

# THE INFLUENCES OF SELF-CONTROL DEMANDS AND EDUCATION ON BURNOUT AND WORK ENGAGEMENT

K. Oude Rengerink  
COMMUNICATION STUDIES  
MASTER THESIS

EXAMINATION COMMITTEE  
Dr. M. van Vuuren  
Dr. ir. P. de Vries

## **Abstract**

*Background.* Burnout is increasing in the Netherlands: During 2013, 12% of the working population suffered from emotional exhaustion, one of the main components of burnout. This exhaustion might be due to the dynamic environments where self-management and self-control have become more important. For instance, withholding spontaneous reactions drains self-control strength, whereas an insufficient amount of self-control strength leads to higher self-control demands, which can impair cognitive, emotional, and behavioural actions and can also lead to burnout. However, work engagement and psychological detachment can buffer the effects of burnout. Finklestein (2007) found that the higher educated have more resources to cope with stress and are, therefore, less vulnerable to stress and burnout. This study focuses on the effect of level of education on the relationship between self-control demands and burnout.

*Method.* A cross-sectional study was conducted using a survey. A sample of 268 employees of various industries and companies volunteered to participate in a study, creating a 75% response rate (n = 268).

*Results.* The results of this study are as expected from the literature: (1) Self-control demands are mainly responsible for generating burnout; (2) higher levels of education decrease burnout, (3) psychological detachment decreases burnout and is a moderator in the relationship between self-control demands and burnout; (4) work engagement lowers burnout, although it cannot be concluded whether this differs among education levels.

*Conclusion.* The most important finding is that level of education and work engagement have a strong relationship with burnout and might be extremely important for employees in order to not burnout. Psychological detachment is a moderator in the relationship between self-control demands and burnout, and it also reduces burnout.

*Limitations.* The most important limitation is that the variables were noted through self-reports measured with a one-time questionnaire. Secondly, the study could benefit from a more exact moment when conducted. Lastly, a more equal share of educational levels might improve the results of the study.

## 1. Introduction

Contemporary work is characterized by highly dynamic environments where flexibility, adaptability, and self management have become more important (Cascio, 2003). Recent studies have shown that self-control demands correlate with stress at work (Schmidt & Neubach, 2007), possibly because of the rising popularity of, among others, social networks (Wilcox & Stephen, 2012) or smartphone addictions (Bolle, 2014).

Self control is defined as “the ability to pursue a goal while adequately managing internal conflicts about it, or to delay pursuing a goal because of other considerations or constraints” (Gleitman, Gross, & Reisberg, 2011, p. 628). Baumeister, Heatherton, and Tice (1994) defined self control as overriding automatic, habitual, or spontaneous behaviour. The ability to perform acts of self control is achieved by the limited resource of *self-control strength*. Self-control strength acts like a muscle, which fatigues when overused, according to Muraven and Baumeister (2000). When self control is overused or insufficiently replenished, self-control demands are generated. Self-control demands are defined as “the lack of self-control resources which can impair cognitive, emotional, and behavioural actions” (Dzinic, 2013, p. 5). Schmidt and Neubach (2007) found that an increase in self-control demands is associated with stronger symptoms of burnout and stress.

However, Rivkin, Schmidt, and Neubach’s (2014) study showed that psychological detachment can reduce the job strain from self-control demands. Psychological detachment is defined as “the sense of being away from the work situation” (Etzion, Eden, & Lapidot, 1998, p. 579). Thus, psychological detachment can replenish the self-control muscle in order to regain self-control, reduce self-control demands, and eventually reduce burnout.

Stress at work increases the chance of becoming burnt-out. The percentage of people in the Netherlands who have burnout is also increasing: 9% of the employees suffered burnouts in 2000, rising to 12% in 2013 (Burnout.nl, 2013). Therefore, it is important to be able to recognize the beginning of a burnout in order to decrease the proportion of burnt-out employees.

## Literature gap

Self-control demands have an effect on burnout (Schmidt & Neubach, 2007). The relationship between self-control demands and work engagement has not been studied and the relationship between work engagement and burnout is unclear (Bragard, 2014) and requires further research.

Furthermore, it is unclear whether the relationship between self-control demands and stress is the same for burnout and can be generalized or whether this relationship might depend on the employees’ educational level. Several studies indicated that higher educated employees are better at coping with stress (Finkelstein et al., 2007; Grzywacz et al., 2004). However, the association between education and self-control demands and burnout has also never been studied.

The research questions designed to address these relationships are as follows:

1. How does the level of education influence the relationship between self-control demands and burnout?
2. How does the level of education influence the relationship between self-control demands and work engagement?

## Theoretical framework

Although Dzinic (2013) defined self-control demands as a “lack” of self-control resources, the term lack is not correct. Since self-control resources are depleted, a better definition would be “the *deficit* of self-control resources, which can impair cognitive,

emotional and behavioural actions”. These self-control demands are a source of stress at work (Schmidt & Neubach, 2007). Much research has been conducted concerning job strain and the effects of job demands (Rivkin, Neubach & Schmidt, 2014; Schmidt & Diestel, 2012; Schmidt & Neubach, 2007). However, self-control demands and their relationship with level of education, work engagement, and burnout have been less frequently studied and need further research.

### **Self-control**

The concept of self-control strength has been covered in the study of Muraven and Baumeister (2000). They argued that self-control strength is a limited resource, which can diminish in certain instances. To illustrate, self-control strength is a resource which operates like a muscle which fatigues when used and will fully defect without any time to recover. As with a muscle, self-control can be replenished. The discrepancy between full self-control and the reduced level creates a demand for self-control. This demand will be addressed as *self-control demand*.

