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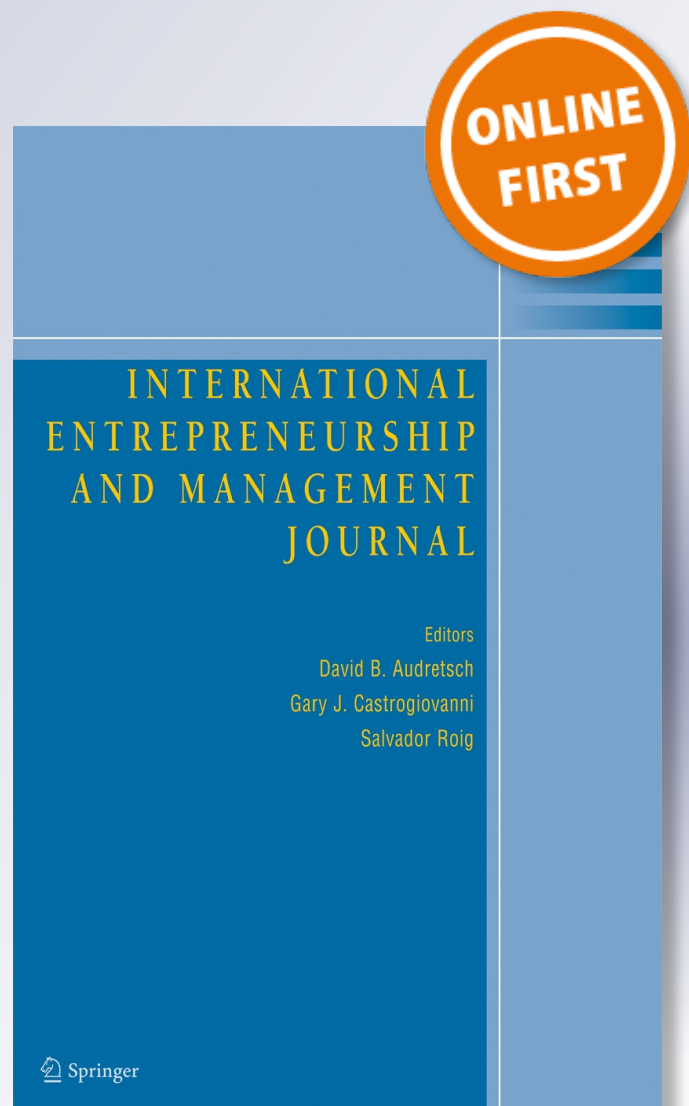
**Josette Dijkhuizen, Marjan Gorgievski,  
Marc van Veldhoven & René Schalk**

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## Feeling successful as an entrepreneur: a job demands — resources approach

Josette Dijkhuizen · Marjan Gorgievski ·  
Marc van Veldhoven · René Schalk

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**Abstract** This cross-sectional study among 277 Dutch entrepreneurs investigates how entrepreneurs' job demands relate to their work-related strain and work engagement, as well as their feelings of subjective success. As such it contributes to the literature firstly by focusing on psychological rather than business outcomes of entrepreneurship, and secondly by contextualizing demands and resources for entrepreneurs, e.g. capturing the general but also the specific factors that are demands and resources in entrepreneurial work. Results of the study show that work-related strain is related to both less personal and less financial subjective business success. Work engagement is related to higher personal, but not financial subjective business success. As predicted by the JD-R Model, both high job demands and low job resources predicted work-related strain. In contrast to findings of other studies, high job demands are not related to low work engagement, only having low job resources did. The practical implication of these findings is that entrepreneurs can achieve an important competitive advantage over other entrepreneurs if they can learn to deal effectively with job demands and work-related strain. The challenge for policy makers is to get more information about how to assist business owners in eliminating and preventing work-related strain in order to achieve higher subjective financial and personal success.

**Keywords** Entrepreneurship · Business success · Job demands · Job resources · Work-related strain · Work engagement

### Introduction

This study extends the existing literature on entrepreneurial success by investigating relationships between job demands and job resources, work-related strain and work

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J. Dijkhuizen (✉) · M. van Veldhoven · R. Schalk  
Department of Human Resource Studies, Tilburg University, P.O. Box 90153, 5000 LE Tilburg,  
Netherlands  
e-mail: info@josettedijkhuizen.nl

M. Gorgievski  
Department of Work and Organisational Psychology, Erasmus University, P.O. Box 1738, 3000  
DR Rotterdam, Netherlands

engagement on the one hand, and subjective business success among entrepreneurs on the other hand. Previous studies on business success have focused on success indicators such as business growth, and industry or market leadership (Van Praag and Versloot 2007; Cooper et al. 1994). This popular way of looking at success of enterprises has been criticized over the last decade (i.e. Shane et al. 2003; Walker and Brown 2004) and financial parameters have been questioned as the primary or only success measure (Kuratko et al. 1997; Reijonen and Komppula 2007; Walker and Brown 2004). Entrepreneurs have their own perceptions of what business success means to them (Gorgievski et al. 2011; Simpson et al. 2004; Walker and Brown 2004). Therefore subjective, non-financial measures like autonomy (Kuratko et al. 1997), personal satisfaction and growth (Walker and Brown 2004), respect and customer satisfaction (Reijonen and Komppula 2007), family security (Kuratko et al. 1997; Shane et al. 2003) and flexibility (Walker and Brown 2004), have been put forward as alternative indicators of business success (Reijonen and Komppula 2007; Walker and Brown 2004).

In this study we extend the knowledge on subjective business success by investigating the multiple indicators relating to this construct, and this is the first major contribution of this study to the literature. We define subjective business success as: “criteria that entrepreneurs value and strive for that reflect their individual goals, values and aspirations, which in turn are meaningful for entrepreneurial outcomes” (based on Dej 2010, p. 95). Subjective business success can be divided into two categories: subjective personal success, which relates to personal development and personal goals of the entrepreneur, and subjective financial success, centered around income and finance (Dej 2010, 2011). Both are taken into account in this paper.

