming from an affective-motivational state of fulfillment.

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