Recent studies have shown that self-control demand is positively correlated with stress. Schmidt and Neubach’s (2007) study found that a higher self-control demand leads to more work-related stress. According to Schmidt and Neubach (2007), self-control demands consist of three concepts, which represent the construct self-control demand. The first is *impulse control* which means “to control or inhibit spontaneous responses and associated affective status” (Schmidt & Neubach, 2007, p. 403). The second is *resisting distractions*, which is defined as “ignoring or resist distractions evoked by task-irrelevant stimuli” (Schmidt & Neubach, 2007, p. 404), and the third is *overcoming inner resistances*, which is described as “overcom[ing] motivational deficits that result from unattractive tasks” (Schmidt & Neubach, 2007, p. 404).

Schmidt and Neubach’s (2007) study showed that a temporary deficiency in self-control strength results in job strain and impaired well-being. The study also showed that a greater deficiency resulted in more job strain.

### **Job strain**

Job strain is defined as high psychological demand at work in combination with a low control with regard to the work. This combination can be described as *low decision latitude* (Karasek et al., 1979; Xavier et al., 2010). Job strain consists of four concepts: Burnout, absence behaviour, psychosomatic complaints, and turnover intentions. All concepts, except burnout, are outside the scope of this research. Therefore, only burnout will be used.

### **Burnout**

The concept of burnout was introduced by psychologist Freudenberger (1974) and was defined as a negative, job-related psychological state comprising a set of symptoms, such as physical fatigue, emotional exhaustion, and loss of motivation. As argued, essentially all burnout complaints are strongly influenced by work-related stress. As mentioned, self-control demand is a driver for stress. Schmidt and Neubach (2007), argued that deficient self-control strength leads to job strain and impaired well-being. However, their research did not show a correlation between self-control strength and burnout. This study will focus on this effect and add the concept of education since many studies have shown the importance of this moderator. For instance, the study of Finklestein et al. (2007) showed that people with higher levels of education have more resources to prevent burnout. Lower educated people will, therefore, experience more stress than higher educated people at an equal self-control demand level. Therefore, the following research question have been formed:

Research question 1: What is the effect of level of education on the relationship between self-control demands and burnout?

However, according to Rivkin et al (2014), job strain, and therefore burnout, can be decreased by psychological detachment.

### **Psychological detachment**

Rivkin, Schmidt, and Neubach's (2014) study showed that psychological detachment can reduce the job strain obtained from self-control demands. Psychological detachment is defined as "the sense of being away from the work situation" (Etzion, Eden, & Lapidot, 1998, p. 579). Alternatively, psychological detachment from work is the ability to avoid job-related thoughts when away from the workplace (Sonnentag & Bayer, 2005); the person is not only physically away from work but also mentally. Sonnentag's (2009) study showed that psychological detachment from work during non-working time decreases job strain, where job strain is a combination of multiple variables, among which is burnout.

Studies showed that lower-educated adults reported more stressors and more psychological distress (Grzywacz et al., 2004), which might indicate that the lower educated gain more benefits from psychological detachment in decreasing stress and, therefore, preventing a burnout. Because this theory has not been studied, I pose the following research question:

Research question 2: What is the effect of level of education on the relationship between burnout and psychological detachment?

Psychological detachment from work can not only reduce the job strain, it can also have a positive influence on employees. According to Sonnentag et al. (2010), psychological detachment from work also increases work engagement (definition in 1.1.5), just as low levels of psychological detachment from work predict low work engagement (Sonnentag, 2010). Interestingly, engagement at work and psychological detachment from work are not each other's opposites and should be viewed as two distinct experiences (Sonnentag et al., 2008).

Safstrom and Hartig (2013) found that psychological detachment can both be a moderator and a mediator in the relationship between job stressors and psychological strain. Safstrom (2013) found that psychological detachment is a mediator in the relationship between job stressors and strain, which also might be the case for self-control demands. Furthermore, Rivkin, Diestel, and Schmidt (2015) found that psychological detachment is a moderator in the relationship between self-control demands and job strain, and therefore, psychological detachment might also act as a moderator in this study. Since it can be both a mediator and moderator, it is unclear which role psychological detachment plays between the variables of self-control demands and burnout. Therefore, the third research question is as follows:

Research question 3: What is the role of psychological detachment in the relationship between self-control demands and burnout?

### **Work engagement**

There are two main approaches to conceptualize *work engagement*. In the first approach, work engagement is a direct opposite of burnout (Maslach, Schaufeli, & Leiter, 2001). In this view, work engagement consists of energy, involvement, and efficacy, which are opposites of burnout. Burnout consists of exhaustion, cynicism, and lack of efficacy. Maslach and Leiter (1997) assumed burnout and engagement are on the same continuum, just on different ends. They saw burnout as an erosion of work engagement. The second approach to work engagement agrees that work engagement is the positive antithesis of burnout. However, this approach views work engagement as independent from burnout. This view defines work engagement as "a positive, fulfilling state of mind that is characterized by vigor, dedication,

and absorption” (Schaufeli et al., 2002, p. 712). However, Strom, Sears, and Kelly (2014) defined vigor as follows:

Vigor is characterized by a high level of energy, mental resilience while working, persistence when faced with difficulties, and a willingness to invest effort in one’s work. Dedication refers to a sense of inspiration, pride, significance, enthusiasm, and challenge at work. Absorption is being happy, fully concentrated, and deeply engrossed in one’s work, with trouble detaching from work. (p. 71)

Engaged employees have a sense of energetic and effective connection with their work, contrary to those who suffer from burnout (Schaufeli, Bakker, & Salanova, 2006). In this second approach, work engagement and burnout are distinctly negatively related constructs, which was confirmed by Halbesleben’s (2010) meta-analysis.

Although the effects of job demands on work engagement have been studied thoroughly, the effects of self-control demands on work engagement have not been studied. Self-control demands are an increasing source of stress at work (Schmidt & Neubach, 2007).