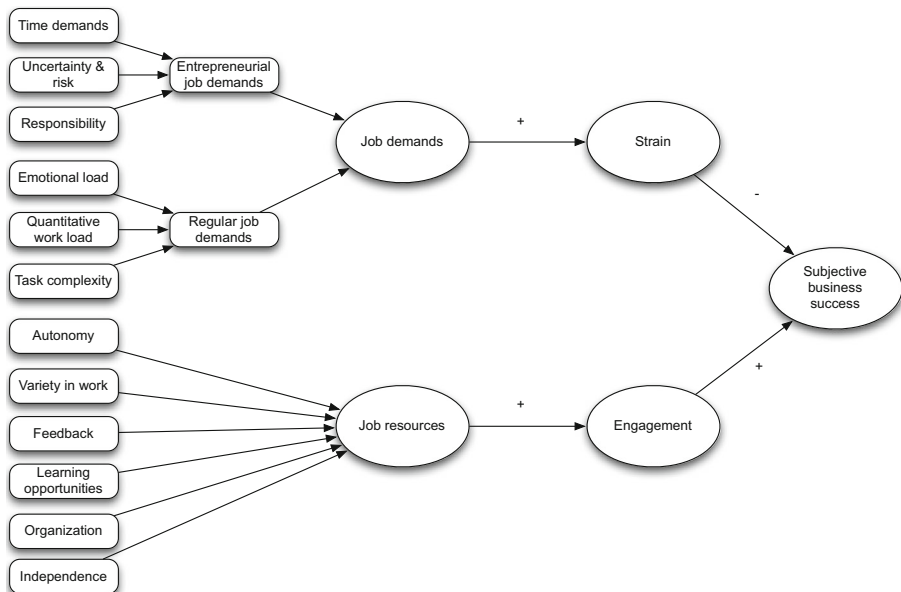
The theoretical basis of this study on subjective business success is the Job Demands-Resources Model (JD-R Model; Bakker and Demerouti 2007). This model is commonly used in the literature on work engagement and work-related strain. Work engagement can be viewed as the opposite of work-related strain. Engaged workers “have a sense of energetic and effective connection with their work activities and they see themselves as able to deal well with the demands of their job” (Schaufeli and Bakker 2003, p. 4). Work-related strain “refers to long-term exhaustion from, and diminished interest in, the work we do” (Leiter et al. 2014). A central element of the JD-R Model is the idea that every occupation has its own specific working conditions and risk factors associated with work engagement and work-related strain. Entrepreneurial stress studies have shown that work characteristics that are typically different for entrepreneurs as compared to salaried workers are coping with a high level of uncertainty, responsibility and risks, and a heavy work load (e.g. Collins et al. 2004; Dijkhuizen et al. 2014; Drnovsek et al. 2010; Gorgievski and Laguna 2008; Tetric et al. 2000; McClelland 1965). These indicators can be considered job demands, which directly relate to work-related strain (Wincent et al. 2008). It is therefore not surprising that entrepreneurs overall experience high stress levels (Boyd and Gumpert 1983; Buttner and Moore 1997; Harris et al. 1999; Wincent and Örtqvist 2009b).

We know from previous studies that entrepreneurs on the other hand also have a very high level of work engagement and are more engaged than employees in executing their activities (Smulders 2006). Work engagement as a motivational concept relates to (harmonious) passion (Gorgievski et al. 2010a; Omorede et al. 2014), a prominent concept in the field of entrepreneurship (Cardon et al. 2009; Locke 2000). A

recent study found that work engagement relates to experiencing more positive affect, which in turn related to more subjective business success (Gorgievski et al. 2014).

It appears that entrepreneurs have high levels of both work-related strain and work engagement. To gain a deeper understanding of this phenomenon, this study investigates what characteristics of the entrepreneurial job drive both work engagement and work-related strain in an integrated manner and additionally, how work engagement and work-related strain influence subjective business success. More insight into these interrelationships will enable us to assist entrepreneurs in coping with work-related strain and work engagement and subsequently business success (e.g. Buttner and Moore 1997; Wincent and Örtqvist 2009a, 2009b).

The JD-R Model is suitable to study these factors and interrelationships in an integrated manner. The model (see Fig. 1) relates work-related strain as well as work engagement to two categories of work characteristics: job demands and job resources (Bakker and Demerouti 2007). According to this model, job demands primarily predict work-related strain and job resources primarily influence work engagement. In turn, both work-related strain and work engagement have been shown to predict job performance at another point in time (Bakker and Bal 2010; Xanthopoulou et al. 2009a). Job performance for entrepreneurs is connected to business success, which in this study we aim to explain through work-related strain and work engagement. A recent review study shows that there is ample cross-sectional evidence supporting the JD-R Model for salaried workers (Schaufeli and Taris 2013). Studies on the occupational group of entrepreneurs are however lacking. Only parts of the model, in specific the relationship between subjective business success, work-related strain and work engagement, have been studied among entrepreneurs (e.g. Boyd and Gumpert 1983; Dej 2010, 2011; Gorgievski et al. 2014; Harris et al. 1999; Wincent and Örtqvist



**Fig. 1** Conceptual model of entrepreneurial work-related strain, work engagement, and subjective business success, based on the Job Demands-Resources Model (cf. Bakker and Demerouti 2007)

2009a). This study expands this line of research by testing the JD-R Model, including additionally drivers of work-related strain and work engagement. This way, the current study contributes to the knowledge on potential drivers of subjective business success, being job demands and job resources, via work-related strain and work engagement, with potentially interesting implications for interventions.