### **Self-control demands and work engagement**

According to Schmidt and Neubach (2007), self-control demands are a growing source of stress at work. Lepine, Podsakoff, Lepine (2005) found that job demands can be divided into two groups. The first is *challenges*, which was defined by Cavanaugh, Boswell, Roehling, and Boudreau (2000) as “work-related demands or circumstances that, although potentially stressful, have potential gains for individuals” (p. 6) (e.g., workload, time pressure, etc.). The second group is *hindrances*, which is defined as “work-related demands or circumstances that tend to constrain or interfere with an individual’s work achievement” (Cavanaugh et al, 2000, p. 6) (e.g., role ambiguity, role conflict, etc.). Therefore, self-control demands are part of job demands.

Van den Broeck, Cuper, Witte, and Vansteenkiste’s (2010) study confirmed that job hindrances associate positively with exhaustion (the main component of burnout) and negatively with vigour (the main component of work engagement). Since self-control demands are part of job hindrances and are expected to decrease work engagement, I hypothesize the following:

Hypothesis 1: Self-control demands correlate negatively with work engagement

Since the higher educated have better coping strategies for stress, it is expected that lower educated to have stronger effects of declining work engagement as a result of stress/burnout caused by self-control demands. Therefore, I hypothesize the following:

Hypothesis 2: Self-control demands decrease work engagement more strongly among lower educated than higher educated employees.

Sonnentag, Binnewies, and Mojza (2010) showed that psychological detachment buffers the relationship between job demands and decreased work engagement. Since self-control demands are part of job demands, I hypothesize the following:

Hypothesis 3: Self-control demands decreases work-engagement less with higher psychological detached employees.

### **Work engagement and burnout**

Schaufeli et al. (2002) argued the effects of work engagement and burnout. They argued that both concepts are the antithesis of each other. However, the effects of both concepts are not explicitly stated; it appears that work engagement will decrease burnout. The study does not include the concept of education. Since this study focusses on the effect of the level of education, education is taken into account. Therefore, I hypothesize the following:

Hypothesis 4: Work engagement correlates negatively with burnout.

Hypothesis 5: Work engagement correlates negatively with burnout and stronger among lower educated than higher educated employees.

### Model

The present research utilizes a cross-sectional design, where burnout and work engagement are the dependant variables, self-control demands is the independent variable, and level of education and psychological detachment are the moderators. Although psychological detachment might be both a mediator and a moderator, I primarily use it as a moderator because of the relationship discovered by Rivkin, Diestel, and Schmidt (2015).

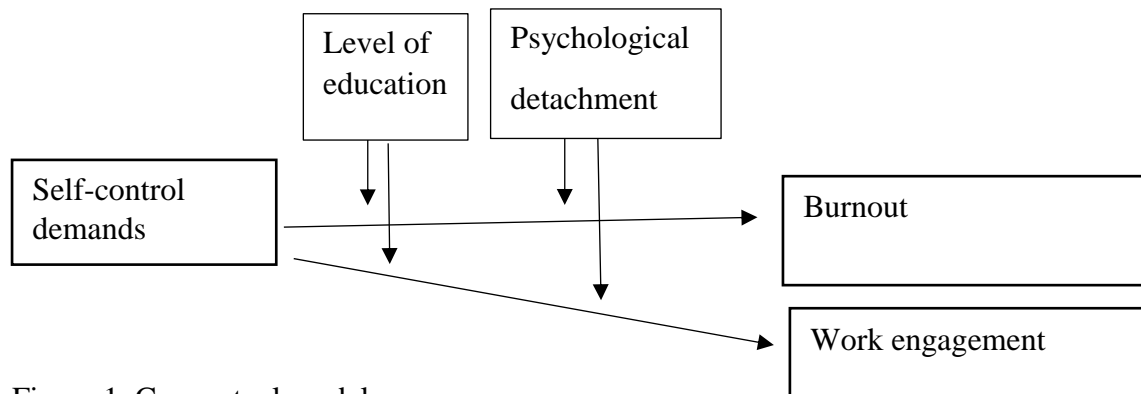


Figure 1. Conceptual model

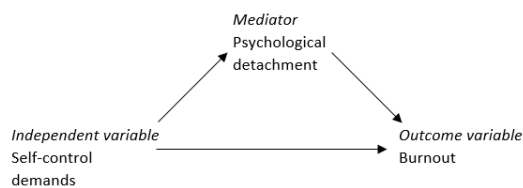


Figure 2. The illustration of determining the role of psychological detachment

## 2. Method

### Participants

The research was conducted as a cross-sectional study where participants were asked to complete a questionnaire. The participants were mostly approached via e-mail and social media, such as Facebook and LinkedIn. Every participant was aware of the confidential usage of the data and that the data would not be used for other purposes.

A sample of 357 employees of various industries and companies were asked to take part in a study. The 75% response rate yielded 268 respondents ( $n = 268$ ). All participants were employees, and none were self-employed. The mean age of the sample was 32.3 ( $SD = 4.6$ ); 43.9% were women. Additionally, 65% worked 32 hours or more per week and the distribution of the level of education was as follows: 14.2% had finished a lower education level, 34.6% middle education, and 51.2% higher education.

### Design

The dependant variables in this study are burnout and work engagement. The independent variables are the self-control demands and work engagement. Lastly, the moderators are level of education and psychological detachment.