### **Job demands-resources model for entrepreneurs**

The central assumption in the JD-R Model is that work-related strain develops when (certain) job demands are high and when (certain) job resources are limited, leading to exhaustion and undermining work engagement (Bakker et al. 2003, 2004). In contrast, when job resources are high, the motivational process is activated, leading to work engagement and higher work performance (Schaufeli and Bakker 2004; Bakker et al. 2004). Among entrepreneurs, different relationships of the JD-R Model are investigated in various studies. These studies focus on the impact of job demands on work-related strain, job satisfaction and venture performance (Wincent and Örtqvist 2009a), on the relationship between work engagement and performance (Gorgievski et al. 2010a, 2014), or on the relationship between job demands, social support, work-related strain and satisfaction (Tetrick et al. 2000). In the current study, next to regular job demands, such as emotional load, quantitative workload, and task complexity, we also include specific entrepreneurial job demands: time demands; uncertainty and risk; and responsibility (Dijkhuizen et al. 2014). In addition, we also add different job resources, namely autonomy, independence, variety in work, feedback, learning opportunities, and work organization. This means not only an extension of previous research on entrepreneurial stress and performance, but also an extension of the original JD-R Model. Herein lies the second major contribution of our study to the literature.

#### **Job demands**

Job demands refer to “those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort and are therefore associated with certain physiological and/or psychological costs” (Schaufeli and Bakker 2004, p. 296). Job demands can be categorized in mental, emotional, and physical job demands (e.g. Bakker and Demerouti 2007; Bakker et al. 2004). In previous studies among salaried workers, the positive relationship between job demands and work-related strain has been confirmed (Schaufeli et al. 2009). In a study by Dijkhuizen et al. (2014) specific entrepreneurial job demands (time demands, uncertainty and risk, responsibility) were identified that characterize the work of entrepreneurs. These specific job demands were found to be better predictors of work-related strain in entrepreneurs than common job demands. We formulated the following hypothesis:

*Hypothesis 1: Entrepreneurial job demands relate positively to work-related strain.*

## Job resources

Job resources “refer to those physical, psychological, social, or organizational aspects of the job that either/or 1) reduce job demands and the associated physiological and psychological costs; 2) are functional in achieving work goals; 3) stimulate personal growth, learning, and development” (Schaufeli and Bakker 2004, p. 296). Increases in job resources predict work engagement for employed people (e.g. Hakanen et al. 2006; Schaufeli and Bakker 2004; Schaufeli et al. 2009). Examples of job resources are autonomy (e.g. Van Gelderen and Jansen 2006; Sexton and Bowman 1985), performance feedback, skill variety, decision involvement, and learning opportunities (Bakker and Demerouti 2008; Schaufeli and Bakker 2004). Hence, Hypothesis 2 is:

*Hypothesis 2:* Entrepreneurial job resources relate positively to work engagement.

## Work-related strain and subjective business success

According to the JD-R Model, a high level of work-related strain would lead to lower performance (Bakker and Demerouti 2007; Bakker et al. 2004), thus lower success rates for entrepreneurs. There are a number of studies on work-related strain of entrepreneurs. A comparative study between small business owners and employed people shows that the self-employed have a higher overall strain, higher stress levels (Boyd and Gumpert 1983; Harris et al. 1999), emotional exhaustion, and lack of accomplishment (Jamal 2007). However, Tetric et al. (2000) found that business owners perceive less emotional exhaustion than non-owners. This is in line with the study by Andersson (2008) who found that self-employed were less likely to perceive their work as mentally straining. Studies on the relationship between work-related strain and subjective business success for entrepreneurs are lacking. According to the JD-R Model we can, however, propose the following hypotheses:

*Hypothesis 3a:* Entrepreneurial work-related strain relates negatively to subjective financial and personal success.

*Hypothesis 3b:* Entrepreneurial work-related strain mediates the negative link between job demands and subjective financial and personal success.

## Work engagement and subjective business success

One of the main drivers for subjective success in different occupations is work engagement (e.g. Bakker and Bal 2010; Gorgievski et al. 2010a). Schaufeli et al. (2002, p. 74) define engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption”. Employed workers have “a sense of energetic and effective connection with their work activities” (Schaufeli and Salanova 2006). In other words, “engaged individuals work hard (vigor), are involved (dedicated) and feel happily engrossed (absorbed) in their work” (Bakker et al. 2008; p. 190). Entrepreneurs score higher on work engagement than employed people (Smulders 2006). Different studies confirm the positive relationship between work

engagement and subjective success in the case of entrepreneurs (Gorgievski et al. 2010a). A recent study among Spanish entrepreneurs revealed that work engagement relates positively to subjective business success (Gorgievski et al. 2014). This finding is in line with the JD-R Model suggesting a positive relationship between work engagement and performance. For the current study we hypothesize the following:

*Hypothesis 4a:* Entrepreneurial work engagement relates positively to subjective financial and personal success.

*Hypothesis 4b:* Entrepreneurial work engagement mediates a positive link between job resources and subjective financial and personal success.

## Methodology

### Procedure and participants

This is a quantitative study. Respondents filled in an online questionnaire in Dutch. Only individuals who founded or owned a private company (older than 1 year) employing less than 250 people in The Netherlands, were invited. This is in line with the European Commission that defines small and medium sized enterprises as companies employing less than 250 people. In the demarcation of entrepreneurs we follow the definition by Van Praag and Versloot (2007) namely “individuals who have started up a business or who own a business, i.e., who are self-employed or the owner-manager of an incorporated business, as entrepreneurs too”.

To find respondents, the network of the first author was approached directly by mail. Furthermore, the URL of the questionnaire was sent to several magazines that have a readership of Dutch entrepreneurs, and also to different LinkedIn Groups related to entrepreneurship. Analyses show the way respondents were approached did not significantly influence results: there were no differences concerning demographics or scores on any relevant variables. Therefore, respondents were treated as one group of participants. At the closure of the data collection period, a total of 850 respondents were registered of whom 446 opened the questionnaire without answering a single question. Another 83 respondents stopped after the set of questions about background information. We assume that the main reason for people to stop filling in questions is the time-consuming aspect of the questionnaire. It took around 20 to 30 min to complete. Of the 321 remaining respondents, a number of 277 filled in all the questions. The final response rate is therefore 33 %.