### Measures and procedure

In order to measure the independent variable of self-control demands, Schmidt and Neubach's (2007) three subscales were used: Impulse control ( $\alpha = .74$ ), resisting distractions ( $\alpha = .81$ ), and overcoming inner resistances ( $\alpha = .81$ ). These three subscales have been combined into the scale *self-control demands* and the internal reliability has been averaged which resulted in a Cronbach's alpha of .80. The 15 items of self-control demands were used to indicate the extent to which the job required to suppress spontaneous response tendencies and affect states. Example items are "my job requires me never to lose my temper" and "I am never allowed to lose my self-control at work". These items were scored on a 5-point intensity rating ranging from 1 ("strongly disagree") to 5 ("strongly agree"). By averaging item scores, a total score was obtained. Factor analysis showed that the item "some of my tasks I can only get done against inner obstacle" does not correlate with the others of the scale and was, therefore, removed, and increased the internal reliability of the subscale and overcoming internal resistances from .77 to .81, as well as decreasing the self-control demands scale from .80 to .79. Only the complete scales were used, and not the subscales, since these subscales were not required for this study. However, additional analysis on the sub-scale level is possible. After calculating the Cronbach's alpha, the items were averaged.

To measure the dependant variable of *burnout* ( $\alpha = .89$ ), the UBOS-A scale (Schaufeli & Dierendock, 2006) was used, which consists of multiple subscales. Firstly, the *emotional exhaustion* ( $\alpha = .89$ ) subscale consists of nine items; a sample item is "I feel used up at the end of the workday". Second is the *depersonalization* ( $\alpha = .87$ ) subscale of five items; a sample item is "I worry that this job is hardening me emotionally". The items were scored on a 7-point frequency rating scale from 0 (never) to 6 (daily). Initially, there was a third dimension, *personal accomplishment*; however, the study Lee & Ashfort (1996) have shown that this scale is not a core dimension of burnout and is therefore excluded in this study. These two subscales have been combined into the scale *burnout* which averaged an Cronbach's alpha of .89.

Psychological detachment ( $\alpha = .85$ ) was measured using the detachment subscale from the recovery experience questionnaire, developed by Sonnentag and Fritz (2007). This subscale



has four items reported on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). A sample item is “during after-work hours, I forget about work”.

Work engagement ( $\alpha = .94$ ) was measured with the short nine-item version of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006). A sample item is “at my job, I feel strong and vigorous”. This test is rated on a 7-point Likert scale ranging from 0 (never) to 6 (always). Work engagement ( $\alpha = .94$ ) was measured by averaging the three subscales of *vigour* ( $\alpha = .83$ ), *absorption* ( $\alpha = .76$ ), and *dedication* ( $\alpha = .91$ ).

Level of education was measured by the highest completed education level, ranging from no education and lower education to a master’s degree or beyond. Answers not fitting this scale were assigned to the “other” category. MBO or lower were classified as lower education, HBO as middle education, and WO as higher education. Although level of education can possibly be a mediator, Baron and Kenny’s (1986) test showed there is no significant correlation between level of education and the independent variable, self-control demands ( $r = 0.003$ , *ns*). Therefore, level of education acts as a moderator in this study.

### 3. Results

Means and standard deviations of all variables are presented in Table 1 below.

Table 1.

*Means and standard deviations of the variables from this study.*

Variable	Scale	<i>N</i>	<i>M</i>	<i>SD</i>
Burnout		263	1.23	0.93
	Emotional Exhaustion	266	1.43	1.11
	Depersonalization	264	0.97	1.03
	Personal Accomplishment	257	3.73	0.86
Self-control demands		259	2.05	0.52
	Impulse control	264	1.76	0.63
	Resisting distractions	264	2.19	0.76
	Overcoming inner resistances	266	2.19	0.84
Psychological detachment		261	2.53	0.86
Work engagement		254	3.57	0.92
	Vitality	266	3.56	0.98
	Dedication	263	3.83	1.13
	Absorption	261	3.30	0.90

#### Research model

The data analysis was completed using one model. The independent variable is self-control demands and the dependent variables are burnout and work engagement. The moderators are level of education and psychological detachment.

#### Burnout

The first step of the hierarchical regression analysis shows the main effects, and the second step shows the interaction effects. The model for main effects is significant ( $F(4, 22) = 22.88, p < 0.01$ ), as is the model for interaction effects ( $F(4, 217) = 165.58, p < .01$ ). The model for main effects explains 29.7% of the variance, whereas the interaction models explains 86.1% of the variation.

The main effects for the dependent variable burnout are based on the variables on self-control demands, level of education, and psychological detachment. The results show a significant main effect on self-control demands:  $t(3, 228) = 6.94, p < 0.01$ . This result shows that self-control demands is a significant predictor for burnout, i.e., employees with higher self-control demands have a higher chance of generating burnout.

Psychological detachment almost reached significance:  $t(3, 228) = -1.76, p = 0.08$ . A beta of -0.10 indicates psychological detachment as a predictor for decreasing burnout. Which means there is a negative correlation between psychological detachment and burnout.

Level of Education was not significant:  $t(3, 228) = 0.81, p = ns$ .

The second step shows the interaction effects for the dependent variable burnout and is based on the variables work engagement, self-control demands, level of education, and psychological detachment, as well as the interaction terms of self-control demands \* psychological detachment, self-control demands \* level of education, and self-control demands \* psychological detachment \* level of education.

#### *Self-control demands and burnout*

The main effect of level of education on burnout was significant:  $t(3, 228) = -4.36, p = < 0.01$ . The beta of -0.67 shows that every increase in level of education results in a decrease of 0.67 burnout, so the higher educated had less chance of generating burnout.

The interaction effect of self-control demands and level of education on burnout also proved to be significant:  $t(5, 226) = 12.6, p = < 0.01$ . This separate regression analysis showed that the lower educated (HBO + MBO employees) had a beta of 0.48 for generating a burnout from self-control demands, whereas the higher educated (WO employees) had a beta of 0.37. These results also show that the higher educated are less affected by self-control demands, which is in line with the earlier theory that the higher educated have coping strategies for stress.

#### *Self-control demands, burnout, and psychological detachment*

The interaction effects of self-control demands and psychological detachment on burnout proved to be significant:  $t(5, 226) = 6.49, p = < 0.01$  with a positive coefficient of 0.24. A separate analysis, with a median split on the moderator psychological detachment, showed that the employees with a low psychological detachment (the lowest 50%) had a beta of 0.47 for generating a burnout, whereas the employees with a high psychological detachment had a beta of 0.33 for generating a burnout. The results show the negative correlation between psychological detachment and burnout, and that higher psychological detachment reduces burnout.

#### *Work engagement and burnout, and level of education*

Work engagement also showed a significantly main effect with burnout:  $t(5, 226) = -3.98, p = < 0.01$  and shows a Beta of -.375, which means a negative correlation between burnout and work engagement.

Work engagement and level of education did not reach significance:  $t(5, 226) = 0.79, ns$ . Therefore, it cannot be concluded whether the relationship between burnout and work engagement differs among different educational levels.

### **Work engagement**

The first step of the regressions shows the main effects for work engagement, and the second step shows the interaction effects. The results showed a non-significant main effect model:  $F(3, 218) = 0.27, ns$ . The interaction proved to be significant,  $F(5, 216) = 3.82, p = < 0.05$ , and explains 8% of the variance.

The results show a non-significant main effect on self-control demands ( $t(3, 218) = -0.37, ns$ ), education ( $t(3, 218) = -0.64, ns$ ), and psychological detachment ( $t(3, 218) = 0.43, ns$ ).

#### *Self-control demands and work engagement*

The interaction effect between self-control demands and work engagement was not significant:  $t(5, 216) = -0.36, ns$ .

#### *Self-control demands, level of education, and work engagement*

The interaction effect of self-control demands and level of education on work engagement proved to be significant:  $t(5, 216) = 3.12, p = < 0.05$ .

A separate analysis showed that the higher educated employees had a beta of -0.01 for generating self-control demands from work engagement and the lower educated had a beta of -0.04. This shows that the level of education does counteract the effect of self-control demands on work engagement.

Therefore, hypothesis 2 is confirmed. Higher level of education does have a positive relation with work engagement. This means that higher self-control demands decrease work engagement stronger among the lower educated than the higher educated.

#### *Self-control demands and psychological detachment*

The interaction effects between of self-control demands and psychological detachment on work engagement proved to be significant:  $t(5, 216) = -4.22, p = < 0.05$  with a negative coefficient of -0.31.

Again, a separate analysis have been done between the high and low levels of psychological detachment. This analysis showed that the lower detached group had a beta of -0.01 on work engagement from self-control demands, and the higher detached group had a beta of 0.12. These results show that higher psychological detachment increases work engagement.

Hypothesis 3 is, therefore, confirmed and shows that psychological detachment has a positive impact on the relation between self-control demands and work engagement .

#### **The role of psychological detachment: Research question 3**

Via regression it was tested whether psychological detachment is a moderator or a mediator in the relationship between self-control demands and burnout, as illustrated in Figure 2. The relationship between the possible mediator and dependent variable, psychological detachment and burnout, was significant with a beta of -0.11 ( $p = 0.04$ ). Secondly, the relationship between the independent and dependent variables, self-control demands and burnout, was significant with a beta of 0.41 ( $p = < 0.05$ ) .

There was a significant initial relationship between the independent variable and dependant variable ( $\beta=0.41, p=<.05$ ) that was non-significant after controlling for the mediator (*Sobel Z* = 0.80;  $p = 0.411$ ) which indicates that psychological detachment is not a mediator but a moderator.

According to the decision tree of Zhao et al. (2010), which reconsiders the methodology of Baron and Kenny (1986), the variable psychological detachment is a *direct-only (non mediation)* type of mediation and, therefore, a moderator.

#### **4. Discussion and conclusion**

The main aim of the study was to test whether the relationships between self-control demands and burnout differ among multiple educational levels and whether psychological detachment can buffer the effects of self-control demands on burnout. Furthermore, it was of interest to discover whether work engagement can reduce burnout and how work engagement differs among education levels.

The most important finding in this study is that the level of education, but not limited to, is a predictor of the amount of burnout. Furthermore, I found that work engagement reduces burnout, and it does not significantly differ among educational levels.

Hypothesis 1 is rejected. The self-control demands showed a negative direction, which does indicate self-control demands decrease work engagement; however, this result was far from significant, both in the main effect and the interaction effect. I expected self-control demands to decrease work engagement since Van den Broeck et al. (2010) found that job

hindrances, which self-control demands are part of, are negatively associated with vigor, the main component of work engagement. I cannot confirm whether higher self-control demands decrease work engagement, although a larger sample size might show results.

Also, higher self-control demands and higher levels of education probably result in higher work engagement, which means that higher self-control demands decrease work engagement stronger among the lower educated than the higher educated. Since higher levels of education increase work engagement when self-control demands are equal, it is likely that level of education is a buffer for the effects of self-control demands on work engagement. This result is in line with the theory that higher educated employees are better at coping with stress (Finkelstein et al., 2007; Grzywacz et al., 2004). This means that when the self-control demands increase, each extra level of education increases the work engagement. Level of education is not something to change easily, and because there are multiple traits (like optimism) that are probably responsible for the level of education, the relationship goes one way. Higher education does increase work engagement, although work engagement does not increase level of education.

Hypothesis 3 is confirmed. This hypothesis shows that high self-control demands and high psychological detachment have a negative impact on employees' work engagement, possibly because high psychological detachment implies that employees do not think about work during the non-working hours, meaning that they are not willing to give up their leisure time to work if necessary; this might be seen as *dedication*, which is one of the three aspects of work engagement.