The demographics of the sample of 277 participants were similar to the demographics of the population of Dutch entrepreneurs, except for gender. Compared to the population of Dutch entrepreneurs (67–70 % male, 30–33 % female) the sample showed a more equal representation of male and female owners (47 % male, 53 % female). Participants were on average 47 years ( $SD=9.80$ ), with 32 % having the company for more than 10 years (19 % less than 3 years, 23 % between 3 and 5 years, and 26 % between 6 and 10 years). Of the respondents, 62 % was self-employed (without employees), and the scope of activities was 5 % local, 31 % regional, 42 %

national, and 23 % international. Of the respondents, almost 94 % was the (co-)founder of the company, and 75 % the only shareholder or owner.

## Measures

*Job demands* We follow Dijkhuizen et al. (2014), who — based on literature and interviews with entrepreneurs — identified six job demands that are relevant for entrepreneurs. These six job demands were assessed by six validated scales (see Table 1 for alpha reliability coefficients and Average Variance Extracted of the scales). The first three scales were specifically developed for entrepreneurs (Dijkhuizen et al. 2014) and the other three general scales are applicable to all who work. The first job demand scale is *time demands*, assessed with five items, such as ‘Does it feel as if you have to be available for your company 24 h a day?’ The second scale is *uncertainty & risk*, measured by six items, for example ‘Do you find it hard to handle risks concerning your company?’ The third scale is *responsibility*, measured by three items, such as ‘Do you feel yourself 100 % responsible for the satisfaction of the customers of your company?’ The three regular job demands scales are derived from the Dutch Questionnaire on the Experience and Assessment of Work, known by its Dutch initials as the VBBA (Van Veldhoven et al. 2002, 2005). These three scales are: *emotional load* (four items; such as ‘Does your work demand a lot from you emotionally?’), *quantitative workload* (six items; e.g., ‘Do you have too much work to do?’), and *task complexity* (three items; e.g., ‘Do you find your work as an entrepreneur complicated?’). Responses were scored on a 4-point scale ranging from 0=*never*, 1=*sometimes*, 2=*often*, to 3=*always*.

*Job resources* Job resources were measured using six scales. One scale, *entrepreneurial autonomy*, was specifically developed for the purpose of this study using seven items, such as ‘Can you decide how your company is executing activities?’. The other scales were again taken from the standardized VBBA (Dutch Questionnaire on the Experience and Assessment of Work; Van Veldhoven et al. 2002): *independence* (four items; e.g., ‘Can you organise your work yourself?’), *variety in work* (four items; e.g., ‘Is your work varied?’), *feedback* (four items, e.g. ‘Do you receive sufficient information on your work as an entrepreneur?’), *learning opportunities* (four items; e.g., ‘Do you learn new things in your work?’), and *work organization* (six items; e.g., ‘Are you hindered in your work by unexpected situations?’). Responses on the six subscales were collected using a 4-point scale ranging from 0=*never*, 1=*sometimes*, 2=*often*, to 3=*always*.

*Work-related strain* Work-related strain was measured by three existing scales, following the advice by Sparks and Cooper (1999) who investigated differences between occupations. For measuring the balance between work and private life the 6-item scale for *work-home interference* of Geurts et al. (2005) is used, e.g., ‘How often does it happen that you are irritable at home because your work is demanding?’ Responses were given on a 4-point scale with 0=*never*, 1=*sometimes*, 2=*often*, 3=*always*. For measuring *recovery after work* the 6-item scale of Van Veldhoven et al. (2002) is applied, e.g. ‘I find it difficult to relax at the end of a working day’. The items were answered on a 4-point scale with 0=*never*, 1=*sometimes*, 2=*often*, 3=*always*. The third scale is *detachment from work* (nine items; e.g., ‘During the time after work I get a break from the demands of work’) based on the VBBA as well as the Dutch translation (Geurts et al. 2009) of the Recovery

**Table 1** Means, standard deviations, alpha reliability coefficient, Average Variance Extracted (between brackets on the diagonal) and correlation coefficients between the raw study variables ( $N=277$ )

	M	SD	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20	21	22
Control variables age, age company, education, gender												
Job demands												
1 Time demands	1.26	0.78	(0.86/0.81)									
2 Uncertainty & risk	0.82	0.42	0.22 <sup>b</sup>	(0.76/0.76)								
3 Responsibility	2.24	0.59	0.30 <sup>b</sup>	0.04	(0.67/0.78)							
4 Emotional load	1.35	0.50	0.28 <sup>b</sup>	0.18 <sup>b</sup>	0.18 <sup>b</sup>	(0.63/0.67)						
5 Quantitative workl.	1.05	0.48	0.37 <sup>b</sup>	0.22 <sup>b</sup>	0.11	0.27 <sup>b</sup>	(0.82/0.67)					
6 Task complexity	0.67	0.46	0.31 <sup>b</sup>	0.37 <sup>b</sup>	-0.09	0.23 <sup>b</sup>	0.34 <sup>b</sup>	(0.64/0.76)				
Job resources												
7 Autonomy	2.68	0.44	-0.12 <sup>a</sup>	-0.23 <sup>b</sup>	0.21 <sup>b</sup>	0.05	-0.17 <sup>b</sup>	-0.31 <sup>b</sup>	(0.87/0.71)			
8 Independence	2.64	0.45	-0.15 <sup>a</sup>	-0.10	0.13 <sup>a</sup>	0.09	-0.22 <sup>b</sup>	-0.22 <sup>b</sup>	0.48 <sup>b</sup>	(0.84/0.82)		
9 Variety in work	2.46	0.48	-0.01	-0.20 <sup>b</sup>	0.15 <sup>a</sup>	0.17 <sup>b</sup>	-0.01	-0.02	0.14 <sup>a</sup>	0.25 <sup>b</sup>	(78./0.78)	
10 Feedback	1.96	0.67	-0.16 <sup>b</sup>	-0.25 <sup>b</sup>	-0.02	0.02	-0.17 <sup>b</sup>	-0.21 <sup>b</sup>	0.20 <sup>b</sup>	0.11	0.17 <sup>b</sup>	(87./0.85)
11 Learning	2.36	0.50	-0.06	-0.26 <sup>b</sup>	0.07	0.09	-0.04	-0.13 <sup>a</sup>	0.25 <sup>b</sup>	0.25 <sup>b</sup>	0.57 <sup>b</sup>	0.29 <sup>b</sup>
	(82./0.80)											
12 Work organization	1.78	0.42	-0.16 <sup>b</sup>	-0.21 <sup>b</sup>	-0.03	-0.27 <sup>b</sup>	-0.41 <sup>b</sup>	-0.24 <sup>b</sup>	0.13 <sup>a</sup>	0.22 <sup>b</sup>	-0.02	0.08
	0.08 (74./0.67)											
Work-related strain												
13 Work-home interf.	0.89	0.48	0.42 <sup>b</sup>	0.29 <sup>b</sup>	0.17 <sup>b</sup>	0.17 <sup>b</sup>	0.46 <sup>b</sup>	0.28 <sup>b</sup>	-0.20 <sup>b</sup>	-0.23 <sup>b</sup>	-0.22 <sup>b</sup>	-0.16 <sup>b</sup>
	-0.23 <sup>b</sup>	-0.17 <sup>b</sup>	(0.67/0.32)									
14 Recovery	0.81	0.52	0.37 <sup>b</sup>	0.39 <sup>b</sup>	0.22 <sup>b</sup>	0.21 <sup>b</sup>	0.44 <sup>b</sup>	0.24 <sup>b</sup>	-0.15 <sup>a</sup>	-0.19 <sup>b</sup>	-0.13 <sup>a</sup>	-0.17 <sup>b</sup>
	-0.18 <sup>b</sup>	-0.28 <sup>b</sup>	.65 <sup>b</sup>	(0.84/0.56)								
15 Detachment work	2.59	0.65	0.40 <sup>b</sup>	0.28 <sup>b</sup>	0.03	0.08	0.35 <sup>b</sup>	0.17 <sup>b</sup>	-0.19 <sup>b</sup>	-0.23 <sup>b</sup>	-0.05	-0.21 <sup>b</sup>

Table 1 (continued)

	M	SD	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20	21	22
	-0.11	-0.31 <sup>b</sup>	0.42 <sup>b</sup>	0.50 <sup>b</sup>	(0.86/0.47)							
Work engagement												
16 Work engagement	6.28	0.73	0.02	-0.37 <sup>b</sup>	0.04	0.06	-0.11	-0.20 <sup>b</sup>	0.24 <sup>b</sup>	0.24 <sup>b</sup>	0.27 <sup>b</sup>	0.33 <sup>b</sup>
	.36 <sup>b</sup>	.24 <sup>b</sup>	-.22 <sup>b</sup>	-.28 <sup>b</sup>	-.26 <sup>b</sup>	(0.90/0.77)						
Subjective success												
17 Social factors	3.45	0.75	-0.06	-0.18 <sup>b</sup>	-0.08	0.09	0.10	-0.04	0.07	0.09	0.28 <sup>b</sup>	0.15 <sup>a</sup>
	0.34 <sup>b</sup>	0.03	-0.18 <sup>b</sup>	-0.09	-0.10	0.20 <sup>b</sup>	(0.75/0.54)					
18 Relation customers	4.22	0.68	-0.15 <sup>a</sup>	-0.25 <sup>b</sup>	0.08	-0.01	-0.09	-0.20 <sup>b</sup>	0.27 <sup>b</sup>	0.16 <sup>b</sup>	0.29 <sup>b</sup>	0.17 <sup>b</sup>
	0.32 <sup>b</sup>	0.03	-.18 <sup>b</sup>	-.19 <sup>b</sup>	-.20 <sup>b</sup>	.23 <sup>b</sup>	.35 <sup>b</sup>	(0.88/0.82)				
19 Personal goals	3.84	0.70	-0.36 <sup>b</sup>	-0.22 <sup>b</sup>	-0.06	-0.17 <sup>b</sup>	-0.36 <sup>b</sup>	-0.26 <sup>b</sup>	0.28 <sup>b</sup>	0.19 <sup>b</sup>	0.07	0.14 <sup>a</sup>
	0.17 <sup>b</sup>	0.19 <sup>b</sup>	-0.35 <sup>b</sup>	-0.36 <sup>b</sup>	-0.42 <sup>b</sup>	0.10	0.20 <sup>b</sup>	0.33 <sup>b</sup>	(0.74/0.42)			
20 Personal developm	4.17	0.69	-0.21 <sup>b</sup>	-0.25 <sup>b</sup>	0.00	0.04	-0.10	-0.18 <sup>b</sup>	0.30 <sup>b</sup>	0.15 <sup>a</sup>	0.29 <sup>b</sup>	
	0.24 <sup>b</sup>	0.49 <sup>b</sup>	0.07	-0.26 <sup>b</sup>	-0.24 <sup>b</sup>	-0.18 <sup>b</sup>	0.29 <sup>b</sup>	0.41 <sup>b</sup>	0.31 <sup>b</sup>	0.47 <sup>b</sup>	(0.71/0.85)	
21 Personal finance	2.87	1.10	-0.15 <sup>a</sup>	-0.21 <sup>b</sup>	-0.03	-0.00	0.05	-0.09	-0.07	-0.04	-0.04	0.19 <sup>b</sup>
	-0.00	-0.07	-0.16 <sup>b</sup>	0.08	-0.13 <sup>a</sup>	0.06	0.16 <sup>b</sup>	0.23 <sup>b</sup>	0.14 <sup>a</sup>	0.17 <sup>b</sup>	(0.90/0.71)	
22 Business finance	3.00	1.07	-0.13 <sup>a</sup>	-0.23 <sup>b</sup>	-0.01	-0.10	0.10	-0.16 <sup>b</sup>	0.05	-0.04	-0.10	0.17 <sup>b</sup>
	0.02	-0.08	-0.08	-0.07	-0.11	0.09	0.18 <sup>b</sup>	0.32 <sup>b</sup>	0.13 <sup>a</sup>	0.17 <sup>b</sup>	0.65 <sup>b</sup>	(0.89/0.46)

<sup>a</sup> Correlation is significant at the 0.05 level (2-tailed)

<sup>b</sup> Correlation is significant at 0.01 level (2-tailed)

Experience Questionnaire of Sonnentag and Fritz (2007). Responses were indicated on a 5-point scale with 1 = *totally disagree* to 5 = *totally agree*.