Work engagement is a good predictor of the degree of burnout. Significant results showed that employees with higher work engagement are generally less burnt out. Therefore, it is important to be highly engaged with the work in order to not generate burnout. Although this idea might seem logical, Bragard et al. (2014) did not show significant results between burnout and work engagement. Therefore, if burnout is to be stopped or counteracted, it is important for employees to be highly engaged. Theories to increase work engagement among employees can be found in the practical implications and in Nijhuis, Beek, Taris, Schaufeli's (2012) study. Therefore, hypothesis 4 is confirmed; work engagement correlates with lower burnout.

Work engagement and burn-out did not seem to be significantly different among educational levels, although I did expect this result since the higher educated experience less stress (Finkelstein et al., 2007) and therefore less burnout. Therefore, hypothesis 5 is rejected. Perhaps the higher educated have more mentally challenging jobs and, therefore, show no significant difference in feelings of burnout.

Self-control demands have a positive relationship to burnout. This finding was in line with the studies of Schmidt and Neubach (2007) and, therefore, expected. Employees who have more difficulty controlling themselves are more likely to generate burnout. "Controlling themselves" in this case means whether they can control impulses, e.g., resisting distractions, such as talking colleagues, and overcoming inner resistances, such as the urge to start another task while busy with another. Feelings of burnout caused by self-control demands correlated less among the higher educated. Finkelstein et al. (2007) and Grzywacz et al. (2004) indicated that higher educated employees are better at coping with stress; however, "stress" was not specified. This study shows that the higher educated are better at coping with higher self-control demands and, as a result, generate less burnout. Perhaps, the higher educated are more aware of the cost of the self-control demands and this group able to do something about the burnout. Thus, the answer to research question 1 is as follows: A higher level of education correlates with a lower amount of burnout generated by self-control demands. Likewise, the

answer to research question 1a is as follows: Education does buffer the effects of self-control demands on burn-out.

Although level of education is an important and easy factor to classify employees, there are many more factors to take into account that might influence the self-control demands, work engagement, and burnout. Perhaps these traits even define the level of education; it is not unthinkable that the higher educated have an overall different attitude than the lower educated. For example, the higher educated might have more perseverance and may be, overall, more optimistic.

Secondly, the level of education does not guarantee a job on that level. Although the employees do have the (high) level of education, if these employees are not challenged, it also does not reflect the right level of work. For example, a higher educated person is not engaged in his work because of the lack of challenge and, therefore, is not the typical higher educated employee and may have other types of self-control demands and work engagement, etc.

Lastly, the type of work is also a determinant of degree for variables like self-control demands. Employees in a work environment with low freedom might have less, or perhaps more, difficulties restraining their feelings and actions because of work regulations.

To answer research question 2, the statistics shows that higher educated employees, with high scores on psychological detachment, probably generate less burnout than low educated employees. Psychological detachment, defined as “the sense of being away from the work situation” (Etzion, Eden & Lapidot, 1998, p. 579), is important to decrease the feeling of burnout and emotional exhaustion. Apparently, the higher educated have a better sense of being away from the work situation and are better at “switching off” during non-work hours, which results in a smaller chance of generating feelings of burnout.

To answer research question 3, psychological detachment seemed to be an interesting variable since it can be both a moderator and a mediator, according to Safstrom and Hartig (2013). However, in this study it is a moderator. According to Sonnentag (2010), psychological detachment can increase work engagement.

### **Theoretical implications**

Since this study shows that higher educated suffer less from burnout and self-control demands, the most important question is why the higher educated suffer less from burnout and self-control demands. Is this a matter of personality or certain traits, is it the workplace or the type of work that increases the burnout or the self-control demands? The most important way to stimulate work engagement, which will also be described in 4.3.0, is to meet the three needs of the Self-Determination Theory (Deci & Ryan, 2000). Although it has not been studied whether this effect also holds up for different educational levels. Therefore it is interesting to study the self-control demands and burnout and to what degree the employees meet the needs of the Self-Determination Theory and also how the education levels differ among these variables.

Even though psychological detachment decreases burnout, it also decreases the work engagement which at its turn decreases the burnout. So, what degree of psychological detachment is optimal for burnout, regarding the work engagement?

Thirdly, the oppositions of work engagement and burnout can be studied. As already discussed in 1.1.5 there are two approaches of work engagement, one which sees work engagement as an opposite of burnout and the other view sees it independent from burnout. To study this effect requires enhanced research methods which are out of the scope of this study, but would be interesting to study.

### **New findings**

The most important finding is that burnout does differ among education levels, as was expected from the theory (Finklestein, 2007), and it seems that higher educated employees can cope better with self-control demands (and stress in general) and therefore generate less burnout. The higher educated can also cope better with stress due to personality traits or the satisfaction of the needs from the Self-Determination Theory.

Psychological detachment is a moderator in this study, although it can also be a mediator according to Safstrom and Hartig (2013). According to the decision tree of Zhao (2010) the variable of psychological detachment is a moderator.

Self-control demands decreases work engagement stronger among lower educated. Since it is known that lower educated cope worse with stress and self-control demands, the effects of it are more severe. Therefore the self-control demands decrease the work engagement stronger among lower educated.

### **Limitations**

Firstly, the data was noted through self-reported measures with a one-time questionnaire. Therefore, a self-report bias might have influenced the results (Podsakoff, 2003).

Secondly, it might be that respondents gave socially desirable answers, although Spector (2006) argued that common method variance is a “distortion and oversimplification of the true state of affairs, reaching the status of urban legend” (p. 221). A measure other than self-reports, for instance interviews, might be able to decrease this bias and improve the reliability of the data.