*Work engagement* Work engagement was measured with the nine item version of the Dutch Utrecht Work Engagement Scale (UWES; Schaufeli and Bakker 2003). The items are answered on a 7-point scale, 1 = *never* to 7 = *daily*. An example item is 'I am enthusiastic about my job'.

*Subjective success* This construct was measured using the Subjective Entrepreneurial Success Scale (Dej 2010, 2011). The scale uses a 5-point scale running from 1 = *totally not achieved* to 5 = *totally achieved*. It consists of six subscales measuring two underlying factors. The first factor is subjective financial success consisting of the subscales: *personal finance* (five items, e.g., 'Rise of (family) income'), and *business finance* (five items, e.g., 'Turnover'). This measure relates strongly to objective financial measures such as turnover (growth), profit (growth) and (growth of) number of employees. The second factor is subjective personal success and consists of the subscales: *social factors* (six items, e.g., 'social recognition'), *relation to customers* (three items, e.g., 'customer loyalty'), *personal goals* (five items, e.g., 'To maintain personal relations and networks'), and *personal development* (three items, e.g., 'Develop yourself personally').

*Control variables* Control variables taken into account were gender, education, age of the entrepreneur, age of the company, and entrepreneurs with/without employees (Dej 2010; Buttner and Moore 1997; Walker and Brown 2004).

## Method

Data was analysed using structural equations modelling in SmartPLS (Hair et al. 2014). Standardized variables were analysed in a bootstrapping procedure using 5000 samples of 277 cases. SmartPLS uses a variances based partial least squares approach. Similar to other structural equation modeling programs, PLS accounts for measurement error and therefore provides more accurate estimates of effects than ordinary regression analyses (Chin 1998). SmartPLS has advantages over other path modelling programmes that use a covariance based structural equation modelling approach (such as AMOS, EQS, and Lisrel), in case of a small datafile. Moreover, both formative and reflective variables and a large number of indicators and relationships can be modeled, which is relevant for the current study. Additionally, it is well suited to investigate mediation effects, because of its bootstrapping approach.

## Results

### Descriptive findings

Table 1 shows means, standard deviations and correlation coefficients of the study variables. As this table shows, work engagement levels are quite high in this sample. It

compares to results in other entrepreneurs' samples (Gorgievski et al. 2010a, b; Smulders 2006), but is higher than results for non-entrepreneurs samples (Gorgievski et al. 2010a; Smulders 2006). Job demands are interrelated, although the correlations are not particularly strong, as is often observed for formative factors. Job resources show somewhat stronger interrelationships. Both job demands and job resources appear to be related to work-related strain, and job resources but not job demands are related to work engagement. Subjective business success relates to work engagement, work-related strain and job resources, and somewhat less strongly to job demands.

### Measurement model

First, the quality of the measurement model needs to be assessed before the structural path model can be evaluated. The variables job demands and job resources were modelled as formative latent constructs. Scale scores of the six job demands and six job resources were used as observed indicators, as was advised by Cenfetelli and Bassellier (2009) to ensure a good coverage of the entire construct without running into the problem of the inherent limitation of the number of possible indicators. There were no collinearity problems with the indicators. Tolerance values ranged between 0.62 for 'learning opportunities' and 0.94 for 'organization of the work'. VIF scores ranged between 1.08 for 'organization of the work' and 1.62 for 'learning opportunities'. Concerning specific entrepreneurial job demands, the most important indicators were 'uncertainty and risk' with a significant factor weight of  $\omega=0.68$  ( $SE=0.30$ ,  $T=2.28$ ,  $p<0.05$ ) and 'quantitative workload' ( $\omega=0.44$ ,  $SE=0.22$ ,  $T=1.96$ ,  $p<0.05$ ). The indicator 'time demands' ( $\omega=0.26$ ,  $SE=0.23$ ,  $T=1.74$ ,  $p<0.10$ ) had no significant factor weight, indicating it did not explain additional unique variance in job demands over and above the two job demands previously mentioned, but did have a significant factor loading ( $\gamma=0.55$ ,  $SE=0.25$ ,  $T=2.15$ ,  $p<0.05$ ), which indicates its relevance for the construct. Finally, 'task complexity', 'responsibility' and 'emotional load' had no significant weights nor loadings (see Table 2), but were nonetheless retained, based on theoretical grounds to ensure a more complete coverage of the construct.

Concerning job resources, the strongest indicators were 'work organization' and 'feedback' followed by 'learning opportunities', 'entrepreneurial autonomy', 'variety in work' and 'independence'. The factor weights of 'variety in work' and 'independence' were not significant (see Table 2), but the factor loadings were all highly significant, indicating the relevance of all indicators for the total construct.

Concerning the reflective indicators (work-related strain, work engagement, subjective financial success and subjective personal success) results were satisfactory. Most outer loadings were above 0.70 and all were well above 0.40. Additionally, as Table 1 shows, all AVE's were above the recommended 0.50 and the square roots of all AVE's were well above the highest correlation, indicating good convergent and discriminant validity.

### Results of the structural model

Finally, the test of the structural model, which controlled for business owners gender, education and age as well as the age of the company, showed the following (see also Fig. 2). First, as predicted by *Hypothesis 1*, entrepreneurial job demands did indeed

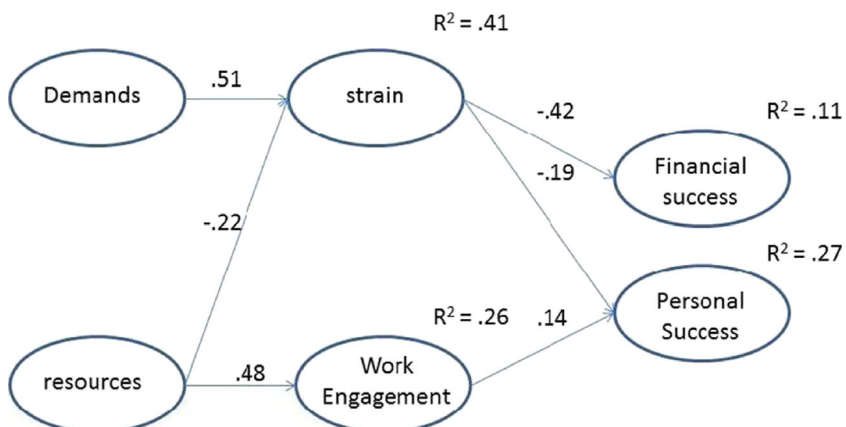
**Table 2** Factor loadings and factor weights

	Factor weight ( $\omega$ )	Factor loading ( $\gamma$ )
Job demands		
1 Time demands c1	0.26	0.55**
2 Uncertainty and Risk c2	0.68*	0.81**
3 Responsibility c3	0.09	0.19
4 Emotional load	-0.25	0.08
5 Quantitative workload	0.44*	0.64**
6 Task complexity	0.04	0.46
Job resources		
7 Autonomy	0.23*	0.54***
8 Independence	0.18	0.55***
9 Variety in work	0.19	0.48***
10 Feedback	0.40**	0.61***
11 Learning	0.26*	0.63***
12 Organization	0.47**	0.59***

relate positively to work-related strain ( $\rho=0.51$ ,  $SE=0.17$ ,  $T=2.94$ ,  $p<0.01$ ). In addition, lack of resources predicted work-related strain as well. In total, the JD-R Model predicted 41 % of variance in work-related strain. In line with *Hypothesis 2*, entrepreneurial job resources related positively to work engagement ( $\rho=0.48$ ,  $SE=0.05$ ,  $T=10.67$ ,  $p<0.001$ ), explaining 26 % of the variance.

Additionally, entrepreneurial work-related strain significantly predicted both subjective personal success ( $\rho=-0.42$ ,  $SE=0.06$ ,  $T=7.17$ ,  $p<0.001$ ) and subjective financial success ( $\rho=-0.19$ ,  $SE=0.07$ ,  $T=2.48$ ,  $p<0.05$ ), thus fully supporting *Hypothesis 3a*.

As concerns an indirect effect of job demands on subjective success through work-related strain (*Hypothesis 3b*), the total effects estimates show that job demands significantly predict subjective personal success ( $\rho=-0.22$ ,  $SE=0.08$ ;  $T=2.70$ ,



**Fig. 2** Smart PLS outcome corrected for age and age of the company, gender, education

$p < 0.05$ ), and subjective financial success ( $\rho = -0.10$ ,  $SE = 0.05$ ;  $T = 2.14$ ,  $p < 0.05$ ) through work-related strain. Sobel tests statistics were 2.18 ( $p < 0.05$ ) and 2.76 ( $p < 0.01$ ) respectively. Thus *Hypothesis 3b* was supported for both subjective financial and personal success.

In contrast to expectations, entrepreneurs' work engagement did not predict subjective financial success, only subjective personal success ( $\rho = 0.14$ ,  $SE = 0.06$ ,  $T = 2.26$ ,  $p < 0.05$ ). So, *Hypothesis 4a* was only partially supported. The JD-R Model predicted 11 % of variance in subjective financial success, and 27 % of variance in subjective personal success.

Job resources indirectly predicted both subjective financial and personal business success significantly ( $\rho = 0.04$ ,  $SE = 0.02$ ,  $T = 2.31$ ,  $p < 0.05$ , and  $\rho = 0.16$ ,  $SE = 0.03$ ,  $T = 4.70$ ,  $p < 0.01$  respectively). Partially supporting *Hypothesis 4b* the relationship between job resources and subjective personal success was mediated by work engagement. A Sobel test showed a Sobel test statistic of 2.27 ( $p < 0.05$ ). Additional, exploratory analyses showed this relationship between job resources and subjective success was mediated by work-related strain for both subjective financial success (Sobel test statistic of 2.57,  $p < 0.01$ ) and subjective personal success (Sobel test statistic of 3.73,  $p < 0.001$ ).

## Discussion

This study among 277 entrepreneurs investigated the relationships between job demands and job resources and business owners' subjective financial and personal success, based on the Job Demands-Resources Model (Bakker and Demerouti 2007). Most of the hypotheses were confirmed.

First, in line with other studies (e.g. Crawford et al. 2010; Bakker et al. 2004), results of Smart PLS analyses indicated that job demands related positively to work-related strain, therefore confirming *Hypothesis 1*. The strongest indicators of the latent variable job demands were 'uncertainty and risk', 'time demands' and 'quantitative workload'. This means that the feeling of uncertainty, time pressure, the feeling of 24/7 presence, not being able to shut the door after 5 o'clock, and the amount of work, press heavily on work-related strain. Two dimensions of job demands, 'responsibility' and 'emotional load', hardly played a role as indicators of the latent factor 'job demands' for this particular sample. This is in line with the study of Dijkhuizen et al. (2014), and Wincent and Örtqvist (2009a).

The expected positive relationship between job resources and work engagement was also confirmed, supporting *Hypothesis 2*. This is in line with many other studies, such as those from Mauno et al. (2007), and Hakanen et al. (2008). The strongest job resource indicators were 'work organization' and 'feedback' followed by 'learning opportunities', 'autonomy', 'variety in work' and 'independence'. Similar results were found in the meta-analysis of Halbesleben (2010) which showed that autonomy, social support and performance feedback are among the most important predictors of work engagement. Additionally, opportunities for professional development, 'learning opportunities', have been found to be important antecedents of work engagement as well (e.g. Xanthopoulou et al. 2007; Bakker and Bal 2010).

Regarding the determinants of subjective success, we found a direct, significant relation between work-related strain and both subjective personal success and

subjective financial success, thus fully supporting *Hypothesis 3a*. Moreover, a significant indirect effect was found for job demands on both experienced financial and personal success through work-related strain (confirming *Hypothesis 3b*), which indicates that high job demands are indirectly related to business owners' performance.