The cross-sectional character of the study has two main points for improvement. First, future research could gain more clarity and significance with more measures of the scales. Although self-control demands and burnout are traits, it still depends on when it is asked. Therefore, multiple measures can give more insight into the trait itself and whether it is consistent among respondents. Additionally, the relationships with other variables might be stronger with more consistent measurements among different times in the day or week. As Ohly, Sonnentag, Niessen, and Zapf (2010) stated, “In order to assess self-control demands more validly, future studies should control for daily variations in job conditions and for the affective states of the participants” (p. 83). Second, causality cannot be determined because of the one-time questionnaire. Work engagement can influence burnout. However, it might also be the other way around since burn-out is characterised as the opposite of work engagement.

A more equal share of education level among respondents can improve the results of the study. The lower educated employees were under-represented in the population. A number of relationship between variables were definitely present, although not significant, and these relationships might benefit from a greater population and a more equal share.

## Practical implications

The theoretical implication for this study is that the amount of burnout can be reduced for all the employees in the Netherlands. Supposedly, it starts with awareness. When employees are aware of the extent of burnout, work engagement, and psychological detachment, they will be more able to counter the results of burnout. This will supposedly be the case for higher educated. Since work engagement is important to reduce burnout, it is expected that an increase in work engagement will decrease burnout. How this can be accomplished will be discussed below.

Multiple practical implications follow from these findings. Firstly, it is important for employees to be highly engaged with their work. Strategies and manners of engagement are described in Nijhuis, Beek, Taris, and Schaufeli (2012). The most important factor to stimulate work engagement and to counter burnout is that the employees find their job, fun, interesting, and satisfying. The need for satisfaction can be achieved by the three needs of the Self-Determination Theory: competence, relatedness, and autonomy (Deci & Ryan, 2000). This will increase engagement and thus lower burnout. An environment that meets these three needs will positively influence the engagement and the well-being of the employees (Deci et al., 2001; Gagné & Deci, 2005). Conversely, when employees are in an environment in which these three needs are not met, the employees can show a lack of (optimal) motivation and experience reduced productivity (Van den Broek et al., 2009).

Direct implications are to give compliments to the employee, to give freedom in the job, and to show empathy (Schaufeli & Dijkstra, 2010). Furthermore, the employee can measure the degree of work engagement or burnout. If employees are working according to the three needs from the Self-Determination Theory, then it is an indication of work engagement. If this is not the case and employees cannot explain what drives them, it may be an indicator for burnout.

Another practical implication is that it also is important for employees to have a high degree of psychological detachment from work. Free time in which the employees do not think of work at all is valuable to recover from exhaustion and to not generate burnout. This can be achieved by simple things, such as not receiving work e-mails at home (or on smartphones) or being engaged with not work-related activities, such as sports or hobbies.

## Conclusion

This study researched the relationship between burn-out, work engagement, self-control demands, psychological detachment, and level of education. The concise conclusion is as follows:

Burn-out can be reduced by multiple factors: 1) Higher education and the traits of having a higher education, 2) high psychological detachment, or 3) high work engagement. The generation of burn-out can be stopped by reducing the self-control demands. If the self-control demands are higher than the combination of level of education, psychological detachment and work engagement, burn-out is generated.



## References

- Bakker, A.B., Demerouti, E. & Schaufeli, W.B. 2005. The crossover of burn-out and work engagement among working couples. *Human relations*, 58 (5), 661-689.
- Baumeister, R. F, Heatherton, T. F., & Tice, D.M. 1994. Losing control: How and why people fail at self-regulation. San Diego, CA: Academic.
- Baron, R. M., Kenny, D.A. 1986. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations.
- Bolle, C. 2014. "Who is a smartphone addict?" The impact of personal factors and type of usage on smartphone addiction in a Dutch population. *University of Twente*. Retrieved from: <http://essay.utwente.nl/66307/1/Bolle%20Colin%20s%201246933%20scriptie.pdf>
- Bragard I, et al. 2014. Working conditions, job strain and work engagement among Belgian radiation oncologists. *Cancer Radiotherapy*
- Burn-out.nl. 2013. *Burn-out : verbanden tussen emotionele uitputting, arbeidsmarktpositie en Het Nieuwe Werken*. Retrieved from [http://www.burn-out.nl/docs/cbs/Burn-out\\_rapport\\_CPB.pdf](http://www.burn-out.nl/docs/cbs/Burn-out_rapport_CPB.pdf)
- Cascio, W. 2003. Changes in workers, work, and organizations. In C. Borman, D.R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (pp. 401-422). Hoboken, NJ: Wiley.
- Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., Boudreau, J. W. 2000. An empirical examination of self-reported work stress among U.S. managers. *Journal of Applied Psychology*, 85: 65-74.
- Dzinic, E. 2013. Role theory perspective on resistance to change. Retrieved from: [https://www.academia.edu/8725019/Role\\_Theory\\_Self-Control\\_and\\_Resistance\\_to\\_Change](https://www.academia.edu/8725019/Role_Theory_Self-Control_and_Resistance_to_Change)
- Etzion, D., Eden, D., & Lapidot, Y. (1998). Relief from job stressors and burn-out: Reserve service as a respite. *Journal of Applied Psychology*, 83, 577-585.
- Finklestein, D.M., Kubzansky, L.D., Capitman, J., Goodman, E. 2007. Socioeconomic differences in adolescent stress: the role of psychological resources. *Journal of adolescent health*, 40 (2), 127-134.
- Freudenberger, H. J., 1974. Staff burn-out. *Journal of Social Issues*, 30, 159-165.
- Gleitman, H., Gross, J. & Reisberg, D. 2011. *Psychology, international student edition*. ISBN 978-0-393-11682-3. New York
- Grzywacz, J.G., Almeida, D.M., Neupert, S.D., Ettner, S.L. 2004. Socioeconomic status and health: a micro-level analysis of exposure and vulnerability to daily stressors. *Journal of health and social behavior*, 45,1-16.
- Halbesleben, J. R. B., 2010. A meta-analysis of work engagement: relationships with burn-out, demands, resources, and consequences. In: Bakker, A.B., Leiter, M.P. (Eds.),