As concerns work engagement, the relation between work engagement and subjective success was partially confirmed (*Hypothesis 4a*). However, in contrast to our expectations, entrepreneurs' work engagement only predicted subjective personal success, not subjective financial success, meaning that engaged entrepreneurs did not assess their subjective financial success differently from less engaged entrepreneurs. Partially confirming *Hypothesis 4b*, the relationship between job resources and subjective personal success, not financial success, was mediated by work engagement.

Apparently, for entrepreneurs, work-related strain has more impact on subjective personal and financial success than work engagement. This is unexpected, as work engagement was shown to be one of the main drivers for success in different types of paid jobs (e.g. Salanova et al. 2005; Xanthopoulou et al. 2009b; Bakker et al. 2004). Our results also contradict meta-analyses showing the impact of work engagement on performance in general to be stronger than the unfavorable impact of work-related strain (Demerouti et al. 2014). How could we explain that this is different for entrepreneurs? One possible reason for this could be a ceiling effect of work engagement. The average work engagement level in the current study among entrepreneurs is much higher than the average mentioned in the literature for other professions (Schaufeli and Bakker 2003). Entrepreneurs are far more engaged than salaried employees (Smulders 2006) and as a result there is less variance in work engagement than in salaried employees samples, diminishing the strength of the relationship (Gorgievski et al. 2010a). Possibly, having a high level of work engagement is a basic condition for successful business ownership, because of which it no longer discriminates between more and less successful entrepreneurs in a sample of established entrepreneurs. The net result, from a JD-R perspective, is that the strain-related process (impact of job demands via work-related strain) is more relevant for entrepreneurial feelings of success than the motivational process (impact of job resources via work engagement). This is especially true for feelings of financial success.

### Limitations and future research

The Job Demands-Resources Model (Bakker and Demerouti 2007) has proven its value for predicting performance for many different occupations. In this study we found that this model to a large extent also applies to entrepreneurs. The current results need to be understood in light of several limitations to this study, however. First of all, this study is cross-sectional and longitudinal research would be needed in order to investigate possible causality and bi-directionality of relationships or developments over a longer period of time. Data was gathered from a single source using a single method. It is recommendable to use a combination of objective and subjective criteria when measuring the success of an enterprise and use their complementarity in future research (Pérez and Canino 2009). For example, objective success indicators like turnover, profit, and number of employees could be added as indicators of financial business performance, besides the subjective financial success measures. In defense of our approach, we would like to mention that we found differential results for feelings of

personal versus financial success. If common method problems would be very strong in their impact, it would be hard to understand such differential findings.

Contextual factors like economic, political, legal or societal factors, may influence the different constructs of the JD-R Model and are not taken into account in this study but are worth integrating in future research. Furthermore, social, personal and organizational resources could be integrated into the model as they possibly add further to the understanding of the JD-R Model for entrepreneurs. As work-related strain has such a large impact on subjective personal and financial success, further in-depth research on coping strategies (Drnovsek et al. 2010) and hindrances of e.g. rules and regulations, can further explain business success. Research into work engagement for entrepreneurs can be extended by investigating possible compensatory strategies for entrepreneurs with lower engagement levels.

### Implications

In spite of these limitations, our findings have interesting implications for research and practice. To our knowledge this was the first study applying the JD-R Model focusing on typical entrepreneurial job demands and job resources. Results show the relevance of the JD-R Model for entrepreneurs. However, in contrast to previous results, application of the JD-R Model to entrepreneurs shows that work-related strain is a stronger predictor of business success than work engagement, whereas the predictive power of work engagement for subjective success is weaker than could be expected based on results among other occupational groups. This implies entrepreneurial strain and its drivers (job demands and lack of job resources) are more important for predicting business success than is currently being acknowledged. At least the literature shows a bias towards studying positive emotions and affect, see for a review Omorede et al. (2014).

Furthermore, results show lower variance explained for subjective financial success than for subjective personal success. We assume that external factors, for example macro economic conditions, play a more important role in subjective financial success than in subjective personal success. Therefore we interpret the difference in variance as an indication for the validity of our study and measures.

With regard to implications for the general JD-R literature, our results suggest that it might be important to check whether the JD-R Model may also have limited generalizability for certain groups of salaried workers that resemble entrepreneurs. For example, based on our findings it might be important to investigate whether the motivational process is less able to differentiate between subjective feelings of successful performance among higher level professionals and/or managers.

As concerns practical implications, our results indicate that being able to deal effectively with job demands and work-related strain might be more important for achieving competitive advantage as an entrepreneur than the motivational process. All entrepreneurs are on the whole quite high on motivation, and this restriction of range prohibits strong findings on the link with feelings of success among entrepreneurs. But some entrepreneurs clearly report more job demands and work-related strain than others, and these differences appear to be strongly related to feelings of success. So, a starting point for achieving better subjective success lies in managing job demands

and in mastering better coping strategies helping entrepreneurs to deal with work-related strain.

Entrepreneurs who are not able to cope with work-related strain are likely to perceive themselves both as less financially and personally successful. This might lead to a downward spiral of feeling more pressure, more work-related strain and less business success. A longitudinal study demonstrating such a downward spiral would be highly relevant.

These results are not only intriguing for entrepreneurs themselves, but also for policy makers, business mentors and counsellors aiming to assist business owners in the elimination and prevention of work-related strain in order to achieve higher subjective financial and personal success. The key to lower work-related strain is reducing the impact of 'uncertainty and risk', 'quantitative workload' and 'time demands'. Time management courses and specific mentoring on coping with uncertainty, time and work pressure would be advisable. On the other hand, the entrepreneur can procure more job resources, such as better 'organization of work' and 'feedback'. The entrepreneur can learn to better organize his work in talking to colleagues, hiring a specialized mentor, and reading books about this item. Feedback can be generated by getting a membership of a business owner network where open discussions are organized.

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