- Work Engagement: A Handbook of Essential Theory and Research. *Psychology Press*, New York, NY, pp. 102–117
- Karasek R.A. Job demands, job decision latitude, and mental strain: implications for job redesign. *Adm Sc Q*. 1979;24(2):285-309
- Kuhnle, C., Hofer, M., Kilian Britta. 2011. Self-control as predictor of school grades, life balance, and flow in adolescents. *International Journal of Educational Psychology*, 82, 533-548.
- Lee, R.T., Ashforth, B.E., 1996. A meta-analytic examination of the correlates of the three dimensions of job burn-out. *The Journal of Applied Psychology*, 81, 123–133.
- Lepine, J., Podsakoff, P. & Lepine, M. A meta-analytic test of the challenge stressor – hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance.
- Maslach, C., Schaufeli, W. & Leiter, M.P. 2001. Job Burn-out. *Annual Review of Psychology*, 52, 397-422.
- Maslach, C. & Leiter, M.P. 1997. The truth about burn-out. San Francisco: Jossey Bass.
- Muraven, M. & Baumeister, R. F. 2000. Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, 126, 247-259.
- Nijhuis, N., Beek, I., Taris, T., Schaufeli, W. 2012. De motivatie en prestatie van werkverslaafde, bevlogen en opgebrande werknemers. *Gedrag & Organisatie*, 25 (4), 325-342.
- Ohly, S., Sonnentag, S., Niessen, C., Zapf, D. 2010. Diary studies in organizational research: An introduction and some practical recommendations. *Journal of Personnel Psychology*, 9 (2), 79-93.
- Parker, S.L., Jimmieson, N.L & Amiot, C.E. 2010. Self-determination as a moderator of demands and control: Implications for employee strain and engagement. *Journal of Vocational behavior*, 76 (2010), 52-67.
- Rivkin, W., Schmidt, K. & Neubach, B. 2014. Psychological detachment: A moderator in the relationship of self-control demands and job strain. *European Journal of Work and Organizational Psychology*, DOI: 10.1080/1359432X.2014.924926
- Rivkin, W., Diestel, S. & Schmidt, K. 2015. Psychological detachment: A moderator in the relationship of self-control demands and job strain. *European Journal of Work and Organizational Psychology*, 24 (3), 376-388.
- Safstrom, M & Hartig, T. 2013. Psychological Detachment in the Relationship between Job Stressors and Strain. *Behavioral Sciences*, 3, 418-433.
- 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, 701-715.

- Schaufeli, W. B. & Dierendonck, D. *UBOS; Utrechtse Burnout Schaal Handleiding*. Retrieved from Wilmar Schaufeli.
- Schaufeli, W. B., Leiter, M.P., Maslach, C. & Jackson, S.E. 1996. The Maslach Burn-out Inventory– General Survey. In C. Maslach, S.E. Jackson & M.P. Leiter (Eds), *Maslach Burn-out Inventory. Manual*, 3rd edn. Palo Alto, CA: Consulting Psychologists Press
- Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V. and Bakker, A.B. 2002, “The measurement of engagement and burn-out and: a confirmative analytic approach”, *Journal of Happiness Studies*, Vol. 3, pp. 71-92.
- Schaufeli, W. B., Taris, T.W. & Rhenen, W. 2008. Workaholism, burn-out and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology*, 57, 173-203.
- Schmidt, K., & Diestel, S. 2012. The relation of Self-Control Demands to Job Strain: The Moderating Role of Organisation Commitment. *Applied Psychology*, 61 (3), 479-497.
- Schmidt, K., Neubach, B. 2007. Self-Control Demands: A source of stress at work. *International Journal of Stress Management*, 14 (4), 398-416.
- Spector, P.E. 2006. Method variance in organization Research; truth or urban legend? *Organizational research methods*, 9 (2), 221-232.
- Sonnentag, S. 2009. Psychological detachment from work during leisure time: The benefits of mentally disengaging from work. *Current Directions in Psychological Science*, 21 (2), 114-118.
- Sonnentag, S., Binnewies, C. & Mojza, E. 2010. Staying well and engaged when demands are high: the role of psychological detachment. *Journal of Applied Psychology*, 95 (5), 965-976.
- Sonnentag, S., & Bayer, U.-V. 2005. Switching off mentally: Predictors and consequences of psychological detachment from work during off-job time. *Journal of Occupational Health Psychology*, 10, 393–414
- Sonnentag, S., & Fritz, C. 2007. The recovery experience questionnaire: Development and validation of a measure assessing recuperation and unwinding at work. *Journal of Occupational Health Psychology*, 12, 204-221.
- Strom, D., Sears, K.L., Kelly, K.M. 2014. Work Engagement: The Roles of Organizational Justice and Leadership Style in Predicting Engagement Among Employees. *Journal of Leadership & Organizational Studies*, 21(1), 71-82.
- Van den Broeck, A., Cuyper, N., Witte, H. & Vansteenkiste, M. 2010. Not all job demands are equal: Differentiating job hindrances and job challenges in the Job Demands-Resources model.
- Wilcox, K., Stephen, A.T. 2012. Are close friends the enemy? Online social networks, self-esteem and self-control. *Journal of consumer research*, 40, 90-102.

- Xanthopolou, D., Bakker, A.B., Demerouti, E. & Schaufeli, W.B. 2009. Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82 (2009), 183-200.
- Xavier, T., Chantal, B. & Alain, M. 2010. Job Strain and Masked Hypertension. *Psychosomatic Medicine*, 72 (8), 786-793.
- Zhao, X., Lynch, J. G. JR. & Chen, Q. 2010. Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *Journal of consumer research*, 37,